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Appendix C

Monitoring Well Development Logs

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SITE ASSESSMENT,
REMEDICATION &
REVITALIZATION

PHASE II ESA WELL DEVELOPMENT LOGS

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC

Project No: 60323992.2 Date: 4/15/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC

Measuring Point Description TOC Geology at Screen Interval _____
(if known) _____

Depth to Top of Screen (ft.) _____

Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1058

Total Well Depth (ft.) 14.31 Calculate Purge Volume (gal.) 1.08

Depth to Static Water Level (ft.) 7.68 Disposal Method 55 GAL Drum

Original Well Development Redevelopment Date of Original Development _____

Wellhead PID/FID NA

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1157	0.5	17.93	5.17	59	>1100	4.62	Brown	None	199.9
1158	5.0	17.80	4.46	52	98.35	4.74	Cloudy	"	209.7
1149	10.0	17.54	3.74	48	>1100	5.26	Brown	"	235.4
1204	12.5	17.82	3.79	48	192.4	5.74	"	"	272.0
1209	15.0	17.77	3.15	45	86.9	5.89	Cloudy	"	256.6
1222	18.0	17.78	3.08	46	26.13	6.32	Cloudy	"	265.8
1230	20.0	17.90	3.04	47	29.58	6.57	"	"	264.7

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 5.4 gallons
 Maximum Turbidity Allowed NA NTUs
 Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A explain below:

Drop AT 5.5 Gal, Allow To Recover Between Readings.

Signature

J. Leaphart

Date:

4/15/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC

Project No: 60323992.2 Date: 4/15/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC

Measuring Point Description TOC Geology at Screen Interval (if known) _____

Depth to Top of Screen (ft.) _____

Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1400

Total Well Depth (ft.) 24.79 Calculate Purge Volume (gal.) 3.2

Depth to Static Water Level (ft.) 4.80 Disposal Method 55 GAL DRUM

Original Well Development Redevelopment Date of Original Development _____ Wellhead PID/FID NA

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1403	1.0	19.99	5.34	67	7100	6.90	Brown	None	202.2
1409	6.5	19.31	4.67	57	46.60	6.14	Cloudy	"	250.1
1415	12.0	19.37	4.37	49	76.20	5.97	"	"	262.4
1418	17.0	19.41	4.28	45	13.94	6.12	Clear	"	262.5
1421	20.0	19.52	3.58	45	10.97	6.47	"	"	297.1
1436	23.0	19.32	3.67	45	5.36	6.34	"	"	294.0
1442	30.0	19.47	3.54	45	7.19	5.74	"	"	288.7

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 16 gallons
 Maximum Turbidity Allowed 10 NTUs
 Stabilization of parameters 10 %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature J. Leaphart

Date: 4/15/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC

Project No: 60323992.2 Date: 4/15/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC

Measuring Point Description Top Geology at Screen Interval (if known) _____

Depth to Top of Screen (ft.) _____

Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1519

Total Well Depth (ft.) 24.82 Calculate Purge Volume (gal.) 26

Depth to Static Water Level (ft.) 8.77 Disposal Method 55 Gal Drum

Original Well Development Redevelopment Date of Original Development _____ Wellhead PID/FID NA

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1523	1.0	18.35	3.11	114	>1100	4.96	Brown	None	282
1527	6.0	17.94	3.31	127	154.6	4.71	"	"	241.8
1531	11.0	18.29	3.45	147	232.6	3.89	"	"	200.8
1537	16.0	18.31	3.37	123	411.5	2.65	Cloudy	"	209.9
1541	20.0	18.75	3.16	109	30.12	2.28	"	"	224.4
1603	25.0	18.53	4.06	159	164.8	3.25	Brown	"	251.3
1607	30.0	18.51	3.57	106	240.7	2.21	"	"	211.9
1613	35.0	18.79	3.40	104	103.4	1.87	"	"	229.8
1625	40.0	18.44	3.43	115	60.34	1.82	Cloudy	"	190.2
1628	45.0	18.24	3.56	121	102.7	3.22	"	"	210.9
1632	50.0	18.33	3.51	118	59.29	3.09	"	"	208.6

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 13 gallons
 Maximum Turbidity Allowed NA NTUs
 Stabilization of parameters 10 %

Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A explain below:

Signature _____

J. Leaphart

Date: _____

4/15/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC
 Project No: 60323992.2 Date: 4/15/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material Pvc
 Measuring Point Description ToC Geology at Screen Interval _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement _____
 Total Well Depth (ft.) 25.18 Calculate Purge Volume (gal.) 1.9
 Depth to Static Water Level (ft.) 13.75 Disposal Method 55 Gal Drum
 Wellhead PID/FID NA
 Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1203	1.0	19.01	4.44	233	>1100	5.55	Brown	None	209.8
1207	5.0	18.67	3.70	118	>1100	2.31	"	"	221.5
1213	10.0	19.09	3.07	93	40.97	2.79	Cloudy	"	278.9
1219	15.0	19.18	3.12	95	31.42	4.05	Clear	"	267.9
1222	20.0	19.29	2.89	96	13.10	3.89	"	"	288.6

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 9.3 gallons
 Maximum Turbidity Allowed NA NTUs
 Stabilization of parameters 10 %

Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A explain below:

Signature _____

J. Leaphart

Date: _____

4/15/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC

Project No: 60323992.2 Date: 4/16/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC

Measuring Point Description TOC Geology at Screen Interval (if known) _____

Depth to Top of Screen (ft.) _____

Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 0923

Total Well Depth (ft.) 27.15 Calculate Purge Volume (gal.) 2.2

Depth to Static Water Level (ft.) 13.57 Disposal Method 55 Gall Drum

Original Well Development Redevelopment Date of Original Development _____

Wellhead PID/FID NA

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
0926	1.0	16.66	4.87	69	>1100	4.27	Brown	None	300.2
0932	6.0	16.30	4.48	67	124.1	3.83	"	"	274.3
0938	12.0	14.25	4.46	67	302.5	4.05	"	"	274.5
0944	18.0	16.30	4.01	50	277.0	2.93	"	"	303.2
0951	25.0	16.60	3.95	48	19.92	2.88	Clear	"	317.8
0957	31.0	16.25	3.99	48	16.93	2.86	"	"	320.7

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 11.0 gallons
 Maximum Turbidity Allowed NA NTUs
 Stabilization of parameters 10 %

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A explain below:

Water level and TD taken prior to well casing being cut off for flush protective casing.

Signature J Leaphart

Date: 4/16/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC
 Project No: 60323992.2 Date: 4/16/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PC
 Measuring Point Description _____ Geology at Screen Interval _____
 Depth to Top of Screen (ft.) _____ (if known) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1324
 Total Well Depth (ft.) 25.45 Calculate Purge Volume (gal.) 1.7
 Depth to Static Water Level (ft.) 14.98 Disposal Method 55 Gall Drum
 Wellhead PID/FID NA
 Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1327	1.0	18.11	5.25	69	211.00	2.26	Brown	None	189.2
1332	6.0	18.48	4.65	66	211.00	0.73	"	"	212.8
1337	11.0	18.26	4.27	65	219.3	0.62	"	"	236.5
1342	16.0	18.50	4.01	64	86.64	0.49	Cloudy	"	249.3
1347	21.0	18.39	4.11	63	98.82	0.47	"	"	243.8
1352	26.0	18.29	4.15	62	38.64	0.60	Clear	"	244.8
1357	30.0	18.42	4.12	62	12.53	0.62	"	"	242.9

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 8.5 gallons
 Maximum Turbidity Allowed NA NTUs
 Stabilization of parameters 10 %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature J. Leaphart

Date: 4/16/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC
 Project No: 60323992.2 Date: 4/16/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material Pvc
 Measuring Point Description TOC Geology at Screen Interval _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1030
 Total Well Depth (ft.) 26.26 Calculate Purge Volume (gal.) 2.3
 Depth to Static Water Level (ft.) 11.95 Disposal Method 55 GAL DOWN
 Wellhead PID/FID NA
 Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	OTSP Other
1034	1.0	16.16	3.25	43	>1100	3.43	Brown	None	362.3
1039	6.0	16.02	3.39	40	232.1	3.22	"	"	370.5
1044	11.0	16.55	3.54	39	>1100	2.60	"	"	443
1050	17.0	16.91	3.69	32	13.79	2.36	Clear	"	486.2
1055	22.0	16.72	3.79	55	7.78	3.54	"	"	266.2
1100	27.0	16.82	3.64	57	15.26	3.48	"	"	261.5
1105	32.0	16.15	3.45	55	20.18	2.73	"	"	375.2

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 11.5 gallons
 Maximum Turbidity Allowed 1.0 NTUs
 Stabilization of parameters 10 %

Yes No N/A

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized

If no or N/A explain below:

WATER LEVEL AND TD TAKEN PRIOR TO WELL CASING BEING CUT OFF FOR FLUSH PROTECTIVE CASING 1.38' ABOVE GROUND

Signature J. Leaphart

Date: 4/16/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC
 Project No: 60323992.2 Date: 4/16/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material Pvc
 Measuring Point Description TOC Geology at Screen Interval _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1543
 Total Well Depth (ft.) 25.24 Calculate Purge Volume (gal.) 2.0
 Depth to Static Water Level (ft.) 13.10 Disposal Method 55 Gal Drum
 Wellhead PID/FID NA
 Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
ysi	556	04M1480AA
micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other
1548	1.0	19.11	5.91	98	>1100	6.22	Brown	→→→	167.9
1557	8.0	18.74	4.62	69	1469	2.74	"	"	265.1
1607	15.0	18.46	3.90	43	24.58	2.40	Clear	"	340.3
1617	20.0	18.37	3.79	40	53.62	2.04	"	"	371.5
1627	26.0	18.61	3.20	36	41.92	1.96	"	"	379.2
1640	32.0	18.51	3.16	35	37.25	2.11	"	"	410.4

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 10 gallons
 Maximum Turbidity Allowed NA NTUs
 Stabilization of parameters 10 %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature _____

J. Leaphart

Date: _____

4/16/14

Well/Piezometer Development Record

Client: Shakespeare Site Location: Newberry SC

Project No: 60323992.2 Date: 4/16/14 Developer: James Leaphart

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC

Measuring Point Description TOC Geology at Screen Interval (if known) _____

Depth to Top of Screen (ft.) _____

Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1416

Total Well Depth (ft.) 25.57 Calculate Purge Volume (gal.) 2.1

Depth to Static Water Level (ft.) 12.80 Disposal Method 55 Gall Drum

Wellhead PID/FID NA

Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD Typhoon pump PURGE METHOD _____

Field Testing Equipment Used:	Make	Model	Serial Number
	ysi	556	04M1480AA
	micro tpw	200000	201104076

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1420	1.0	18.29	4.78	94	21100	6.86	Brown	None	232
1425	6.0	17.83	4.79	96	21100	6.31	"	"	232.5
1431	12.0	18.26	4.22	56	285.9	5.26	"	"	281.7
1436	17.0	18.49	4.10	52	268.3	4.72	"	"	297.8
1441	22.0	18.66	3.97	44	122.4	4.01	Clear	"	334.3
1451	32.0	18.86	3.95	42	52.36	3.01	Clear	"	354.8
1501	35.0	18.91	4.02	41	34.51	2.82	"	"	373.8
1507	40.0	19.03	3.92	40	32.98	2.61	"	"	419.0

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 10.5 gallons
 Maximum Turbidity Allowed NA NTUs
 Stabilization of parameters 10 %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature J. Leaphart

Date: 4/16/14

EI WELL DEVELOPMENT LOGS



Monitoring Well Development Log

Page 1 of 1

Date Started (y/m/d) 8/15/14 Date Completed (y/m/d) _____
 Field Personnel C. Suddeth
 Site Name Shakespeare Newbery
 Job # _____
 Well ID # MW-2D
 _____ Upgradient _____ Downgradient _____
 Weather Conditions Sunny, warm
 Air Temperature _____ °F 90°

Total Well Depth (TWD) = 84.9 1/100 ft
 Depth to Ground Water (DGW) = 8.67 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 76.23 1/100 ft
 1 Casing Volume (OCV) = LWC x _____ gallons
 5 Casing Volumes = 250 gallons
 Method of Well Development Overpumping
 Total Volume of Water Removed _____ gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	ORP	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sample Comment	Remarks
1315	0.25	0	27.88	10.37	43.0	364	24.49	7.08	
1316	0.5								
1320	2.0		22.09	11.48	-1.2	21035	23.48	4.50	WL = 13.00
1330	2.0		22.35	11.44	-44.3	11097	29.55	8.72	WL = 41.50
1345	1.0		23.01	11.05	-46.0	448	29.02	9.20	WL = 70.40
1409	0.5		26.73	10.94	-9.2	617	32.60	6.18	WL = 81.77
1413									Turn off pump
1443									WL = 77.50
8/21/14 1300	2.0	Initial	21.83	11.29	126.4	666	10.14	2.38	WL = 8.83
1316	2.0		22.94	10.57	111.1	275	6.21	2.35	WL 44.30
1331	0.75		23.71	10.43		289	8.23	2.33	WL 64.92

COMMENTS/OBSERVATIONS: Development stopped on 8/15/14. Continued on 8/21/14.

WELL DEVELOPMENT

Well ID: ML-3D

~~NEW~~ Ground Water Sample Collection Record

Client: Shakespeare Date: 8/27/14 Time: Start 0900 am/pm
 Project No: 60318382.5 Finish 1140 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear, 70's - 90's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 105.02 c. Length of Water Column 90.32 (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 14.65 d. Calculated System Volume (see back) 58.7

2. WELL PURGE DATA

a. Purge Method: Graveling

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	
HF Scientific	20000	

Time (24hr)	Volume Remove (Liters) ±	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0944	2	19.53	8.03	278	2.24	207	7.99	2 GPM	23.20	Clear/None
0954	17	19.86	6.62	243	1.30	214.3	11.37	1.5 GPM	38.65	" "
1004	30	20.18	6.70	232	1.41	157.8	15.71	1.25	51.02	" "
1014	40	20.38	6.62	222	1.21	105.9	14.88	1.00	64.80	" "
1024	50	21.22	6.45	217	1.43	74.4	15.72	1.00	74.51	" "
1034	60	21.12	6.49	209	1.84	61.1	15.16	1.50	85.65	" "
1044	70	21.56	6.32	215	1.80	61.0	21.52	1.00	98.00	" "

- d. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|---|-----------------------------|-------------------------------------|
| Has required volume been removed | Yes <input checked="" type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
- If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>ML-3D</u>	<u>40 ml vial</u>	<u>3</u>	<u>None</u>	<u>VOC's</u>	<u>0930</u>

Comments Drp @ 75 Gal. Sample Collected on 8/28/14
WL 14.78 at time of sample collection.

Signature J. Leaphart Date 8/28/14



Monitoring Well Development Log

Page 1 of 1

Date Started (yr/mo/day) 3/21/14 Date Completed (yr/mo/day) _____
 Field Personnel S. Boss
 Site Name Shakerstone - Newberry
 Job # _____
 Well ID # MW6D
 _____ Upgradient _____ Downgradient _____
 Weather Conditions Sunny, hot
 Air Temperature 70 °F

Total Well Depth (TWD) = 105.03 1/100 ft
 Depth to Ground Water (DGW) = 16.64 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 88.47 1/100 ft
 1 Casing Volume (OCV) = LWC x 0.65 = 57 (4" x 11) gallons
 5 Casing Volumes = 287 gallons
 Method of Well Development submersible pump
 Total Volume of Water Removed _____ gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
9/7/14 1544	2 gpm	Instrul	24.81	11.87	-66.2	2632	Clear-17.21	0	WL - 18.6'
1600	1.0	32	21.47	11.93	-38.0	1831	clear-14.04	0	WL - 49.05'
1615	1.0	47	22.40	11.82	-74.7	1823	" 12.95	0	WL - 70.9'
1630	1.0	62	22.12	11.89	-82.8	1860	" 14.74	0	WL - 94.2'
1640	stopped pumping	allow well to recover		to recover		over night			WL - 103.9'
8/22/14 0937	2.6 gpm	10.5 GAL	21.60	11.40	102.2	868	13.06	0	86.64
0940	"	5.0	21.50	10.74	87.8	513	9.07	0	95.20
0943	"	10.0							103 (103)

COMMENTS/OBSERVATIONS:

Well Development/

Well ID: MW-7D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8/27/14 Time: Start 1230 am/pm Project No: 60318382.5 Finish 1345 am/pm Site Location: Newberry, SC Weather Conds: Cloudy, 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 94.87 c. Length of Water Column 80.07 (a-b) Casing Diameter/Material 4" / PVC b. Water Table Depth 14.8 d. Calculated System Volume (see back) 52

2. WELL PURGE DATA

a. Purge Method: Gravel Pack

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10% - pH +1.0 unit - ORP +/- 10mV - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used: Make Model Serial Number YSI 556 HF Scientific 20000

Table with columns: Time (24hr), Volume Remove (Liters), Temp (C), pH, Spec. Cond. (uS/cm), DO (mg/L), ORP (mV), Turbidity (NTU), Flow Rate (ml/min), Drawdown (feet), Color/Odor. Rows show data for 1248, 1258, 1308, 1318.

d. Acceptance criteria pass/fail Yes No N/A Has required volume been removed [X] [] [] Has required turbidity been reached [] [] [X] Have parameters stabilized [] [] [X] If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Baller

Table with columns: Sample ID, Container Type, No. of Containers, Preservation, Analysis Req., Time. Rows show MW-7D and Dup-1.

Comments Dry @ 50 Gal Sample Collected on 8/28/14 WL @ 22.83 at time of sample collection

Signature J. Leaphart Date 8/28/14



Monitoring Well Development Log

Page 1 of 1

Total Well Depth (TWD) = 84.25 1/100 ft
 Depth to Ground Water (DGW) = 6.30 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 77.95 1/100 ft
 1 Casing Volume (OCV) = LWC x 1.47 ~~1.47~~ gallons
 3 Casing Volumes = 315 gallons
 Method of Well Development Graveling
 Total Volume of Water Removed 120 gallons

Date Started (yr/mo/day) 8/22/14 Date Completed (yr/mo/day) _____
 Field Personnel James Leppert
 Site Name SHAKESPEARE - NEWBERRY
 Job # 6032830B-1
 Well ID # RDW-1
 _____ Upgradient Downgradient
 Weather Conditions Sunny, Hot 90's
 Air Temperature _____ °F

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1047	~2.0	~2.0	19.23	12.87	-21.1	8357	14.94		Water Level
1050	~2.0	7.0	18.76	12.88	-21.4	7603	12.98		
1058	~1.5	20.0	18.98	12.84	-82.2	5106	7.92		12.75
1105	~1.5	30.0	18.95	12.72	-81.7	3177	10.37		20.25
1114	~1.2	40.0	18.90	12.79	-85.9	3615	10.25		24.80
1122	~1.2	50.0	18.87	12.77	-84.8	3584	13.41		37.80
1132	~1.0	60.0	19.34	12.75	-89.4	3566	13.19		44.00
1144	~1.0	70.0	19.33	12.73	-88.4	3544	12.22		51.50
1215	~0.75	90.0	20.77	12.70	-86.6	3298	10.08		57.35
1234	~1.50	120.0	19.46	12.68	-83.2	3236	9.86		67.60

COMMENTS/OBSERVATIONS:

PHASE I RI WELL DEVELOPMENT LOGS



Monitoring Well Development Log

Date Started (yr/mo/day) 8-4-15 Date Completed (yr/mo/day) 8-4-15
 Field Personnel JAMES LEAPHART
 Site Name SHAKESPEARE
 Job # 60328308.11
 Well ID # SMW-16
 Upgrade Downgradient
 Weather Conditions Clear 90's
 Air Temperature _____ °F

Total Well Depth (TWD) = 30.32 1/100 ft
 Depth to Ground Water (DGW) = 11.85 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 18.47 1/100 ft
 1 Casing Volume (OCV) = LWC x .163 = 3.01 gallons
 5 Casing Volumes = 15.0 gallons
 Method of Well Development Mud Pump
 Total Volume of Water Removed 20.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (#/ft³)	Remarks
1444	2.0	2.0	21.12	6.66	112	> 1100	9.37	
1447	6.5	5.0	21.30	6.66	98	> 1100	5.37	
1506	2.0	10.0	20.70	6.68	92	> 1100	6.43	
1522	2.0	16.0	20.07	6.25	115	313	6.74	
1531	1.5	20.0	19.80	6.04	138	120	6.70	

COMMENTS/OBSERVATIONS: dry @ N @ 600. 0.5' stick up.



Monitoring Well Development Log

Date Started (yr/mo/day) 8-5-15 Date Completed (yr/mo/day) 8-6-15
 Field Personnel JAMES LEPLAAT
 Site Name SWALES POND
 Job # 60328308.11
 Well ID # MW-11
 Upgradient Downgradient
 Weather Conditions P. CLOUDY 80°
 Air Temperature _____ °F

Total Well Depth (TWD) = 30.32 1/100 ft
 Depth to Ground Water (DGW) = 13.63 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 16.69 1/100 ft
 1 Casing Volume (OCV) = LWC x .163 = 2.7 gallons
 5 Casing Volumes = 13.5 gallons
 Method of Well Development WASTE PUMP
 Total Volume of Water Removed 15.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Fe ORP	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
0912	2.0	1.0	19.74	6.56	77.2	102	967	1.85	BROWN
0915	1.0	6.0	19.21	4.99	55	104	> 1100	0.64	"
0941	1.2	6.5	19.38	6.95	-12.1	106	> 1100	6.03	"
1003	0.75	7.5	19.69	6.98	-29.3	110	> 1100	4.72	"
1000	1.00	11.5	20.95	5.90	106	100	400	6.18	LT. BROWN
0846	2.0	12.5	18.86	6.03	116	116	326	6.08	"
0850	1.00	15.0	18.06	5.61	105.7	120	319	6.93	"

COMMENTS/OBSERVATIONS: TO FULLY RECOVER TO FULLY RECOVER - SLOW RECOVERY, 1008 ABOVE



Monitoring Well Development Log

Date Started (yr/mo/day) B-6-15 Date Completed (yr/mo/day) B-6-15
 Field Personnel JAMES LEONARDI
 Site Name SHAKESPEARE
 Job # 60328308.11
 Well ID # MW-12
 Upgradient Downgradient
 Weather Conditions P. Cloudy 70's
 Air Temperature _____ °F

Total Well Depth (TWD) = 31.37 1/100 ft
 Depth to Ground Water (DGW) = 6.65 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 24.72 1/100 ft
 1 Casing Volume (OCV) = LWC x .163 = 4.0 gallons
 5 Casing Volumes = 20.0 gallons
 Method of Well Development WATER PUMP
 Total Volume of Water Removed 25.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (g/m ³)	Remarks
B-6/0930	2.0	2.0	18.08	5.95	111	>1100	1.06	ET PDR
0934	1.0	5.0	18.07	5.43	109	>1100	1.55	
0946	1.0	10.0	17.46	5.50	95	>1100	4.25	
1013	1.0	15.0	17.89	5.69	93	>1100	5.98	
1024	1.0	20.0	17.89	5.60	87	329	5.70	
1046	1.0	25.0	18.00	5.67	90	309	6.54	

COMMENTS/OBSERVATIONS: _____



Monitoring Well Development Log

Date Started (yr/mo/day) 8-5-15 Date Completed (yr/mo/day) 8-6-15
 Field Personnel JAMES LEONARDI
 Site Name SPARKS POND
 Job # 60378308,11
 Well ID # MWS-14
 Upgrade Downgradient
 Weather Conditions P. CLOUDY 90's
 Air Temperature _____ °F

Total Well Depth (TWD) = 20.22 1/100 ft
 Depth to Ground Water (DGW) = 3.15 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 17.07 1/100 ft
 1 Casing Volume (OCV) = LWC x .163 = 2.8 gallons
 5 Casing Volumes = 14 gallons
 Method of Well Development WUJALE PUMP
 Total Volume of Water Removed 35.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	ET (gpa)	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1400	2.0	2.0	23.66	6.33	7.1	158	>1100	1.27	
1403	2.0	4.0	20.73	6.15	18.1	119	>1100	1.46	
1511	2.0	16.0	22.73	6.11	75.0	97	616	5.25	
1514	2.0	28.0	20.36	5.90	61.4	106	>1100	2.27	
1521	2.0	25.0	20.02	5.99	94.5	75	>1100	4.43	
1527	2.0	30.0	19.55	5.38	130.6	68	>1100	4.34	
8-6/09-4	2.0	35.0	20.82	5.19	101.4	76	261	4.42	

COMMENTS/OBSERVATIONS:



Monitoring Well Development Log

Date Started (yr/mo/day) 8-5-15 Date Completed (yr/mo/day) 8-5-15
 Field Personnel JAMES W. HART
 Site Name SUNSHINE
 Job # 60328308.11
 Well ID # NW-15
 Upgrade Downgradient
 Weather Conditions Clear, 90's
 Air Temperature _____ °F

Total Well Depth (TWD) = 11.63 1/100 ft
 Depth to Ground Water (DGW) = 3.37 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 8.26 gallons
 1 Casing Volume (OCV) = LWC x .163 = 1.3 gallons
 5 Casing Volumes = 6.5 gallons
 Method of Well Development WATER PUMP
 Total Volume of Water Removed 11.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	SP ORP	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
1205	2.0	2.0	24.88	6.21	—	157	2100	6.29	Brown
1219	2.0	5.0	23.97	6.11	72.8	117	7100	3.58	"
1236	2.0	6.0	23.46	5.88	84.9	101	1039	3.86	"
1315	2.0	8.5	23.33	5.93	107.6	91	993	4.37	"
1341	2.0	11.0	22.24	5.89	117.9	86	529	4.66	"

COMMENTS/OBSERVATIONS: DRY @ 2.5 GALLONS, MODERATE RECOVERY RATE
0.2' SLICK DR.



Monitoring Well Development Log

Date Started (yr/mo/day) 8-7-15 Date Completed (yr/mo/day) 8-7-15
 Field Personnel JAMES LEOPOLD
 Site Name SHAKESPEARE
 Job # 60328308.11
 Well ID # MW-17
 Upgradient Downgradient
 Weather Conditions P. Cloudy To's
 Air Temperature _____ °F

Total Well Depth (TWD) = 30.27 1/100 ft
 Depth to Ground Water (DGW) = 6.70 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 23.57 1/100 ft
 1 Casing Volume (OCV) = LWC x .163 = 3.8 gallons
 5 Casing Volumes = 19 gallons
 Method of Well Development WATER PUMP
 Total Volume of Water Removed 20.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	EFF	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content	Remarks
8-7 0846	2.0	3.0	18.11	5.15	DIRT	108	1017	2.05	Do not sample
0850	2.0	7.0	17.65	3.94		124	733	2.42	
0853	2.0	12.0	17.65	3.13		117	310	2.44	
0856	2.0	17.0	17.53	3.40		119	187	2.37	
0858	2.0	20.0	17.50	3.57		114	128	1.35	

COMMENTS/OBSERVATIONS:



Monitoring Well Development Log

Date Started (yr/mo/day) 8-7-15 Date Completed (yr/mo/day) 8-7-15
 Field Personnel James Leahart
 Site Name Stokespear-E
 Job # 60328308.11
 Well ID # MW-20
 Upgradient Downgradient
 Weather Conditions P. Cloudy 70's
 Air Temperature _____ °F

Total Well Depth (TWD) = 35.32 1/100 ft
 Depth to Ground Water (DGW) = 9.11 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 26.11 1/100 ft
 1 Casing Volume (OCV) = LWC x .163 = 4.3 gallons
 5 Casing Volumes = 21.5 gallons
 Method of Well Development _____
 Total Volume of Water Removed _____ gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (Do #/ft ml)	Remarks
8-7/1041	2.0	1.5	19.08	6.26	73.8	147	>1100	5.14	
1045	1.5	5.0	19.23	6.21	15.9	144	>1100	2.42	
1053	1.5	10.0	18.87	6.34	4.5	126	>1100	2.68	
1116	1.5	15.0	18.61	6.27	41.5	107	>1100	4.70	
1120	1.5	20.0	18.73	5.83	36.7	99	924	5.13	
1124	1.0	25.0	18.78	5.40	67.3	91	372	5.39	
1139	1.0	30.0	19.12	5.69	59.8	83	125	6.13	
1145	1.0	35.0	18.71	5.45	74.8	82	80	5.79	

COMMENTS/OBSERVATIONS: _____



Monitoring Well Development Log

Date Started (yr/mo/day) 8-7-15 Date Completed (yr/mo/day) 8-7-15
 Field Personnel JAMES LEAHART
 Site Name SHAKESPEARE
 Job # 60328308.11
 Well ID # MW-21
 Upgradient Downgradient
 Weather Conditions P. Cloudy, 80's
 Air Temperature _____ °F

Total Well Depth (TWD) = 24.17 1/100 ft
 Depth to Ground Water (DGW) = 13.41 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 10.76 1/100 ft
 1 Casing Volume (OCV) = LWC x 1.63 = 1.7 gallons
 5 Casing Volumes = 8.5 gallons
 Method of Well Development WATER PUMP
 Total Volume of Water Removed _____ gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (ppm)	Remarks
8-7-15 1209	2.0	2.0	21.86	6.29	80.1	211	>1100	3.91	
1211	2.0	5.0	22.14	6.32	66.4	212	658	3.15	
1216	2.0	10.0	20.17	6.96	91.7	133	71100	3.59	
1220	2.0	15.0	19.67	6.51	125.4	118	456	3.08	
1243	2.0	20.0	19.93	6.63	123.5	116	210	2.69	
1249	2.0	25.0	19.57	6.53	129.4	111	330	2.79	
1257	2.0	30.0	19.36	6.61	124.9	109	200	2.78	

COMMENTS/OBSERVATIONS:

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry SC
 Project No: 60328308 Date: 8/12/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description Flash Mount Geology at Screen Interval (if known) _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1010
 Total Well Depth (ft.) 54.73 Calculate Purge Volume (gal.) 6.54
 Depth to Static Water Level (ft.) 14.59 Disposal Method _____
 Original Well Development Redevelopment Wellhead PID/FID _____
 Date of Original Development _____

DEVELOPMENT METHOD

Typhoon pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>0501520AU</u>
<u>HE Scientific</u>	<u>MicroTRV</u>	<u>200704111</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1015	Initial	26.89	5.84	0.317	21100	2.31			
1025	~7	21.20	5.10	0.276	21100	1.24			
1035	~14	20.38	4.92	0.232	21100	1.35			
1040	~21	20.88	4.96	0.218	85.41	1.47			
1055	~28	20.73	4.94	0.206	90.14	1.51			
1055	~35	20.71	4.91	0.202	16.26	1.46			

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature J Butler

Date: 8/12/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry SC
 Project No: 60328308 Date: 8/12/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description Flush Mount Geology at Screen Interval (if known) _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____
 Total Well Depth (ft.) 53.11 Time of Water Level Measurement 1100
 Depth to Static Water Level (ft.) 7.90 Calculate Purge Volume (gal.) 7.39
 Disposal Method _____
 Wellhead PID/FID _____
 Date of Original Development _____

Original Well Development Redevelopment

DEVELOPMENT METHOD

Typhoon Pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>0501520AU</u>
<u>HEScanPic</u>	<u>MicroTPW</u>	<u>2007 04141</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1152	Initial	19.19	5.98	0.191	21100	1.56			
1202	~10	18.56	5.34	0.115	6440	3.47			
1212	~20	18.60	4.71	0.100	353.0	4.14			
1222	~30	18.19	4.75	0.095	114.1	5.02			
1232	~40	18.60	4.72	0.092	130.2	5.11			

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature J Butler

Date: 8/12/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry SC
 Project No: 60328308 Date: 8/11/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description Flush Mount Geology at Screen Interval _____
 (if known) _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 0945
 Total Well Depth (ft.) 54.83 Calculate Purge Volume (gal.) 5.63
 Depth to Static Water Level (ft.) 20.31 Disposal Method _____
 Wellhead PID/FID _____
 Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD

Typhoon Pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05P1520 AU</u>
<u>HEScientific</u>	<u>MicroPW</u>	<u>2007041141</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0949 <u>0949</u>	<u>Initial</u>	<u>18.25</u>	<u>6.78</u>	<u>0.240</u>	<u>1057</u>	<u>10.78</u>			
<u>0959</u>	<u>~5</u>	<u>19.22</u>	<u>6.15</u>	<u>0.247</u>	<u>7100</u>	<u>8.88</u>			
<u>1014</u>	<u>~10 (Dry)</u>	<u>19.62</u>	<u>6.11</u>	<u>0.218</u>	<u>832.6</u>	<u>7.18</u>			
1505 <u>1505</u>	<u>~15</u>	<u>18.98</u>	<u>5.54</u>	<u>0.235</u>	221.9 <u>437.5</u>	<u>5.38</u>			
<u>1610</u>	<u>~20</u>	<u>19.92</u>	<u>5.99</u>	<u>0.185</u>	<u>445.2</u>	<u>3.82</u>			
<u>1625</u>	<u>~25</u>	<u>19.64</u>	<u>6.06</u>	<u>0.190</u>	<u>350.5</u>	<u>4.00</u>			<u>Holds @ 0.3 g/min</u>
<u>1640</u>	<u>~30</u>	<u>19.85</u>	<u>6.08</u>	<u>0.184</u>	<u>230.2</u>	<u>3.95</u>			

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized

Yes No N/A

If no or N/A explain below:

Signature J Butler

Date: 8/11/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328308 Date: 8/19/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____
 Total Well Depth (ft.) 46.55
 Depth to Static Water Level (ft.) 10.5
 Geology at Screen Interval (if known) _____
 Time of Water Level Measurement _____
 Calculate Purge Volume (gal.) 587
 Disposal Method _____
 Wellhead PID/FID _____
 Date of Original Development _____

Original Well Development Redevelopment

DEVELOPMENT METHOD

Typhoon Pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YST</u>	<u>SS6</u>	<u>0501520AV</u>
<u>HEWLETT</u>	<u>MED TPN</u>	<u>208701141</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

8/20
8/21

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1506	Initial	22.51	7.30	0.213	7100	0.68			
1516	~6	22.24	7.18	0.204	7100	0.50			
1150	~11	20.76	5.12	0.157	926.3	4.14			Dry
1745	~16	20.85	5.04	0.160	7100	5.81			Dry (Recharge 15')
0925	~21	20.37	4.90	0.153	7100.0	5.47			Dry (Recharge 16.5')
1605	~26	20.27	4.85	0.146	7100.0 999.9	5.62			Dry (Recharge 13.75')
									Dry (Recharge to 12.84')

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature [Signature]

Date: 8/21/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328308 Date: 8/24/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description _____ Geology at Screen Interval (if known) _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 0945
 Total Well Depth (ft.) 57.00 Calculate Purge Volume (gal.) 6.26
 Depth to Static Water Level (ft.) 18.86 Disposal Method _____
 Original Well Development Redevelopment Wellhead PID/FID _____
 Date of Original Development _____

DEVELOPMENT METHOD

Typhoon Pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>0501520 AU</u>
<u>HFSuwater</u>	<u>MICROTPV</u>	<u>200704141</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0948	Initial	20.61	6.63	0.508	7100	6.64			
0958	~7.0	20.81	5.66	0.336	1068	1.72			
1008	~13.0	20.10	5.24	0.408	349.4	2.47			
1018	~19.0	20.16	5.21	0.492	163.5	2.96			
1028	~25.0	20.21	5.31	0.548	70.02	3.19			
1038	~31.0	20.35	5.36	0.581	52.91	3.30			
									Steady @ 0.6 gal/min

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature [Signature]

Date: 8/24/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328303 Date: 8/24/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____
 Total Well Depth (ft.) 50
 Depth to Static Water Level (ft.) 20.2
 Geology at Screen Interval (if known) _____
 Time of Water Level Measurement _____
 Calculate Purge Volume (gal.) 4.86
 Disposal Method _____
 Wellhead PID/FID _____
 Date of Original Development _____

Original Well Development Redevelopment

DEVELOPMENT METHOD

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	0501520AU
HFSerientHRz	MicroTPW	2007041141

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1310	Final	21.73	7.42	0.176	71100	0.17			
1320	~ 7.0	21.08	5.76	0.153	615.3	1.29			
1330	~ 14.0	20.62	5.18	0.135	711.9	1.79			
1340	~ 21.0	20.97	5.21	0.122	202.7	1.95			
1350	~ 28.0	21.08	5.76	0.113	109.4	2.01			

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

Signature 

Date: 8/24/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328308 Date: 8/24/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description _____ Geology at Screen Interval (if known) _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement _____
 Total Well Depth (ft.) 17.69 Calculate Purge Volume (gal.) 4.79
 Depth to Static Water Level (ft.) 47.10 Disposal Method _____
 Wellhead PID/FID _____

Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD -Typhoon Pump PURGE METHOD _____

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>0501520AW</u>
<u>HFSuenerHC</u>	<u>MicroPUN</u>	<u>200709141</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1059	Initial	19.65	6.83	0.220	7160	0.74			
1109	~7	19.28	4.93	0.155	517.2	1.24			
1119	~14	19.41	5.18	0.125	274.5	2.26			
1129	~21	19.69	5.17	0.109	87.05	1.74			
1139	~28	19.78	5.16	0.101	38.77	1.87			steady @ 0.75 gal/min

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed Yes No N/A
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below: _____

Signature: [Signature] Date: 8/24/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328308 Date: 8/24/15 Developer: JBT/Her

WELL/PIEZOMETER DATA

Well Piezometer Diameter _____ Material _____
 Measuring Point Description _____ Geology at Screen Interval (if known) _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement _____
 Total Well Depth (ft.) 47.60 Calculate Purge Volume (gal.) 4.59
 Depth to Static Water Level (ft.) 19.42 Disposal Method _____
 Original Well Development Redevelopment Wellhead PID/FID _____
 Date of Original Development _____

DEVELOPMENT METHOD

Typhoon Pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
YSC	556	0501520AW
HIF Scientific	MicroTPW	200701141

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1227	Initial	20.63	8.40	0.306	71100	1.23			
1234	~5	20.60	7.69	0.300	71100	1.16			
1509	~10	22.47	6.25	0.243	71100	6.88			Dry
1539	~15	22.86	6.38	0.172	772.6	5.73			Recharge to 20-25'
1549	~20	22.35	6.34	0.147	591.0	5.36			Steady @ 0.25 gal/min

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature _____



Date: _____

8/24/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328308 Date: 8/25/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description _____ Geology at Screen Interval (if known) _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement _____
 Total Well Depth (ft.) 24.79 Calculate Purge Volume (gal.) 1.69
 Depth to Static Water Level (ft.) 14.41 Disposal Method _____
 Wellhead PID/FID _____

Original Well Development Redevelopment Date of Original Development _____

DEVELOPMENT METHOD

PURGE METHOD _____

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>08J101253</u>
<u>HF Scientific</u>	<u>MicroT PW</u>	<u>201503451</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0948	Initial	19.84	5.79	0.165	71160	2.71			
0952	~2	19.92	3.80	0.083	894.9	3.38			
1022	~4	19.86	4.88	0.076	400.4	2.77			Dry
1042	~6	19.96	4.98	0.076	197.8	2.61			Dry (Recharge to 15.2')
1102	~8	20.04	4.92	0.076	174.2	2.70			Dry (Recharge to 15.74')
									Dry (Recharge to 15.91')

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature [Handwritten Signature]

Date: 8/25/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 6032830B Date: 8/27/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC

Measuring Point Description _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____
 Total Well Depth (ft.) 40.97
 Depth to Static Water Level (ft.) 10.02

Geology at Screen Interval (if known) _____
 Time of Water Level Measurement _____
 Calculate Purge Volume (gal.) 5.04
 Disposal Method _____
 Wellhead PID/FID _____
 Date of Original Development _____

Original Well Development Redevelopment

DEVELOPMENT METHOD

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
YSE	556	08J101253
HF SCIENTIFIC	MICROTPW	201503451

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
10:31	Initial	19.91	8.36	0.244	71100	3.68			
10:41	~10	19.66	7.14	0.169	791.1	3.65			
10:51	~20	19.32	6.84	0.135	192.2	3.79			
1:01	~30	19.25	6.60	0.120	65.3	3.82			
1:11	~40	19.27	6.57	0.115	76.46	3.86			

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature 

Date: 8/27/15

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328308 Date: 8/26/15 Developer: JButler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVL
 Measuring Point Description _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____
 Total Well Depth (ft.) 39.72
 Depth to Static Water Level (ft.) 66.91
 Geology at Screen Interval (if known) _____
 Time of Water Level Measurement _____
 Calculate Purge Volume (gal.) 4.43
 Disposal Method _____
 Wellhead PID/FID _____
 Date of Original Development _____

Original Well Development Redevelopment

DEVELOPMENT METHOD

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
YSE	556	08J101253
HFScientific	MICROTPW	201503451

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
09:50	Initial	20.35	12.20	8.894	71100	5.22			
10:20	~4.5	22.76	12.14	8.770	71100	5.34			
16:20	~5.25	22.82	12.03	6.715	71100	4.92			Dry
10:00	~6.00	21.06	11.90	6.095	71100	7.16			Dry (Recharge to 61.5')
									Dry (Recharge to 59.7')

3/27

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A explain below:

Signature _____

Date: _____

Well/Piezometer Development Record

Client: Phillips Site Location: Newberry, SC
 Project No: 60328308 Date: 8/27/15 Developer: J Butler

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____
 Total Well Depth (ft.) 26.85
 Depth to Static Water Level (ft.) 13.32
 Geology at Screen Interval (if known) _____
 Time of Water Level Measurement _____
 Calculate Purge Volume (gal.) 2.09
 Disposal Method _____
 Wellhead PID/FID _____
 Date of Original Development _____

Original Well Development Redevelopment

DEVELOPMENT METHOD

Typhoon Pump

PURGE METHOD

Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	081101253
HFScientific	MicroTPW	201503451

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1219	Initial	21.68	7.28	0.107	71100	5.00			
1225	~2.25	21.29	6.66	0.136	71100	3.89			
1245	~3.40	20.97	6.36	0.122	71100	4.46			Dry
1305	~4.40	21.29	6.21	0.116	71100	5.88			Dry (Recharge to 19.5')
1450	~6.75	21.71	5.91	0.106	71100	6.00			Dry (Recharge to 20.5')
1558	~9.00	21.09	5.22	0.103	71100	7.31			Dry (Recharge to 13.95')
									Dry (Recharge to 14.30')

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
 Maximum Turbidity Allowed _____ NTUs
 Stabilization of parameters _____ %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature [Signature]

Date: 8/27/15

Well/Piezometer Development Record

Client: SWAKES PEARCE Site Location: NEWBERRY, SC
 Project No: _____ Date: 1-13-16 Developer: JAMES LEAPHANT

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description TOC Geology at Screen Interval _____
 Depth to Top of Screen (ft.) _____ (if known) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement _____
 Total Well Depth (ft.) 36.37 Calculate Purge Volume (gal.) 3.50 * 5 = 17.5 GAL
 Depth to Static Water Level (ft.) 8.85 Disposal Method 55 Gall Drum
 Wellhead PID/FID NA
 Original Well Development Redevelopment Date of Original Development 1-13-16

DEVELOPMENT METHOD

Whale Pump

PURGE METHOD

Surge + Purge

Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08101253</u>
<u>HANNA MICRO TAP</u>	<u>20000</u>	<u>201503451</u>

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1000	1.00	17.85	7.01	70	>1100	8.37	TAN	NO	146.7
1005	5.00	18.04	5.83	67	853.4	7.35	MILKY	NO	171.2
1009	10.00	18.56	5.35	66	>1100	6.60	"	NO	195.0
1014	15.00	18.18	5.22	66		6.05	"	NO	202.6

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (5 well volumes) 17.5 gallons
 Maximum Turbidity Allowed 10 NTUs
 Stabilization of parameters 10 %

Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Yes No N/A

Signature [Signature]

Date: 1-13-16

Well/Piezometer Development Record

Client: Sherk & Pearce Site Location: Nearby, SC
 Project No: _____ Date: 1-13-16 Developer: James Leppert

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material PVC
 Measuring Point Description TOC Geology at Screen Interval _____
 Depth to Top of Screen (ft.) _____
 Depth to Bottom of Screen (ft.) _____ Time of Water Level Measurement 1046
 Total Well Depth (ft.) 25.27 Calculate Purge Volume (gal.) 2.03 x 5
 Depth to Static Water Level (ft.) 12.78 Disposal Method 55 Gal Drum = 10.18
 Wellhead PID/FID NA
 Original Well Development Redevelopment Date of Original Development 1-13-16

DEVELOPMENT METHOD Whale Pump PURGE METHOD Surge + Purge

Field Testing Equipment Used:
 Make YSI Model 556 Serial Number 08J101253
MICRO TPW 20000 201503451

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1051	1.00	18.37	4.96	32	>1100	7.76	BROWN	NO	230.2
1054	5.00	18.30	4.96	34	73.15	7.75	CLEAR	NO	243.8
1057	10.00	18.67	4.70	36	19.01	7.44	"	NO	252.7
1102	15.00	18.47	4.79	37	19.49	7.37	"	NO	253.6

ACCEPTANCE CRITERIA (from workplan)
 Min. Purge Volume (6 well volumes) 10.2 gallons
 Maximum Turbidity Allowed 10 NTUs
 Stabilization of parameters 10%

Yes No N/A
 Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A explain below:

Signature [Signature] Date: 1-13-16

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 2-23-16 Time: Start _____ am/pm
 Project No: 60328308.10 Finish _____ am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: P. Cloudy 40's - 60's Collector(s): James Leighton/EL

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 41.20 c. Length of Water Column 27.84 (a-b) Casing Diameter/Material
2" PVC
 b. Water Table Depth 13.34 d. Calculated System Volume (see back) 4.5 Gals

x 5 = 23 Gals

2. WELL PURGE DATA

a. Purge Method: WHALE PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used: Make _____ Model _____ Serial Number _____

Time (24hr)	Volume Removed (liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
10:45	0.25	12.31	8.28	0.181	0.29	-88.8	1071			brown/milky-grey
10:55	4.00	12.50	8.36	0.163	0.20	-108.4	71100			" "
11:08	7.5	12.86	8.80	0.155	4.20	-24.3	71100			" "
11:21	10.00	12.70	7.14	0.141	56.9	93.2	906.1			" " more clear
11:51	14.00	12.62	6.55	0.173	11.7	51.2	21100			" "
12:59	18.00	16.44	6.55	0.108	5.46	70.4	206.3			Cloudy
14:16	24.06	12.39	5.40	0.087	5.40	127.1	65.24			Clear

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed
- Has required turbidity been reached
- Have parameters stabilized

If no or N/A - Explain below.

3. SAMPLE COLLECTION:

Method: _____

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>NA</u>					

Comments stick up 2.5' Total 29 gallons removed

Signature [Signature] Date 2-23-16

Well Development and Groundwater Sample
Low Flow Ground Water Sample Collection Record

Client: Philips Date: 2/20/16 Time: Start 10 am/pm
 Project No: 60328308.10 Finish _____ am/pm
 Site Location: Newberry, SC
 Weather Conds: pt cloudy 40-50' Collector(s): S Ross / J Teagarden

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30' c. Length of Water Column 11.28 (a-b) Casing Diameter/Material sch 40 PVC / 2"
 b. Water Table Depth 8.72 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Submersible pump

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	-D.O.	10%
- pH	+ 1.0 unit	- ORP	+ 10mV
- Sp. Cond.	3%	- Drawdown	< 0.3'

c. Field Testing Equipment used: Make _____ Model _____ Serial Number _____

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
Initial	10.0	15.52	7.93	114	1.4	-92	>1000			light brown
11:00	11.0	17.28	7.07	1094	1.38	-63.8	>1100			
11:30	16.0	17.27	6.52	1086	1.61	-47.8	778			
11:38	20.0	17.37	6.42	1091	1.98	-37.6	>1100			
12:03	25.0	17.80	6.25	1081	1.81	-25.4	183.4			
12:18	30.0	17.58	6.11	1081	2.17	-12.9	288.4			
12:24	33.0	17.0	6.07	1079	.	-3.0	100.8			

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Soda straw using peristaltic pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW25	40 ml vial	3	None	TCL VOCs	1330

Comments _____

Signature [Signature] Date 2/20/16



Well/Piezometer Development Record

Well/Piez. ID: MW-9D

Client: Philips Site Location: Shakespeare - Newberry
Project No: 60326308 Date: 4/19/16 Developer: _____

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material 80 40 Pre
Measuring Point Description TC Geology at Screen Interval (if known) bedrock granite (cross threaded)
Depth to Top of Screen (ft.) 144.06
Depth to Bottom of Screen (ft.) 154.06 Time of Water Level Measurement 0917
Total Well Depth (ft.) 154.06 Calculate Purge Volume (gal.) 23.2 gal
Depth to Static Water Level (ft.) 11.74 Disposal Method _____
142.32 Wellhead PID/FID N/A
Original Well Development Redevelopment Date of Original Development 4/19/16

DEVELOPMENT METHOD

PURGE METHOD

Field Testing Equipment Used: _____
Make HACH Model 2100Q Serial Number _____
VSI 556

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1009	5g	20.74	7.02	.164	20.0	17.97	clear/brown	—	—
1009	10g	21.76	7.31	.145	20.6	10.29	brown/red	—	—
1011	15g	21.96	7.83	.151	30.5	8.70	brown	—	—
1018	17.85g	21.81	8.41	0.152	63.8	11.85	clear	—	—
1024	20.0g	22.85	10.75	0.512	164	10.55	Murky	—	—
1108	25.0g	22.28	10.82	1.037	82.1	9.54	clear/brown	—	—
1113	30.0g	22.41	10.66	0.982	86.4	8.23	clear/brown	—	—
1118	32.5g	21.71	10.54	0.537	71.8	7.32	clear/brown	—	—
1121	35.0g	22.48	10.55	0.604	72.7	6.86	brown/clear	—	Dry
1207	40.0g	22.65	10.29	0.372	20.1	6.34	clear	—	—
1214	45.0g	21.58	10.20	0.378	17.4	6.23	clear	—	—

dry at 22g

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (_____ well volumes) _____ gallons
Maximum Turbidity Allowed _____ NTUs
Stabilization of parameters _____ %

Yes No N/A
Has required volume been removed
Has required turbidity been reached
Have parameters stabilized
If no or N/A explain below:

Signature _____ Date: _____



Well/Piezometer Development Record

Well/Piez. ID: SDW-2

Client: Philips Site Location: Shakespeare - Noubesay, SC
Project No: 60326300.11 Date: 4/18/2016 Developer: SA/EFJ

WELL/PIEZOMETER DATA

Well Piezometer Diameter 2" Material sch 40 PVC
Measuring Point Description TOC Geology at Screen Interval (if known) Bedrock
Depth to Top of Screen (ft.) 83.68 Granite gneiss
Depth to Bottom of Screen (ft.) 88.67 Time of Water Level Measurement 1145
Total Well Depth (ft.) 88.48 Calculate Purge Volume (gal.) 9 gals/volume
Depth to Static Water Level (ft.) 34.02 54.46 Disposal Method _____
Wellhead PID/FID N/A
Original Well Development Redevelopment Date of Original Development 4/13/2016

DEVELOPMENT METHOD Comp/purge PURGE METHOD N/A

Field Testing Equipment Used: _____
Make Hach Model 2100 Q Serial Number _____
45E 556

Field Testing Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
1243	Initial	22.00	11.24	0.430	>1000	—	gray	none	—
1307	8.0 g	20.58	10.27	0.195	21100	—	milky	none	—
1414	9.5 g	22.34	10.19	0.200	21100	—	gray	none	—
1527	10.0 g	23.43	10.16	0.132	>1100	—	gray	none	—
1600	10.2 g	24.97	10.16	0.170	>1100	—	gray	none	—
1630	10.8 g	24.98	10.10	0.162	>1000	—	gray	none	—

dry
dry
dry
dry

ACCEPTANCE CRITERIA (from workplan)

Min. Purge Volume (___ well volumes) ___ gallons Has required volume been removed Yes No N/A
Maximum Turbidity Allowed ___ NTUs Has required turbidity been reached Yes No N/A
Stabilization of parameters ___% Have parameters stabilized Yes No N/A

If no or N/A explain below:
Well continuously goes dry.

Signature: [Signature]

Date: 4/19/2016

[Signature]

PHASE II RI WELL DEVELOPMENT LOGS

Monitoring Well Development Log

Date Started (yr/mo/day) 6/22/17 Date Completed (yr/mo/day) _____
 Field Personnel Justin Butler
 Site Name Shakespeare composition structures
 Job # 60538283
 Well ID # MW-12I
 _____ Upgradient _____ Downgradient _____
 Weather Conditions cloudy
 Air Temperature 70.5 °F

Total Well Depth (TWD) = 46.18 1/100 ft
 Depth to Ground Water (DGW) = 4.16 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 46.02 42.06 1/100 ft
 1 Casing Volume (OCV) = LWC x 0.163 = 7.50 6.85 gallons
 5 Casing Volumes = 37.50 gallons
 Method of Well Development 60000lbs Pump
 Total Volume of Water Removed 37.50 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
6/22/17 1145	Initial	Initial	18.19	6.19	-327.4	0.206	7100	40.1%	
1153	~1.0	7.5	17.28	4.81	53.4	0.121	103.2	—	wt: 7.10
1201	~1.0	15.00	17.28	5.13	77.1	0.114	46.01	—	wt: 7.88
1209	~1.0	22.50	17.22	5.18	91.2	0.110	11.93	—	wt: 7.91
1237	~1.0	30.00	17.30	5.29	110.0	0.109	9.80	—	wt: 7.15
1245	~1.0	37.50	17.30	5.19	118.4	0.106	7.38	—	wt: 7.31

Empty purge water

COMMENTS/OBSERVATIONS:



Monitoring Well Development Log

Page _____ of _____

Date Started (yr/mo/day) 7/24/17 Date Completed (yr/mo/day) 7/24/17

Field Personnel E. H. Livingston, S. Minkler

Site Name Shutespeere

Job # 60534783

Well ID # MW-12D

_____ Upgradient _____ Downgradient

Weather Conditions Cloudy

Air Temperature 80s °F

Total Well Depth (TWD) = 82 1/100 ft

Depth to Ground Water (DGW) = 6.05 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 75.95 1/100 ft

1 Casing Volume (OCV) = LWC x .163 = 12.34 gallons

5 Casing Volumes = _____ gallons

Method of Well Development Sub-

Total Volume of Water Removed 30 gallons

Date/Time	Discharge Rate (gpm) mL	Volume Purged (gallons)	Water Temperature (°C)	pH	ORP	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
14:35	350	0	21.33	5.90	ORP	0.243	852.4	0	
14:40	350	4.7	22.77	5.50		0.183	346.0	0	
14:56	350	5.5	25.03 19.98	6.05 5.91		0.185 0.144	219.5	0	
15:16	350	10.0	20.71	6.12	172.5	0.199	133.2	0	
15:36	350	15.0	21.31	6.01		0.118	96.08	0	
16:05	350	20.0	26.75	6.00		0.123	67.70	0	
16:35	350	25.0	25.17	5.98		0.125	51.00	0	
16:50	350	—	—	—		—	45.01	0	

COMMENTS/OBSERVATIONS: Sample time 17:00 - MW-12D



Monitoring Well Development Log

Date Started (yr/mo/day) 7/25/17 Date Completed (yr/mo/day) 7/25/17

Field Personnel S. Minko, E. Harrington

Site Name RI Phase II, Newberry, S.C.

Job # 60534283

Well ID # MW-170

Upgradient Downgradient

Weather Conditions sunny, clear, 91°F

Air Temperature _____ °F

Total Well Depth (TWD) = 49.7 1/100 ft

Depth to Ground Water (DGW) = 10.31 ft 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 39.39 ft 1/100 ft

1 Casing Volume (OCV) = LWC x 1.63 = 6.42 gallons

5 Casing Volumes = _____ gallons

Method of Well Development Sub. pump

Total Volume of Water Removed 157 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
10:50	Initial	—	28.79	6.37	195.0	0.250	54.12/Cloudy		
11:10	0.1	0.5	29.01	6.24	77.5	0.180	> 1100		
11:30	0.20	4.0	26.33	5.59	124.7	0.115	63.81		
11:50	0.20	6.0	26.49	5.74	130.7	0.114	76.38		
12:10	0.20	8.0	28.03	5.87	133.4	0.110	37.67		
12:20	0.20	14.5	27.03	5.72	126.4	0.111	50.78		
12:40	0.20	14	28.15	5.82	94.4	0.107	28.60		
12:55	0.20	15	26.48	5.22	120.4	0.112	30.79		

COMMENTS/OBSERVATIONS:



Monitoring Well Development Log

Date Started (yr/mo/day) 7/27/17 Date Completed (yr/mo/day) 7-27-17

Field Personnel C. Harrington, J. Leaphart

Site Name Shakespeare

Job # 605 34283

Well ID # MW-19D

Upgradient Downgradient

Weather Conditions Sunny 80's

Air Temperature _____ °F

Total Well Depth (TWD) = 162.0 1/100 ft

Depth to Ground Water (DGW) = 8.78 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 153.22 1/100 ft

1 Casing Volume (OCV) = LWC x 0.163 = 25.0 gallons

5 Casing Volumes = 125 gallons

Method of Well Development Surge / Purge

Total Volume of Water Removed 75.0 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
7-27-17/1000	1.0	145.0	19.55	11.73	71.0	2821	1.58/CLEAR		
/1015	1.0	15.0	19.67	10.25	78.0	290	7.95/CLEAR		DTW 9.60
/1030	1.0	35.0	21.18	7.45	77.2	257	8.26/CLEAR		DTW 9.60
1100	1.0	50.0	20.00	7.00	108.7	249	9.43/CLEAR		DTW 9.60
1117	1.0	65.0	19.74	6.95	79.6	248	7.96/CLEAR		DTW 9.60
1127	1.0	75.0	20.18	6.79	68.5	249	8.15/CLEAR		DTW 9.60

COMMENTS/OBSERVATIONS: MW 19D: Sample time 11:30



Monitoring Well Development Log

Date Started (yr/mo/day) 7/25/17 Date Completed (yr/mo/day) 7/25/17
 Field Personnel E. Harrington, S. Minko
 Site Name Shakespeare
 Job # 60534283
 Well ID # SDW-3
 _____ Upgradient _____ Downgradient
 Weather Conditions Sunny, Clear
 Air Temperature _____ °F 96

Total Well Depth (TWD) = 100ft 1/100 ft
 Depth to Ground Water (DGW) = 17.88 ft. 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 82.12 1/100 ft
 1 Casing Volume (OCV) = LWC x .163 = 13.3 gallons
 5 Casing Volumes = _____ gallons
 Method of Well Development Sub.
 Total Volume of Water Removed 20 gallons

Date/Time	Discharge Rate (gpm)	Volume Purged (gallons)	Water Temperature (°C)	pH	Eh	Specific Conductivity (µmhos/cm)	Turbidity/Color	Sand Content (%)	Remarks
<u>14:30</u>	<u>Initial</u>	<u>—</u>	<u>25.94</u>	<u>8.95</u>	<u>109.1</u>	<u>0.326</u>	<u>32.68/Color</u>		
<u>14:45</u>		<u>5</u>	<u>22.52</u>	<u>8.75</u>	<u>39.6</u>	<u>0.263</u>	<u>41.89</u>		
<u>15:00</u>		<u>8</u>	<u>23.08</u>	<u>7.52</u>	<u>82.7</u>	<u>0.257</u>	<u>27.05</u>		
<u>15:15</u>		<u>10</u>	<u>22.08</u>	<u>7.89</u>	<u>16.4</u>	<u>0.252</u>	<u>23.17</u>		
<u>15:30</u>		<u>14</u>	<u>21.18</u>	<u>7.85</u>	<u>37.1</u>	<u>0.257</u>	<u>28.17</u>		
<u>15:50</u>		<u>18</u>	<u>21.24</u>	<u>8.02</u>	<u>24.5</u>	<u>0.259</u>	<u>18.65</u>		

COMMENTS/OBSERVATIONS: Sample IO: SDW-3
Sample time: 15:57

Appendix D
Groundwater Sampling
Logs

PHASE II ESA GROUNDWATER SAMPLING LOGS

Well ID: MW-1

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/22/14 Time: Start 1100 am/pm
 Project No: 60318382.2 Finish 1140 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 70's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 14.29 c. Length of Water Column 6.75 (a-b) Casing Diameter/Material 2"/pvc
 b. Water Table Depth 7.56 d. Calculated System Volume (see back) 1.1 GAL

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	<u>04M1480 AA</u>
	HF Scientific	20000	<u>201104076</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1103</u>	<u>0.20</u>	<u>19.34</u>	<u>5.20</u>	<u>39</u>	<u>5.15</u>	<u>193.0</u>	<u>11.50</u>	<u>200</u>	<u>7.70</u>	<u>clear/none</u>
<u>1108</u>	<u>1.20</u>	<u>19.08</u>	<u>4.43</u>	<u>35</u>	<u>5.02</u>	<u>234.9</u>	<u>11.60</u>	<u>200</u>	<u>7.71</u>	<u>" "</u>
<u>1113</u>	<u>2.20</u>	<u>18.84</u>	<u>4.13</u>	<u>34</u>	<u>5.00</u>	<u>255.4</u>	<u>6.68</u>	<u>200</u>	<u>7.72</u>	<u>" "</u>
<u>1118</u>	<u>3.20</u>	<u>18.76</u>	<u>4.02</u>	<u>34</u>	<u>5.03</u>	<u>259.2</u>	<u>5.64</u>	<u>200</u>	<u>7.73</u>	<u>" "</u>
<u>1123</u>	<u>4.20</u>	<u>18.51</u>	<u>3.86</u>	<u>34</u>	<u>5.09</u>	<u>268.9</u>	<u>5.20</u>	<u>200</u>	<u>7.75</u>	<u>" "</u>
<u>1128</u>	<u>5.20</u>	<u>18.39</u>	<u>3.81</u>	<u>34</u>	<u>5.20</u>	<u>272.8</u>	<u>5.25</u>	<u>200</u>	<u>7.76</u>	<u>" "</u>

d. Acceptance criteria pass/fail

Yes	No	N/A
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-1</u>	<u>40 ml voa</u>	<u>3 / 1</u>	<u>none / hcl</u>	<u>voc's</u>	<u>1130</u>

Comments _____

Signature J. Leaphart Date 4/22/14

Well ID: MW-2

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/22/14 Time: Start 1150 am/pm
 Project No: 60318382.2 Finish 1239 am/pm
 Site Location: Newberry SC
 Weather Conds: Cloudy, 70's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.80 c. Length of Water Column 90.25 (a-b) Casing Diameter/Material
 b. Water Table Depth 4.55 d. Calculated System Volume (see back) 3.3 Gal 2"/pvc

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	<u>04M1480 DA</u>
	HF Scientific	20000	<u>20104076</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1158</u>	<u>0.20</u>	<u>19.15</u>	<u>5.06</u>	<u>33</u>	<u>7.13</u>	<u>288.3</u>	<u>4.07</u>	<u>200</u>	<u>4.91</u>	<u>Cloudy/powd</u>
<u>1203</u>	<u>1.20</u>	<u>19.15</u>	<u>4.42</u>	<u>33</u>	<u>6.74</u>	<u>281.8</u>	<u>2.66</u>	<u>200</u>	<u>4.97</u>	<u>" "</u>
<u>1208</u>	<u>2.20</u>	<u>18.84</u>	<u>4.28</u>	<u>33</u>	<u>6.70</u>	<u>286.4</u>	<u>2.35</u>	<u>200</u>	<u>5.00</u>	<u>" "</u>
<u>1213</u>	<u>3.20</u>	<u>18.84</u>	<u>4.17</u>	<u>33</u>	<u>6.68</u>	<u>289.1</u>	<u>2.07</u>	<u>200</u>	<u>5.01</u>	<u>" "</u>
<u>1218</u>	<u>4.20</u>	<u>18.87</u>	<u>4.16</u>	<u>33</u>	<u>6.61</u>	<u>291.0</u>	<u>2.04</u>	<u>200</u>	<u>5.02</u>	<u>" "</u>
<u>1223</u>	<u>5.20</u>	<u>18.92</u>	<u>4.07</u>	<u>33</u>	<u>6.60</u>	<u>295.6</u>	<u>1.90</u>	<u>200</u>	<u>5.02</u>	<u>" "</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-2</u>	<u>40 ml voa</u>	<u>3 / X</u>	<u>none / hcl</u>	<u>voc's</u>	<u>1225</u>

Comments _____

Signature [Signature] Date 4/22/14

Well ID: MLW-3

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/22/14 Time: Start 1244 am/pm
 Project No: 60318382.2 Finish 1342 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 70's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.82 c. Length of Water Column 16.48 (a-b) Casing Diameter/Material
2"/pvc
 b. Water Table Depth 8.34 d. Calculated System Volume (see back) 2.70

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	<u>04M1480 AA</u>
	HF Scientific	20000	<u>201104026</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1254</u>	<u>0.20</u>	<u>18.65</u>	<u>4.80</u>	<u>68</u>	<u>4.26</u>	<u>260.5</u>	<u>24.53</u>	<u>200</u>	<u>8.68</u>	<u>Clear/None</u>
<u>1259</u>	<u>1.20</u>	<u>18.20</u>	<u>4.28</u>	<u>68</u>	<u>4.07</u>	<u>278.8</u>	<u>21.44</u>	<u>200</u>	<u>8.72</u>	<u>" "</u>
<u>1304</u>	<u>2.20</u>	<u>18.15</u>	<u>4.02</u>	<u>68</u>	<u>4.14</u>	<u>286.3</u>	<u>20.72</u>	<u>200</u>	<u>8.74</u>	<u>" "</u>
<u>1309</u>	<u>3.20</u>	<u>18.24</u>	<u>3.92</u>	<u>67</u>	<u>4.10</u>	<u>283.8</u>	<u>20.12</u>	<u>200</u>	<u>8.76</u>	<u>" "</u>
<u>1314</u>	<u>4.20</u>	<u>18.35</u>	<u>3.88</u>	<u>66</u>	<u>4.30</u>	<u>324.0</u>	<u>20.21</u>	<u>200</u>	<u>8.77</u>	<u>" "</u>
<u>1319</u>	<u>5.20</u>	<u>18.20</u>	<u>3.81</u>	<u>66</u>	<u>3.93</u>	<u>343.1</u>	<u>17.81</u>	<u>200</u>	<u>8.80</u>	<u>" "</u>
<u>1324</u>	<u>6.20</u>	<u>18.24</u>	<u>3.78</u>	<u>66</u>	<u>3.74</u>	<u>337.6</u>	<u>15.38</u>	<u>200</u>	<u>8.80</u>	<u>" "</u>

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MLW-3</u>	<u>40 ml voa</u>	<u>3/1</u>	<u>none / hcl</u>	<u>voc's</u>	<u>1325</u>

Comments _____

Signature [Signature] Date 4/22/14

Well ID: MW-4

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/22/14 Time: Start 1355 am/pm
 Project No: 60318382.2 Finish 1443 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 70's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.17 c. Length of Water Column 11.22 (a-b) Casing Diameter/Material 2" pvc
 b. Water Table Depth 13.45 d. Calculated System Volume (see back) 1.9

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	04M1480PA
	HF Scientific	20000	201104076

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1401	0.20	20.32	4.82	82	4.29	188.5	10.65	200	13.76	Cloudy/Amo
1406	1.20	19.87	4.55	82	3.92	201.0	7.51	200	13.81	" "
1411	2.20	19.49	4.22	81	3.73	219.7	7.41	200	13.82	" "
1416	3.20	19.52	4.11	81	3.65	229.4	6.43	200	13.83	" "
1421	4.20	19.58	4.01	81	3.92	237.4	6.12	200	13.81	" "
1426	5.20	19.50	3.85	80	3.54	250.4	5.21	200	13.81	" "
1431	6.20	19.49	3.81	79	3.03	253.2	4.53	200	13.81	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-4</u>	<u>40 ml voa</u>	<u>3/1</u>	<u>none / hcl</u>	<u>voc's</u>	<u>1435</u>

Comments _____

Signature [Signature] Date 4/22/14

Well ID: MD-5

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/22/14 Time: Start 1458 am/pm
 Project No: 60318382.2 Finish 1539 am/pm
 Site Location: Newberry SC
 Weather Conds: P. cloudy, 70's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)
 a. Total Well Length 25.57 c. Length of Water Column 14.01 (a-b) Casing Diameter/Material
 b. Water Table Depth 11.56 d. Calculated System Volume (see back) 2.3 2"/pvc

2. WELL PURGE DATA
 a. Purge Method: Peristaltic Pump
 b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH + 1.0 unit - ORP + 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'
 c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	<u>04M1480 AA</u>
HF Scientific	20000	<u>201104076</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1507</u>	<u>0.20</u>	<u>18.68</u>	<u>4.88</u>	<u>73</u>	<u>2.81</u>	<u>248.1</u>	<u>3.87</u>	<u>200</u>	<u>11.77</u>	<u>CLAR/NO O</u>
<u>1512</u>	<u>1.20</u>	<u>18.32</u>	<u>4.43</u>	<u>74</u>	<u>2.62</u>	<u>283.5</u>	<u>2.65</u>	<u>200</u>	<u>11.79</u>	<u>" "</u>
<u>1517</u>	<u>2.20</u>	<u>18.13</u>	<u>4.22</u>	<u>75</u>	<u>2.64</u>	<u>301.6</u>	<u>2.71</u>	<u>200</u>	<u>11.80</u>	<u>" "</u>
<u>1522</u>	<u>3.20</u>	<u>18.00</u>	<u>4.11</u>	<u>77</u>	<u>2.93</u>	<u>308.6</u>	<u>2.19</u>	<u>200</u>	<u>11.81</u>	<u>" "</u>
<u>1527</u>	<u>4.20</u>	<u>18.00</u>	<u>4.06</u>	<u>78</u>	<u>3.11</u>	<u>314.1</u>	<u>2.21</u>	<u>200</u>	<u>11.80</u>	<u>" "</u>
<u>1532</u>	<u>5.20</u>	<u>18.16</u>	<u>4.04</u>	<u>78</u>	<u>2.73</u>	<u>314.8</u>	<u>4.70</u>	<u>200</u>	<u>11.80</u>	<u>" "</u>

d. Acceptance criteria pass/fail

Has required volume been removed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MD-5</u>	<u>40 ml voa</u>	<u>3/1</u>	<u>none/hcl</u>	<u>voc's</u>	<u>1535</u>

Comments _____

Signature J. Leaphart Date 4/22/14

Well ID: MW-6

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/23/14 Time: Start 0836 am/pm
 Project No: 60318382.2 Finish 0918 am/pm
 Site Location: Newberry SC
 Weather Conds: Cloudy, 60's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.42 c. Length of Water Column 10.89 (a-b) Casing Diameter/Material
2"/pvc
 b. Water Table Depth 14.53 d. Calculated System Volume (see back) 1.8

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH + 1.0 unit - ORP + 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	<u>04M1480 AA</u>
	HF Scientific	20000	<u>201104076</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>0838</u>	<u>0.20</u>	<u>17.47</u>	<u>4.27</u>	<u>85</u>	<u>1.80</u>	<u>162.3</u>	<u>3.56</u>	<u>200</u>	<u>14.81</u>	<u>Clear/None</u>
<u>0843</u>	<u>1.20</u>	<u>17.94</u>	<u>4.26</u>	<u>82</u>	<u>1.11</u>	<u>178.0</u>	<u>4.47</u>	<u>200</u>	<u>14.85</u>	<u>" "</u>
<u>0848</u>	<u>2.20</u>	<u>18.08</u>	<u>4.24</u>	<u>83</u>	<u>1.89</u>	<u>180.8</u>	<u>4.11</u>	<u>200</u>	<u>14.85</u>	<u>" "</u>
<u>0853</u>	<u>3.20</u>	<u>18.11</u>	<u>4.22</u>	<u>83</u>	<u>0.59</u>	<u>178.1</u>	<u>3.11</u>	<u>200</u>	<u>14.87</u>	<u>" "</u>
<u>0858</u>	<u>4.20</u>	<u>18.16</u>	<u>4.21</u>	<u>83</u>	<u>0.48</u>	<u>167.2</u>	<u>2.51</u>	<u>200</u>	<u>14.88</u>	<u>" "</u>
<u>0903</u>	<u>5.20</u>	<u>18.19</u>	<u>4.24</u>	<u>83</u>	<u>0.45</u>	<u>159.3</u>	<u>2.52</u>	<u>200</u>	<u>14.89</u>	<u>" "</u>

d. Acceptance criteria pass/fail Yes No N/A (continued on back)
 Has required volume been removed
 Has required turbidity been reached
 Have parameters stabilized
 If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-6</u>	<u>40 ml voa</u>	<u>3 / X</u>	<u>none / hcl</u>	<u>voc's</u>	<u>0905</u>

Comments _____

Signature [Signature] Date 4/23/14

Well ID: MW-7

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/23/14 Time: Start 0924 am/pm
 Project No: 60318382.2 Finish 1009 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 60's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.32 c. Length of Water Column 15.3 (a-b) Casing Diameter/Material 2"/pvc
 b. Water Table Depth 10.02 d. Calculated System Volume (see back) 2.5

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	<u>04M1480AA</u>
	HF Scientific	20000	<u>201104074</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>0934</u>	<u>0.20</u>	<u>16.58</u>	<u>4.18</u>	<u>48</u>	<u>3.97</u>	<u>246.8</u>	<u>8.80</u>	<u>200</u>	<u>10.21</u>	<u>Clear/None</u>
<u>0939</u>	<u>1.20</u>	<u>16.55</u>	<u>4.18</u>	<u>47</u>	<u>3.76</u>	<u>271.9</u>	<u>2.74</u>	<u>200</u>	<u>10.25</u>	<u>" "</u>
<u>0944</u>	<u>2.20</u>	<u>16.58</u>	<u>4.14</u>	<u>46</u>	<u>3.71</u>	<u>288.0</u>	<u>2.15</u>	<u>200</u>	<u>10.25</u>	<u>" "</u>
<u>0949</u>	<u>3.20</u>	<u>16.61</u>	<u>4.08</u>	<u>46</u>	<u>3.47</u>	<u>298.7</u>	<u>2.86</u>	<u>200</u>	<u>10.25</u>	<u>" "</u>
<u>0954</u>	<u>4.20</u>	<u>16.64</u>	<u>4.04</u>	<u>46</u>	<u>3.41</u>	<u>306.9</u>	<u>1.50</u>	<u>200</u>	<u>10.25</u>	<u>" "</u>
<u>0959</u>	<u>5.20</u>	<u>16.69</u>	<u>3.95</u>	<u>46</u>	<u>3.40</u>	<u>315.9</u>	<u>2.25</u>	<u>200</u>	<u>10.25</u>	<u>" "</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-7</u>	<u>40 ml voa</u>	<u>3 / 2</u>	<u>none / hcl</u>	<u>voc's</u>	<u>1000</u>

Comments DUP-01 Collected

Signature J Leaphart Date 4/23/14

Well ID: MW-8

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/23/14 Time: Start _____ am/pm
 Project No: 60318382.2 Finish: 1202 am/pm
 Site Location: Newberry SC
 Weather Conds: clear, 70's Collector(s): _____ James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.22 c. Length of Water Column 12.7 (a-b) Casing Diameter/Material _____
 b. Water Table Depth 12.52 d. Calculated System Volume (see back) 2.1 _____
 2" pvc

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH + 1.0 unit - ORP + 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	<u>04m1480AA</u>
HF Scientific	20000	<u>201104676</u>

Time (24hr)	Volume		pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
	Removed (Liters)	Temp. (°C)								
<u>1124</u>	<u>0.20</u>	<u>19.29</u>	<u>5.05</u>	<u>64</u>	<u>2.98</u>	<u>256.2</u>	<u>9.26</u>	<u>200</u>	<u>12.78</u>	<u>clear/odor</u>
<u>1129</u>	<u>1.20</u>	<u>19.14</u>	<u>4.83</u>	<u>64</u>	<u>2.50</u>	<u>251.1</u>	<u>9.39</u>	<u>200</u>	<u>12.90</u>	" "
<u>1134</u>	<u>2.20</u>	<u>19.05</u>	<u>4.68</u>	<u>64</u>	<u>2.33</u>	<u>255.8</u>	<u>11.50</u>	<u>200</u>	<u>12.90</u>	" "
<u>1139</u>	<u>3.20</u>	<u>19.07</u>	<u>4.62</u>	<u>64</u>	<u>2.05</u>	<u>254.3</u>	<u>9.38</u>	<u>200</u>	<u>12.91</u>	" "
<u>1144</u>	<u>4.20</u>	<u>19.15</u>	<u>4.59</u>	<u>64</u>	<u>1.96</u>	<u>252.1</u>	<u>8.10</u>	<u>200</u>	<u>12.93</u>	" "
<u>1149</u>	<u>5.20</u>	<u>19.17</u>	<u>4.51</u>	<u>64</u>	<u>1.95</u>	<u>251.0</u>	<u>8.01</u>	<u>200</u>	<u>12.99</u>	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-8</u>	<u>40 ml voa</u>	<u>3/A</u>	<u>none / bat</u>	<u>voc's</u>	<u>1150</u>

Comments _____

Signature [Signature] Date 4/23/14

Well ID: MW-9⁹

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 4/23/14 Time: Start 1020 am/pm
 Project No: 60318382.2 Finish 1112 am/pm
 Site Location: Newberry SC
 Weather Conds: Cloudy, 60's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.60 c. Length of Water Column 13.49 (a-b) Casing Diameter/Material
2" pvc
 b. Water Table Depth 12.11 d. Calculated System Volume (see back) 2.2

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	04M14B0AA
HF Scientific	20000	201104026

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1032	0.20	17.52	4.52	59	4.84	269.4	5.53	200	12.46	Clear/none
1037	1.20	17.45	4.48	59	4.67	263.2	7.40	200	12.50	" "
1042	2.20	17.41	4.44	60	5.22	264.0	6.30	200	12.52	" "
1047	3.20	17.48	4.43	60	4.52	261.7	4.75	200	12.54	" "
1052	4.20	17.52	4.41	60	4.48	260.1	4.89	200	12.55	" "
1057	5.20	17.55	4.38	60	4.42	266.4	4.04	200	12.56	" "

d. Acceptance criteria pass/fail

Has required volume been removed	Yes	No	N/A
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-9</u>	<u>40 ml voa</u>	<u>3 / 1</u>	<u>none / hcl</u>	<u>voc's</u>	<u>1100</u>

Comments _____

Signature [Signature] Date 4/23/14

SI GROUNDWATER SAMPLING LOGS

EI GROUNDWATER SAMPLING LOGS

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 5/22/14 Time: Start 0946 am/pm
 Project No: _____ Finish 1132 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: Cloud, 75° Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 14.30 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2"
 b. Water Table Depth 8.00 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP
 b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ±1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'
 c. Field Testing Equipment used:

Make	Model	Serial Number
<u>431</u>	<u>556</u>	<u>10K101769</u>
<u>MICRO TPW</u>	<u>20000</u>	

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0948	INITIAL	19.17	4.79	39	10.42	128.7	13.35	200	8.15	Clear/None
0953	1.0	18.91	4.45	37	8.84	148.9	9.42	200	8.18	" "
0958	2.0	18.82	4.57	37	8.76	146.5	8.33	200	8.20	" "
1003	3.0	18.82	4.68	37	8.67	144.4	7.30	200	8.21	" "
1008	4.0	18.85	4.75	36	8.71	143.2	6.32	200	8.21	" "
1013	5.0	18.83	4.78	36	8.70	143.3	5.12	200	8.21	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-1</u>	<u>40 ML VOA</u>	<u>3</u>	<u>NONE</u>	<u>VOC's</u>	<u>1015</u>
	<u>40 ML VOA</u>	<u>2</u>	<u>ACL</u>	<u>PERISSOUS IRON</u>	
	<u>250 ML POLY</u>	<u>1/1</u>	<u>HNO3/NONE</u>	<u>METALS/DISS-METALS</u>	
	<u>250 ML POLY</u>	<u>1/1</u>	<u>H2SO4/NONE+ZnAC</u>	<u>TOC/SULFIDE</u>	

Comments: 1053 DHC SAMPLE COLLECTION
1118 COLLECT HYDROGEN GAS

Signature: [Signature] Date: 5/22/14

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 5/22/14 Time: Start 1358 am/pm
 Project No: _____ Finish 1550 am/pm
 Site Location: HELBERTON, SC
 Weather Conds: CLEAR Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.43 c. Length of Water Column _____ (a-b) Casing Diameter/Material _____
 b. Water Table Depth 15.10 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ±1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>451</u>	<u>556</u>	<u>10K101769</u>
<u>MICRO TPL</u>	<u>20000</u>	<u>200703024</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1401	1.16	20.07	3.13	102	10.91	140	10.72	250	15.35	Clear/None
1406	1.25	19.23	4.26	99	6.04	152.6	9.25	250	15.37	" "
1411	2.50	18.91	4.42	97	3.76	146.5	7.93	250	15.38	" "
1416	3.75	18.6	4.47	95	2.78	145.2	7.78	250	15.40	" "
1421	5.00	18.65	4.52	94	2.41	143.6	8.47	250	15.40	" "
1426	6.25	18.62	4.58	93	2.18	143.3	6.05	250	15.40	" "
1431	7.50	18.55	4.60	92	1.99	142.8	4.95	250	15.41	" "

d. Acceptance criteria pass/fail

Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-6</u>	<u>40 ML VOA</u>	<u>3</u>	<u>None</u>	<u>VOC's</u>	<u>1435</u>
	<u>40 ML VOA</u>	<u>2</u>	<u>HCL</u>	<u>PETROLEUM IDEAL</u>	
	<u>250 ML POLY</u>	<u>1/1</u>	<u>HNO3 / NONE</u>	<u>METALS / DISS. METALS</u>	
	<u>250 ML POLY</u>	<u>1/1</u>	<u>H2SO4 / NADH + ZNAC</u>	<u>TEC / SULFIDE</u>	
Comments	<u>250 ML POLY</u>	<u>1</u>	<u>None</u>	<u>NO3, NO2, Br, Cl, SO4</u>	
<u>1503</u>	<u>Collect DIC Sample</u>				
<u>1535</u>	<u>Collect Hydrogen Gas</u>				

Signature: [Signature] Date: 5/22/14

Low Flow Ground Water Sample Collection Record

Client: SUNBELT Date: 5/22/14 Time: Start 1153 am/pm
 Project No: _____ Finish 1339 am/pm
 Site Location: PENNINGTON, SC
 Weather Conds: Clear, 81° Collector(s): James Leaphant

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 26.32 c. Length of Water Column _____ (a-b) Casing Diameter/Material _____
 b. Water Table Depth 11.71 d. Calculated System Volume (see back) _____
2"

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>10K101769</u>
<u>MICRO TPLW</u>	<u>20000</u>	<u>200703024</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1156	1.25	18.79	2.65	49	6.12	393.7	11.80	250	11.96	Clear
1201	1.25	18.37	3.70	47	10.44	567.2	10.07	250	12.00	"
1206	2.50	17.92	3.89	47	10.07	573.6	8.63	250	12.05	"
1211	3.75	17.13	3.96	46	8.65	556.3	6.82	250	12.08	"
1216	5.00	17.88	4.09	46	6.45	559.3	7.77	250	12.08	"
1221	6.25	17.90	4.13	46	5.26	529.9	6.56	250	12.08	"
1226	7.50	17.89	4.09	45	4.38	548.4	6.18	250	12.09	"

d. Acceptance criteria pass/fail

Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-7	40 mL VOA	3	NONE	VOC's	1230
	40 mL VOA	2	HCL	FERRICUS IRON	
	250 mL POLY	1 / 1	HNO3 / NONE	METALS / DISS. METALS	
	250 mL POLY	1 / 1	H2SO4 / NONE	TDC / SULFIDE	
Comments	250 mL POLY	1	NONE	NO3, NO2, Br, Cl, SO4	

1300 COLLECT DHC SAMPLE
 1324 COLLECT HYDROGEN GAS

Signature: J Leaphant Date: 5/22/14

FIELD DATA INFORMATION LOG FOR GROUNDWATER SAMPLING

Date (mo/day/yr) 5/22/14
 Field Personnel J. B. Allen
 Site Name Shakespeare Composite Structures
 AECOM Job No. 60318382
 Sample ID MW-8
 Upgradient Clear Downgradient Clear Sidegradient Clear Source Clear
 Weather Conditions 90's
 Air Temperature 90's ° F
 Total Well Depth (TWD) = 35.23 1/100 ft
 Depth to Ground Water (DGW) = 13.76 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 21.47 1/100 ft
 1 Casing Volume (OCV)* = LWC x gal = Standard Evacuation Volume
 3 Casing Volumes = gal
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed 4.5 gal

Casing Diameter 2" inches
 Casing Material PVC
 Measuring Point Elevation 1/100 ft
 Height of Riser (above land surface) Fresh 1/100 ft
 Land Surface Elevation 1/100 ft
 Screened Interval 155-255 1/100 ft
 Dedicated Pump or Bailor YES NO X Type
 Steel Guard Pipe Around Casing YES X NO
 Locking Cap YES X NO
 Protective Pos/Abutment YES NO X
 Well Integrity Satisfactory YES X NO
 Yield LOW MODERATE HIGH
 Comments/Observations
 Sample Time: VOG's/MWA: 1510
Other: 1535

* - One casing volume (gallons) for a 0.5 inch well is 0.0102XLWC; for a 2 inch well is 0.163 XLWC; for a 4 inch well is 0.652 XLWC and for a 6 inch well is 1.468 XLWC.
 Volume (in gallons) = $\pi r^2 h (7.48)$, where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES

Volume Purged (gal)	6.9	1.3	1.7	2.1	2.5	2.9	3.3	3.7	4.1	4.5
TIME (Military)	1415	1425	1430	1435	1440	1445	1450	1455	1500	1505
Water Level (ft BTOC)	1414	1416	1417	1417	1418	1418	1418	1418	1418	1419
Purge Rate (gal/min)	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08	0.08
pH (S.U.)	7.80	3.61	4.12	4.16	4.11	4.53	4.65	4.63	4.61	4.64
Sp. Cond. (mS/cm)	0.056	0.057	0.062	0.065	0.068	0.070	0.070	0.070	0.069	0.069
Water Temp. (°C)	20.65	20.38	20.22	20.42	20.58	20.73	20.60	20.40	20.23	20.20
Turbidity (NTUs)	6.93	4.91	5.35	5.47	4.35	4.55	3.29	3.20	1.18	1.77
DO - (mg/L)	5.55	3.20	3.45	2.54	2.54	1.99	2.05	2.15	2.12	2.11
ORP (mV)	650.4	641.9	603.4	557.1	523.2	403.7	381.3	367.5	358.1	359.0

COMMENTS/OBSERVATIONS

FIELD DATA INFORMATION LOG FOR GROUNDWATER SAMPLING

Date (m/d/yyyy) 5/22/14
 Field Personnel J. Butler
 Site Name Shakespeare Composite Structures
 AECOM Job No. 60318382
 Sample ID T1W-21
 Upgradient Downgradient Cleas Sidegradient Source
 Weather Conditions 80's
 Air Temperature 30.18 °F
 Total Well Depth (TWD) = 18.0 1/100 ft
 Depth to Ground Water (DGW) = 12.18 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 0.04 = 0.49 gal = Standard Evacuation Volume
 1 Casing Volume (OCV)* = LWC x
 3 Casing Volumes = 1.47 gal
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed gal

Casing Diameter 1" inches
 Casing Material PVC
 Measuring Point Elevation 1/100 ft
 Height of Riser (above land surface) 1.8' 1/100 ft
 Land Surface Elevation 1/100 ft
 Screened Interval 1/100 ft
 Dedicated Pump or Baller YES NO Type
 Steel Guard Pipe Around Casing YES NO
 Locking Cap YES NO
 Protective Pos/Abutment YES NO
 Well Integrity Satisfactory YES NO
 Yield LOW MODERATE HIGH
 Comments/Observations
 Sample Time: 1:50 Day

* - One casing volume (gallons) for a 0.5 inch well is 0.0102XLWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.
 Volume (in gallons) = $\pi r^2 h (7.48)$, where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES									
Volume Purged (gal)	2.35	2.70	3.05	3.40	3.75	4.10	4.45		
TIME (Military)	1212	1222	1227	1232	1237	1242	1247		
Water Level (ft BTOC)	20.20	20.20	20.20	20.20	20.20	20.20	20.20		
Purge Rate (gal/min)	0.07	0.07	0.07	0.07	0.07	0.07	0.07		
pH (S.U.)	4.83	4.64	3.97	3.97	3.69	3.99	4.01		
Sp. Cond. (mS/cm)	0.646	0.616	0.047	0.047	0.048	0.048	0.049		
Water Temp. (°C)	21.71	21.34	21.09	21.07	21.07	21.09	21.09		
Turbidity (NTUs)	269	68.3	32.04	14.06	5.08	4.03	2.50		
DO - (mg/L)	1.79	1.62	1.02	0.94	0.84	0.84	0.84		
ORP (mV)	-212.6	-269.5	-254.3	-287.8	-182.7	-190.1	-297.6		

COMMENTS/OBSERVATIONS Purged 2.0gal to remove solids / Duplicate.

FIELD DATA INFORMATION LOG FOR GROUNDWATER SAMPLING

Date (m/d/yr) 5/20/14
 Field Personnel J. Butler
 Site Name Shakespeare Composite Structures
 AECOM Job No. 6031838Z
 Sample ID TMW-22
 Upgradient Clear (indoors) Downgradient Clear (indoors) Sidegradient Clear (indoors) Source Clear (indoors)
 Weather Conditions 70's
 Air Temperature 70's ° F
 Total Well Depth (TWD) = 28.15 1/100 ft
 Depth to Ground Water (DGW) = 15.01 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 13.14 1/100 ft
 1 Casing Volume (OCV) = LWC x 0.04 = 0.53 gal
 3 Casing Volumes = 1.59 gal = Standard Evacuation Volume
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed gal

Casing Diameter 1" Inches
 Casing Material PVC
 Measuring Point Elevation 1/100 ft
 Height of Riser (above land surface) Flush 1/100 ft
 Land Surface Elevation 1/100 ft
 Screened Interval 1/100 ft
 Dedicated Pump or Bailor YES NO NO NO Type
 Steel Guard Pipe Around Casing YES NO NO NO
 Locking Cap YES NO NO NO
 Protective Post/Abutment YES NO NO NO
 Well Integrity Satisfactory YES NO NO NO
 Yield LOW MODERATE HIGH
 Comments/Observations
 Sample Time: 1035

* - One casing volume (gallons) for a 0.5 inch well is 0.0102X LWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.

Volume (in gallons) = $\pi r^2 h$ (7.48), where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES											
Volume Purged (gal)	1.6	1.95	2.30	2.65	3.00	3.35	3.70	4.05	4.40		
TIME (Military)	0946	0951	1001	1006	1011	1016	1021	1026	1031		
Water Level (ft BTOC)	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28	17.28		
Purge Rate (gal/min)	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07	0.07		
pH (S.U.)	4.93	4.87	4.85	4.84	4.82	4.80	4.81	4.82	4.81		
Sp. Cond. (mS/cm)	0.092	0.043	0.040	0.041	0.040	0.041	0.041	0.041	0.041		
Water Temp. (°C)	22.86	22.57	22.54	22.56	22.55	22.51	22.55	22.55	22.51		
Turbidity (NTUs)	518.0	139.9	47.56	31.99	23.03	19.07	11.67	8.34	9.47		
DO - (mg/L)	4.84	4.29	3.84	3.55	2.99	3.29	3.34	3.17	3.31		
ORP (mV)	-34.2	-78.5	-96.0	-105.9	-108.9	-115.5	-115.6	-121.6	-122.7		

COMMENTS/OBSERVATIONS Purged 1.25 gal to remove solids

FIELD DATA LOG FOR GROUNDWATER SAMPLING

Date (m/d/yyyy) 5/28/14
 Field Personnel S. Bellus
 Site Name Stokesport - Newberry
 Earth Tech Job # _____
 Sample ID* TAM-23
 _____ Upgradient _____ Downgradient _____ Sidegradient _____ Source _____
 Weather Conditions SUNNY
 Air Temperature 80s ° F
 Total Well Depth (TWD) = _____ 1/100 ft
 Depth to Ground Water (DGM) = 14.36 @ 1055 1/100 ft
 Length of Water Column (LWC) = TWD - DGM = _____ 1/100 ft
 1 Casing Volume (OCV)* = LWC x _____ gal
 3 Casing Volumes = _____ gal = Standard Evacuation Volume
 Method of Sample Evacuation _____
 Method of Sample Collection _____
 Total Volume of Water Removed _____ gal

Casing Diameter 1 inches
 Casing Material PVC
 Measuring Point Elevation _____ 1/100 ft
 Height of Riser (above land surface) _____ 1/100 ft
 Land Surface Elevation _____ 1/100 ft
 Screened Interval _____ 1/100 ft
 Dedicated Pump or Bailor YES _____ NO _____ Type _____
 Steel Guard Pipe Around Casing YES _____ NO _____
 Locking Cap YES _____ NO _____
 Protective Post/Abutment YES _____ NO _____
 Well Integrity Satisfactory YES _____ NO _____
 Yield LOW _____ MODERATE _____ HIGH _____
 Comments/Observations _____
 Sample Time: 12:10
 Sample Analytes: _____

* - One casing volume (gallons) for a 0.5 inch well is 0.0102XLWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.
 Volume (in gallons) = $\pi r^2 h (7.48)$, where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES

VOLUME PURGED (gallons)	~1.75	~2.0	~2.25	~2.50	~2.75	~3.0	~3.25	~3.50	~3.75	~4.00	~4.25
TIME (Military)	1125	1130	1135	1140	1145	1150	1155	1200	1205	1210	1220
Water Level (ft BTOW)	22.57	22.53	22.51	20.16	19.27	18.67	16.72	16.25	16.03	17.57	17.74
pH (S.U.)	4.74	4.57	4.60	4.61	4.59	4.55	4.60	4.53	4.48	4.43	4.43
Sp. Cond. (mS/cm)	0.048	0.044	0.044	0.043	0.043	0.042	0.041	0.041	0.041	0.040	0.039
Water Temp. (°C)	22.44	22.43	22.39	22.40	22.38	22.36	22.38	22.39	22.36	22.32	22.31
Turbidity (NTUs)	75.57	79.08	74.44	57.76	49.03	27.19	19.45	17.07	17.10	16.30	13.89
DO - (mg/L)	7.11	4.54	4.34	4.41	3.23	2.79	2.94	2.92	2.97	2.35	1.84
Salinity (ppt)	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02	0.02
ORP (mV)	-10.2	-132.0	-135.0	-189.2	-154.9	-156.4	-178.1	-191.8	-199.0	-213.7	-226.4

COMMENTS/OBSERVATIONS _____ Began purging at 1055 Purging rate: _____ ml/min

FIELD DATA LOG FOR GROUNDWATER SAMPLING

Date (m/d/y) 5/28/14
 Field Personnel S. Phillips
 Site Name Shakespeare - Alexander
 Earth Tech Job # 60318382.3
 Sample ID* PAV-24
 Weather Conditions SLAWY
 Air Temperature 80 ° F
 Total Well Depth (TWD) = 15.46 1/100 ft
 Depth to Ground Water (DGW) = 13.45 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = _____ 1/100 ft
 1 Casing Volume (OCV)* = LWC x _____ gal
 3 Casing Volumes = _____ gal = Standard Evacuation Volume
 Method of Sample Evacuation _____
 Method of Sample Collection _____
 Total Volume of Water Removed _____ gal

Casing Diameter 1 inches
 Casing Material PVC
 Measuring Point Elevation _____ 1/100 ft
 Height of Riser (above land surface) _____ 1/100 ft
 Land Surface Elevation _____ 1/100 ft
 Screened Interval _____ 1/100 ft
 Dedicated Pump or Bailor YES _____ NO _____ Type _____
 Steel Guard Pipe Around Casing YES _____ NO _____
 Locking Cap YES _____ NO _____
 Protective Post/Abutment YES _____ NO _____
 Well Integrity Satisfactory YES _____ NO _____
 Yield LOW _____ MODERATE _____ HIGH _____
 Comments/Observations _____
 Sample Time: 1315
 Sample Analytes: _____

* - One casing volume (gallons) = $\pi r^2 h$ (7.48), where r is the radius (ft) and h is the height (ft).
 Volume (in gallons) = $\pi r^2 h$ (7.48), where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES											
VOLUME PURGED (gallons)	~1.75	~2.0	~2.25	~2.5	~2.75	~3.0	~3.25	~3.50	~3.75	~4.00	~4.25
TIME (Military)	1415	1420	1425	1430	1435	1440	1445	1450	1455	1500	1505
Water Level (ft BTOC)	16.06	16.10	16.14	16.09	16.13	16.15	16.14	16.17	16.18	16.16	16.18
pH (S.U.)	4.73	4.63	4.65	4.66	4.65	4.64	4.64	4.65	4.63	4.64	4.64
Sp. Cond. (mS/cm)	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.057	0.056	0.056	0.056
Water Temp. (°C)	23.49	23.53	23.29	23.23	23.23	23.17	23.06	23.03	22.96	22.94	22.95
Turbidity (NTUs)	85.00	61.83	81.43	59.74	59.75	47.00	45.41	29.96	25.74	20.32	14.31
DO - (mg/L)	1.33	1.33	1.15	1.19	1.16	1.14	1.16	1.08	1.12	1.10	1.09
Salinity (ppt)	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03	0.03
ORP (mV)	-120.8	-168.2	-189.9	-195.0	-194.2	-196.8	-184.0	-180.0	-175.3	-171.1	-166.2

COMMENTS/OBSERVATIONS _____
 Began purging at _____ Purging rate: _____ ml/min

FIELD DATA INFORMATION LOG FOR GROUNDWATER SAMPLING

Date (m/d/y) 5/29/14
 Field Personnel J. Butler
 Site Name Shakespeare Composite
 AECOM Job No. 60318382
 Sample ID TMO - 25
 Upgradient Clear Downgradient Clear Sidegradient Clear Source Clear
 Weather Conditions 70's
 Air Temperature 75.14 ° F
 Total Well Depth (TWD) = 13.62 1/100 ft
 Depth to Ground Water (DGW) = 11.52 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 2.10 1/100 ft
 1 Casing Volume (OCV) = LWC x 0.04 = 0.08 gal
 3 Casing Volumes = 1.38 gal = Standard Evacuation Volume
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed gal

Casing Diameter 1" inches
 Casing Material PVC
 Measuring Point Elevation 1/100 ft
 Height of Riser (above land surface) 1/100 ft
 Land Surface Elevation 1/100 ft
 Screened Interval 1/100 ft
 Dedicated Pump or Bailor YES NO Type
 Steel Guard Pipe Around Casing YES NO
 Locking Cap YES NO
 Protective Post/Abutment YES NO
 Well Integrity Satisfactory YES NO
 Yield LOW MODERATE HIGH
 Comments/Observations
 Sample Time: 1115

* - One casing volume (gallons) for a 0.5 inch well is 0.0102X LWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.

Volume (in gallons) = $\pi r^2 h$ (7.48), where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES										
Volume Purged (gal)	1.8	2.1	2.4	2.7	3.0	3.3	3.6	3.9	4.2	4.5
TIME (Military)	1033	1043	1048	1053	1058	1103	1108	1113	1118	1123
Water Level (ft BTOC)	15.37	15.25	15.24	15.24	15.24	15.24	15.24	15.24	15.24	15.24
Purge Rate (gal/min)	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06	0.06
pH (S.U.)	5.06	4.79	4.82	4.81	4.74	4.83	4.62	4.64	4.64	4.64
Sp. Cond. (mS/cm)	0.02	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05	0.05
Water Temp. (°C)	22.83	22.34	22.03	21.95	21.94	21.94	21.93	21.97	21.97	21.97
Turbidity (NTUs)	52.18	19.72	8.08	3.39	2.76	2.55	2.40	1.53	1.53	1.53
DO - (mg/L)	4.37	4.04	3.89	3.69	3.61	3.70	3.70	3.72	3.72	3.72
ORP (mv)	-60.6	-49.9	-57.5	-73.1	-68.3	-46.7	-52.9	-50.1	-50.1	-50.1

COMMENTS/OBSERVATIONS 1.5 gallons purged to remove solids

FIELD DATA INFORMATION LOG FOR GROUNDWATER SAMPLING

Date (mo/day/yr) 6/4/14
 Field Personnel Justin Butler
 Site Name Shakespeare Composite structures
 AECOM Job No. 60312382
 Sample ID TMW-29
 Upgradient Downgradient Clees Sidegradient Source
 Weather Conditions
 Air Temperature 70's ° F
 Total Well Depth (TWD) = 15.02 1/100 ft
 Depth to Ground Water (DGW) = 12.39 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 2.63 1/100 ft
 1 Casing Volume (OCV)* = LWC x 0.04 = 0.11 gal
 3 Casing Volumes = 0.33 gal = Standard Evacuation Volume
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed 1.50 gal

Casing Diameter 1" Inches
 Casing Material PVC
 Measuring Point Elevation 1/100 ft
 Height of Riser (above land surface) 29 1/100 ft
 Land Surface Elevation 1/100 ft
 Screened Interval 1/100 ft
 Dedicated Pump or Bailor YES NO Type
 Steel Guard Pipe Around Casing YES NO
 Locking Cap YES NO
 Protective Post/Abutment YES NO
 Well Integrity Satisfactory YES NO
 Yield LOW MODERATE HIGH
 Comments/Observations
 Sample Time: 1040

* - One casing volume (gallons) for a 0.5 inch well is 0.0102X LWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.

Volume (in gallons) = $\pi r^2 h$ (7.48), where r is the radius (ft) and h is the height (ft).

		FIELD ANALYSES									
Volume Purged (gal)		0.65	0.9	1.05	1.30	1.35	1.50				
TIME (Military)		1008	1013	1023	1028	1033	1038				
Water Level (ft BTOC)		13.86	13.30	13.70	13.97						
Purge Rate (gal/min)		5.07	5.02	5.02	4.92	4.90	4.89				
pH (S.U.)		0.097	0.045	0.043	0.037	0.036	0.035				
Sp. Cond. (mS/cm)		22.83	22.85	22.63	22.62	22.62	22.69				
Water Temp. (°C)		127.9	85.12	36.26	19.95	9.59	8.07				
Turbidity (NTUs)		7.66	5.47	4.82	5.48	5.53	5.61				
DO - (mg/L)		103.3	109.4	99.2	99.2	104.5	104.3				
ORP (mv)											

COMMENTS/OBSERVATIONS 0.5 gal purged for solids, Pump will not run slow enough to stabilize water level, recharge for
Recharge Rate 0.016 gal/min 1 min duration readings.

FIELD DATA LOG FOR GROUNDWATER SAMPLING

Date (m/d/yr) 6/5/14
 Field Personnel Justin Bales
 Site Name Stokespeare Composite Structures
 Earth Tech Job # 60318382 SAR
 Sample ID* TMW-3130
 Upgradient _____ Downgradient Other Sidegradient _____ Source _____
 Weather Conditions Overly Cloudy
 Air Temperature 86's °F
 Total Well Depth (TWD) = 25.26 1/100 ft
 Depth to Ground Water (DGW) = 12.67 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 12.59 1/100 ft
 1 Casing Volume (OCV)* = LWC x 0.01 = 0.50 gal
 3 Casing Volumes = 1.50 gal = Standard Evacuation Volume
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed 4.45 gal

Casing Diameter 1" inches
 Casing Material PVC
 Measuring Point Elevation _____ 1/100 ft
 Height of Riser (above land surface) 50.5' 1/100 ft
 Land Surface Elevation _____ 1/100 ft
 Screened Interval _____ 1/100 ft
 Dedicated Pump or Bailor YES _____ NO _____ Type _____
 Steel Guard Pipe Around Casing YES _____ NO _____
 Locking Cap YES _____ NO _____
 Protective Post/Abutment YES _____ NO _____
 Well Integrity Satisfactory YES _____ NO _____
 Yield LOW _____ MODERATE _____ HIGH
 Comments/Observations _____
 Sample Time: 1:55
 Sample Analytes: _____

* - One casing volume (gallons) for a 0.5 inch well is 0.0102XLWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.
 Volume (in gallons) = $\pi r^2 h$ (7.48), where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES

TIME (Military)	Water Level (ft BTOC)	pH (S.U.)	Sp. Cond. (mS/cm)	Water Temp. (°C)	Turbidity (NTUs)	DO - (mg/L)	Salinity (ppt)	ORP (mV)	Began purging at	Purging rate:	ml/min
1512	15.17	8.05	2.05	2.45	2.25	3.65	4.05	4.45			
1556	15.45	15.36	15.37	15.37	15.37	15.37	15.37	15.37			
5:55	2.46	3.02	3.99	4.47	4.59	4.68	4.72	4.72			
0:06R	0.057	0.056	0.056	0.056	0.055	0.055	0.055	0.054			
23:29	22.80	22.58	22.53	22.49	22.18	22.46	22.46	22.46			
22:2	52.45	13.30	9.01	9.75	7.79	3.64	5.61	5.61			
4:00	3.59	2.94	2.94	3.07	3.13	3.24	3.26	3.26			
10:4	41.0	-18.7	-75.3	-87.4	-89.3	-83.8	-80.7	-85.6			

COMMENTS/OBSERVATIONS

Purged 1.25 Gal of solids

FIELD DATA LOG FOR GROUNDWATER SAMPLING

Date (m/d/y) 6/1/14
 Field Personnel Justin Butler
 Site Name Sho Kespene Composite Structures
 Earth Tech Job # 60318382
 Sample ID* TMW-31
 Upgradient Clear Downgradient Clear Sidegradient Source
 Weather Conditions 90.5 °F
 Air Temperature 21.80 1/100 ft
 Total Well Depth (TWD) = 10.31 1/100 ft
 Depth to Ground Water (DGM) = 11.49 1/100 ft
 Length of Water Column (LWC) = TWD - DGM = 0.04 = 0.46 gal
 1 Casing Volume (OCV)* = LWC x 1.38 gal = Standard Evacuation Volume
 3 Casing Volumes = 1.38 gal
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed gal

Casing Diameter 1" inches
 Casing Material PYC
 Measuring Point Elevation 1/100 ft
 Height of Riser (above land surface) 1/100 ft
 Land Surface Elevation 1/100 ft
 Screened Interval 1/100 ft
 Dedicated Pump or Bailor YES NO Type
 Steel Guard Pipe Around Casing YES NO
 Locking Cap YES NO
 Protective Post/Abutment YES NO
 Well Integrity Satisfactory YES NO
 Yield LOW MODERATE HIGH ✓
 Comments/Observations
 Sample Time: 1600
 Sample Analytes:

* - One casing volume (gallons) for a 0.5 inch well is 0.0102XLWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.
 Volume (in gallons) = $\pi r^2 h (7.48)$, where r is the radius (ft) and h is the height (ft).

		FIELD ANALYSES									
VOLUME PURGED (gallons)		2.2	2.6	3.0	3.4	3.8	4.2	4.6			
TIME (Military)		1511	1531	1536	1541	1546	1551	1556			
Water Level (ft BTOC)		15.34	15.23	15.19	15.12	15.18	15.26	15.29			
pH (S.U.)		5.77	4.74	4.98	5.08	5.16	5.12	5.08			
Sp. Cond. (mS/cm)		0.068	0.067	0.067	0.066	0.066	0.065	0.065			
Water Temp. (°C)		22.72	21.65	21.68	21.67	21.62	21.62	21.61			
Turbidity (NTUs)		75.10	49.49	33.86	23.93	20.25	17.93	10.83			
DO - (mg/L)		5.14	4.40	4.57	4.77	4.89	4.96	5.08			
Salinity (ppt)											
ORP (mV)		-78.4	5.6	-11.8	-58.7	-106.6	-107.0	-97.0			

COMMENTS/OBSERVATIONS Purged 10 Gal of Solids
 Began purging at Purging rate: ml/min

FIELD DATA INFORMATION LOG FOR GROUNDWATER SAMPLING

Date (mo/day/yr) 6/6/11

Field Personnel Joshua Butler

Site Name Stalpers Composite Structures

AECOM Job No. 66318382

Sample ID TMW-32

Upgradient Clear Downgradient Clear Sidegradient Clear Source Clear

Weather Conditions 70's

Air Temperature 70's ° F

Total Well Depth (TWD) = 25.27 1/100 ft

Depth to Ground Water (DGW) = 16.87 1/100 ft

Length of Water Column (LWC) = TWD - DGW = 8.4 1/100 ft

1 Casing Volume (OCV)* = LWC x 1.01 gal = Standard Evacuation Volume

3 Casing Volumes = 1.01 gal

Method of Sample Evacuation Peristaltic Pump

Method of Sample Collection Peristaltic Pump

Total Volume of Water Removed 2.15 gal

Casing Diameter 1" Inches

Casing Material PVC

Measuring Point Elevation 1/100 ft

Height of Riser (above land surface) 40.5" 1/100 ft

Land Surface Elevation 1/100 ft

Screened Interval 1/100 ft

Dedicated Pump or Bailor YES NO Type

Steel Guard Pipe Around Casing YES NO

Locking Cap YES NO

Protective Post/Abutment YES NO

Well Integrity Satisfactory YES NO

Yield LOW MODERATE HIGH

Comments/Observations

Sample Time: 1050

* - One casing volume (gallons) for a 0.5 inch well is 0.102X LWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.

Volume (in gallons) = $\pi^2 h (7.48)$, where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES									
Volume Purged (gal)	1.55	1.75	1.95	2.15	2.35	2.55	2.75	2.95	3.15
TIME (Military)	1030	1035	1040	1045	1050	1055	1058	1059	1059
Water Level (ft BTOC)	20.24	20.24	20.24	20.24	20.23	20.23	20.23	20.23	20.23
Purge Rate (gal/min)	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04	0.04
pH (S.U.)	4.00	3.98	4.03	4.07	3.60	3.60	3.60	3.60	3.60
Sp. Cond. (mS/cm)	0.056	0.055	0.055	0.054	0.057	0.057	0.057	0.057	0.057
Water Temp. (°C)	21.08	21.06	21.06	21.05	21.12	21.12	21.12	21.12	21.12
Turbidity (NTUs)	8.00	8.00	8.45	11.07	6.28	6.28	6.28	6.28	6.28
DO - (mg/L)	2.44	2.44	2.49	2.37	2.70	2.70	2.70	2.70	2.70
ORP (mV)	92.9	95.6	94.9	87.9	110.0	110.0	110.0	110.0	110.0

COMMENTS/OBSERVATIONS Purged 0.75 gal of solids

FIELD DATA INFORMATION LOG FOR GROUNDWATER SAMPLING

Date (mo/day/yr) 6/6/14
 Field Personnel Justin Butler
 Site Name Shakespeare Composite Structures
 AECOM Job No. 60318382
 Sample ID TML2-33
 Upgradient _____ Downgradient _____ Sidegradient _____ Source _____
 Weather Conditions Clear
 Air Temperature 80's ° F
 Total Well Depth (TWD) = 25.24 1/100 ft
 Depth to Ground Water (DGW) = 15.80 1/100 ft
 Length of Water Column (LWC) = TWD - DGW = 10.14 1/100 ft
 1 Casing Volume (OCV) = LWC x _____ gal = Standard Evacuation Volume
 3 Casing Volumes = 1.23 gal = Standard Evacuation Volume
 Method of Sample Evacuation Peristaltic Pump
 Method of Sample Collection Peristaltic Pump
 Total Volume of Water Removed 325 gal

Casing Diameter 1" inches
 Casing Material PVC
 Measuring Point Elevation _____ 1/100 ft
 Height of Riser (above land surface) < 0.5" 1/100 ft
 Land Surface Elevation _____ 1/100 ft
 Screened Interval _____ 1/100 ft
 Dedicated Pump or Baller YES _____ NO _____ Type _____
 Steel Guard Pipe Around Casing YES _____ NO _____
 Locking Cap YES _____ NO _____
 Protective Post/Abutment YES _____ NO _____
 Well Integrity Satisfactory YES _____ NO _____
 Yield _____ LOW _____ MODERATE _____ HIGH
 Comments/Observations _____
 Sample Time: 1155 Dup

* - One casing volume (gallons) for a 0.5 inch well is 0.102XLWC; for a 2 inch well is 0.163 X LWC; for a 4 inch well is 0.652 X LWC and for a 6 inch well is 1.468 X LWC.

Volume (in gallons) = $\pi r^2 h$ (7.48), where r is the radius (ft) and h is the height (ft).

FIELD ANALYSES									
Parameter	1.75	2.0	2.25	2.5	2.75	3.00	3.25		
Volume Purged (gal)	1118	1123	1133	1138	1143	1148	1153		
TIME (Military)	16.59	16.59	16.58	16.58	16.58	16.58	16.58		
Water Level (ft BTOC)	0.05	0.05	0.05	0.05	0.05	0.05	0.05		
Purge Rate (gal/min)	4.40	4.13	3.89	4.24	4.86	4.25	4.21		
pH (S.U.)	0.059	0.060	0.061	0.061	0.061	0.061	0.061		
Sp. Cond. (mS/cm)	22.90	22.63	22.50	22.51	22.50	22.50	22.44		
Water Temp. (°C)	17.7	35.68	9.85	3.70	3.79	2.95	1.85		
Turbidity (NTUs)	2.92	3.16	2.91	2.46	2.60	2.69	2.62		
DO - (mg/L)	106.4	116.9	97.6	90.3	101.1	107.9	103.7		
ORP (mv)									

COMMENTS/OBSERVATIONS Filtered 1.5 gal of solids

Well ID: MW-2D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8/22/14 Time: Start 1515 am/pm
 Project No: 60318382.5 Finish 1615 am/pm
 Site Location: Newberry, SC
 Weather Conds: Cloudy 80's - 90's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 84.82 c. Length of Water Column 75.77 (a-b) Casing Diameter/Material 6 1/4" (PVC)
 b. Water Table Depth 9.05 d. Calculated System Volume (see back) 49.25

2. WELL PURGE DATA

a. Purge Method: Gravimetric

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	
	HF Scientific	20000	

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (gpm)	Drawdown (feet)	Color/Odor
1526	2	21.34	9.98	175	3.07	45.3	30.90	2.0		Cloudy/white
1536	22	21.65	9.44	167	3.29	48.4	31.08	2.0	38.55	" "
1546	40	22.40	9.31	177	3.56	43.5	28.59	1.8	49.50	" "
1551	47	22.74	9.39	183	3.44	39.2	21.39	1.5	82.00	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Boiled

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-2D	40 mL VOA	3	None	VOC's	1030

Comments: Dry @ 48 Gal Sample Collected on 8/22/14
at 16:50 AT TIME OF SAMPLE COLLECTION.

Signature: [Signature] Date: 8/

Well ID: MW-3D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8/27/14 Time: Start 0900 am/pm
 Project No: 60318382.5 Finish 1140 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear, 70's - 90's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 105.02 c. Length of Water Column 90.32 (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 14.65 d. Calculated System Volume (see back) 58.7

2. WELL PURGE DATA

a. Purge Method: Grout Displacement

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	
HF Scientific	20000	

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0944	2	19.53	8.03	218	2.24	207	7.99	2 GPM	23.20	Clear/None
0954	17	19.26	6.62	243	1.30	214.3	11.37	1.5 GPM	38.65	" "
1004	30	20.18	6.70	232	1.41	157.8	15.71	1.25	51.02	" "
1014	40	20.38	6.62	222	1.21	105.9	14.88	1.00	61.80	" "
1024	50	21.22	6.45	217	1.43	74.4	15.72	1.00	74.51	" "
1034	60	21.12	6.49	209	1.84	61.1	15.16	1.50	85.65	" "
1044	70	21.56	6.32	215	1.80	61.0	27.52	1.00	98.00	" "

d. Acceptance criteria pass/fail

Yes	No	N/A
<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-3D</u>	<u>40 ml vial</u>	<u>3</u>	<u>None</u>	<u>VOCs</u>	<u>0930</u>

Comments Drop @ 75 Gal. Sample Collected on 8/28/14
WV 14.78 at time of sample collection.

Signature J. Leaphart Date 8/28/14

Well ID: MW-6D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8/27/14 Time: Start 1355 am/pm
 Project No: 60318382.5 Finish 1510 am/pm
 Site Location: Newberry, SC
 Weather Conds: Cloudy, 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 105.02 c. Length of Water Column 69.73 (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 35.29 d. Calculated System Volume (see back) 45

2. WELL PURGE DATA

a. Purge Method: GRUNDFOSS

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	
HF Scientific	20000	

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1425	2.0	20.97	10.18	299	2.18	57.2	36.59	2.0		CLEAR/none
1435	15.0	21.19	10.58	302	2.00	39.3	20.20	1.5	62.0	" "
1445	30.0	21.60	10.74	317	2.27	25.2	22.57	1.5	88.1	" "
1455	42.0	21.93	10.78	325	2.24	17.1	25.26	1.5	102.3	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: BAILED

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-6D	40 mL VOA	3	None	VOCS	1010

Comments: DRY @ 42 Gal
WL @ 85.39 AT TIME OF SAMPLE COLLECTION
SAMPLE COLLECTED @ 8/28/14

Signature: [Signature] Date: 8/28/14

Well ID: MW-7D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8/27/14 Time: Start 1230 am/pm
 Project No: 60318382.5 Finish 1345 am/pm
 Site Location: Newberry, SC
 Weather Conds: Cloudy, 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 94.57 c. Length of Water Column 80.27 (a-b) Casing Diameter/Material 4" / PVC
 b. Water Table Depth 14.8 d. Calculated System Volume (see back) 52

2. WELL PURGE DATA

a. Purge Method: Grubbers

b. Acceptance Criteria defined (see workplan)

- Temperature	3%	-D.O.	10%
- pH	+ 1.0 unit	- ORP	± 10mV
- Sp. Cond.	3%	- Drawdown	< 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	
HF Scientific	20000	

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1248	2	22.70	9.76	195	2.88	94.0	28.72	2.0	24.95	Cloudy/None
1258	22	21.44	9.22	155	2.41	100.1	17.48	1.5	45.80	" "
1308	37	21.12	9.32	157	2.38	86.0	10.60	1.25	66.30	" "
1318	50	22.14	9.10	159	1.69	56.8	15.22	1.25	88.10	" "

d. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Bailed

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW 7D</u>	<u>40 mL VOA</u>	<u>3</u>	<u>None</u>	<u>VOC's</u>	<u>0945</u>
<u>Dup-1</u>	<u>40 mL VOA</u>	<u>3</u>	<u>None</u>	<u>VOC's</u>	<u>0945</u>

Comments Dry @ 50 Gal SAMPLE COLLECTED ON 8/28/14
WL @ 22.33 AT TIME OF SAMPLE COLLECTION

Signature J. Leaphart Date 8/28/14

Well ID: RDW-1

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8/26/14 Time: Start 1300 am/pm
 Project No: 60318382.5 Finish 1440 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear 70-80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 84.25 c. Length of Water Column 62.18 (a-b) Casing Diameter/Material 6" PVC
 b. Water Table Depth 22.07 d. Calculated System Volume (see back) 91.4

2. WELL PURGE DATA

a. Purge Method: Gravel Pack

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ±1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	
HF Scientific	20000	

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1328	2.0	19.53	12.24	3608	5.26	-36.4	86.99	~2.0	26.64	Clear
1338	22.0	18.93	12.15	1997	2.90	-66	29.11	2.0	41.54	"
1348	42.0	18.84	12.11	2213	2.73	-77.4	20.54	2.0	52.26	"
1358	60.0	19.00	12.16	2363	2.74	-86.7	19.18	1.8	62.70	"
1408	76.0	19.06	12.21	2371	2.76	-91.5	24.19	1.2	76.08	"

d. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Ballot

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>RDW-1</u>	<u>40 mL VOA</u>	<u>3</u>	<u>NONE</u>	<u>Vec's</u>	<u>0840</u>

Comments WV @ 57.11 AT TIME OF SAMPLE COLLECTION
WELL WAS PURGED DRY ON 8/26/14 @ 1408, SAMPLE
COLLECTED ON 8/27/14

Signature [Signature] Date 8/27/14

Well ID: RDW-2

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8/26/14 Time: Start 1029 am/pm
 Project No: 60318382.5 Finish 1128 am/pm
 Site Location: Newberry, SC
 Weather Conds: Cloudy, 80s Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 69.45 c. Length of Water Column 53.5 (a-b) Casing Diameter/Material 6" / PVC
 b. Water Table Depth 18.30 d. Calculated System Volume (see back) 75.5

2. WELL PURGE DATA

a. Purge Method: Circulation

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	
HF Scientific	20000	

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1029	2	19.60	12.26	3554	4.31	-24.9	222.7	~2.0	22.0	Orange
1038	19	18.94	12.33	3558	4.68	-97.3	24.03	1.8	36.90	Clear
1047	33	18.94	12.34	3576	4.20	-101.2	16.83	1.5	41.33	"
1057	48	18.98	12.42	3571	4.11	-105.4	17.32	1.4	51.10	"
1108	61	19.76	12.39	3467	3.75	-105.5	24.88	1.4	59.30	"
1128	80	19.45	12.40	3415	3.89	-106.6	26.15	1.0	65.45	"

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Bail

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>RDW-2</u>	<u>40 ml VOA</u>	<u>3</u>	<u>None</u>	<u>VOC's</u>	<u>0820</u>

Comments: WL @ 19.71 AT TIME OF SAMPLE COLLECTION
SAMPLE COLLECTED ON 8/27/14

Signature: [Signature] Date: 8/27/14

PHASE I RI GROUNDWATER SAMPLING LOGS

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-7-15 Time: Start 1501 am/pm
 Project No: _____ Finish 1542 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: P. cloudy, 90's Collector(s): JAMES LEAPLANT

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 14.26 c. Length of Water Column 3.92 (a-b) Casing Diameter/Material
 b. Water Table Depth 10.34 d. Calculated System Volume (see back) 2.4 Liters 2" PVC

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>082101253</u>
<u>HF SCIENTIFIC</u>	<u>2000</u>	<u>201503451</u>

Time (24hr)	Volume		pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
	Removed (Liters)	Temp. (°C)								
<u>1503</u>	<u>10.10L</u>	<u>23.14</u>	<u>5.29</u>	<u>34</u>	<u>5.69</u>	<u>287.4</u>	<u>43.19</u>	<u>200</u>	<u>10.79</u>	<u>Clear/None</u>
<u>1508</u>	<u>1.0</u>	<u>22.62</u>	<u>4.50</u>	<u>33</u>	<u>6.77</u>	<u>307.6</u>	<u>19.32</u>	<u>200</u>	<u>10.78</u>	<u>" "</u>
<u>1513</u>	<u>2.0</u>	<u>22.71</u>	<u>4.41</u>	<u>33</u>	<u>7.43</u>	<u>292.5</u>	<u>9.61</u>	<u>200</u>	<u>10.78</u>	<u>" "</u>
<u>1518</u>	<u>3.0</u>	<u>22.59</u>	<u>4.46</u>	<u>33</u>	<u>7.37</u>	<u>292.0</u>	<u>4.96</u>	<u>200</u>	<u>10.78</u>	<u>" "</u>
<u>1523</u>	<u>4.0</u>	<u>22.34</u>	<u>4.35</u>	<u>32</u>	<u>7.30</u>	<u>292.2</u>	<u>4.62</u>	<u>200</u>	<u>10.78</u>	<u>" "</u>
<u>1528</u>	<u>5.0</u>	<u>22.55</u>	<u>4.42</u>	<u>32</u>	<u>7.36</u>	<u>284.5</u>	<u>3.16</u>	<u>200</u>	<u>10.78</u>	<u>" "</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW VOC's

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-1</u>	<u>40 ml VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1530</u>
	<u>250 ml Poly</u>	<u>1</u>	<u>HNO3</u>	<u>METALS</u>	

Comments _____

Signature: [Signature] Date: 7-7-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEAR Date: 7-8-15 Time: Start 1021 am/pm
 Project No: _____ Finish 1106 am/pm
 Site Location: NEWBERRY SC
 Weather Conds: CLEAR, 80's Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.73 c. Length of Water Column 17.13 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 7.6 d. Calculated System Volume (see back) 10.6 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>082101253</u>
<u>HF SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1023	INITIAL	22.24	4.87	24	7.88	185	55.14	400	8.19	CLOUDY / NONE
1028	2.0	21.53	4.16	22	7.70	231.6	38.78	300	8.26	CLEAR "
1033	3.5	21.61	4.23	22	7.60	238.0	22.27	300	8.20	" "
1038	5.0	21.59	4.27	22	7.55	242.3	20.66	300	8.21	" "
1043	6.5	21.59	4.28	23	7.53	245.9	9.82	300	8.22	" "
1048	8.0	21.56	4.29	23	7.53	248.7	8.15	300	8.22	" "
1053	9.5	21.53	4.27	23	7.53	251.5	4.91	300	8.23	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SOPE STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-2</u>	<u>40 ml vial</u>	<u>3</u>	<u>HCL</u>	<u>VOC'S</u>	<u>1055</u>

Comments _____

Signature J. Leighton Date 7-8-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/26/15
 Project No: 60328308 Time: Start 1110 am/pm
 Site Location: Newberry SC Finish 1240 am/pm
 Weather Conds: clear 80's Collector(s) J. Botter

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 44.56 c. Casing Material PVC e. Length of Water Column 33.89 (a-b)
 b. Water Table Depth 10.67 d. Casing Diameter 2" f. Calculated Well Volume (see back) 5.52

WELL PURGING DATA
 a. Purge Method Peristaltic Pump
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %
 c. Field Testing Equipment Used:

Make	Model	Serial Number
YST	556	081101253
HFS 500HSr	MicroPly	20503451

 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	DRP Oder	DTW/ Other
1147	2.90	20.38	6.11	0.109	42.07	4.88		150.5	20.19
1152	3.30	20.36	5.97	0.109	48.50	4.88		156.3	20.79
1157	3.80	20.31	5.87	0.109	37.28	4.72		158.9	21.33
1202	4.30	20.19	5.72	0.107	29.16	4.67		163.7	22.02
1207	4.80	20.22	5.66	0.106	31.24	4.51		162.0	22.65
1212	5.30	20.26	5.62	0.107	30.11	4.47		159.0	23.15
1217	5.80	20.63	5.65	0.108	25.13	4.38		153.9	23.52

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Low Flow / Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
MW-2E	40ML Glass	3	HCL	8760	1235

Comments _____

Signature [Signature] Date 8/26/15

Ground Water Sample Collection Record

Client: Phillips Date: 8/3/15
 Project No: 60328308 Time: Start 1405 am/pm
 Site Location: Newberry, SC Finish 1645 am/pm
 Weather Conds: partly cloudy 90's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 84.58 c. Casing Material PVC e. Length of Water Column 75.9 (a-b)
 b. Water Table Depth 8.68 d. Casing Diameter 4" f. Calculated Well Volume (see back) 49.5

WELL PURGING DATA

a. Purge Method Grindles Pump

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity _____ NTUs
- Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YST</u>	<u>556</u>	<u>0501520 AD</u>
<u>HFSentinel</u>	<u>MicroPVT</u>	<u>200764141</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odeur	DTW Other
1410	Initial	20.70	9.98	0.742	2.60	1.56		92.1	10.50
1415	3.5	20.29	10.10	0.849	2.96	0.63		25.2	12.15
1420	2	20.57	9.76	0.353	6.67	1.93		-1.9	14.60
1425	12.5	20.85	9.28	0.202	4.31	3.40		10.9	18.01
1430	14	20.35	8.39	0.152	2.59	5.95		72.7	22.45
1435	27.5	20.48	8.59	0.151	1.18	6.15		67.8	28.86
1440	31	20.57	8.66	0.152	0.58	6.16		69.5	34.28

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Grindles Pump Low Flow

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-2D</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1635</u>

Comments _____

Signature J Butler Date 8/3/15

Low Flow Ground Water Sample Collection Record

Client: StateSpace Date: 7-7-15 Time: Start 1651 am/pm
 Project No: _____ Finish 1637 am/pm
 Site Location: Newberry, SC
 Weather Conds: P. Cloudy, 90's Collector(s): James Leaphant

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.78 c. Length of Water Column 11.16 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 13.62 d. Calculated System Volume (see back) 6.9 Liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>081101253</u>
<u>HF Scientific</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1554	1.01	21.20	4.51	60	2.02	324.4	45.81	250	13.90	cloudy / none
1559	1.25	20.62	4.09	59	1.92	399.1	41.60	250	13.95	" "
1604	2.50	20.31	4.14	61	1.61	439.5	21.17	250	13.96	clear "
1609	3.75	20.34	4.21	61	1.32	451.1	15.62	250	13.96	" "
1614	5.00	20.58	4.33	62	1.46	459.2	8.12	250	13.97	" "
1619	6.25	20.49	4.32	62	1.34	464.1	6.54	250	13.97	" "
1624	7.50	20.36	4.35	62	1.20	456.8	5.59	250	13.98	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION:

Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-3</u>	<u>40 mL vial</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1627</u>

Comments _____

Signature J Leaphant Date 7-7-15

Ground Water Sample Collection Record

Client: <u>Phillips</u>	Date: <u>8/12/15</u>
Project No: <u>60328308</u>	Time: Start <u>1545</u> am/pm
Site Location: <u>Newberry, SC</u>	Finish _____ am/pm
Weather Conds: <u>Clear 80's</u> Collector(s) <u>J Butler</u>	

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 55.08 c. Casing Material PVC e. Length of Water Column 40.47 (a-b)
- b. Water Table Depth 14.61 d. Casing Diameter 2" f. Calculated Well Volume (see back) 6.60

WELL PURGING DATA

a. Purge Method Peristaltic Pump

- b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>0501520AU</u>
<u>HSC Scientific</u>	<u>MicroTPW</u>	<u>200704191</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

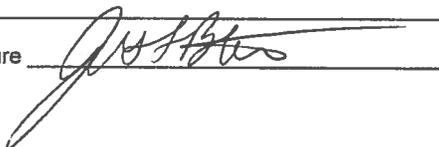
Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	D ₁₀ / Other
1537	4.4	21.47	5.02	0.217	12.54	0.73		-256.2	17.55
1542	4.9	21.39	5.03	0.217	12.75	0.68		-263.2	17.51
1547	5.4	21.33	4.97	0.217	11.34	0.69		-254.3	17.51
1552	5.9	21.35	5.02	0.219	10.51	0.68		-261.6	17.53
1557	6.4	21.45	5.03	0.218	10.24	0.67		-263.8	17.53
1602	6.9	21.52	5.14	0.217	9.40	0.66		-264.2	17.53

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| | Yes | No | N/A |
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Low Flow / Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-3E</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1605</u>

Comments _____

Signature  Date 8/16/15



Well/Piezo ID: MW-3D

Ground Water Sample Collection Record

Client: Phillips Date: 8/5/15
 Project No: 60228308 Time: Start 0930 am/pm
 Site Location: Newberry, SC Finish 0900 am/pm 8/6/15
 Weather Conds: Clear 80's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 141.78 c. Casing Material PVC e. Length of Water Column 89.4 (a-b)
 b. Water Table Depth 15.38 d. Casing Diameter 4" f. Calculated Well Volume (see back) 58.36

WELL PURGING DATA
 a. Purge Method Grundfos Pump
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %
 c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>0501520 AU</u>
<u>HFS scientific</u>	<u>MicroT PNY</u>	<u>2007 09141</u>

 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	DTW Other
0940	3.5	19.40	7.96	0.295	7.60	2.36		200.2	22.06
0945	7.0	19.56	7.80	0.283	7.68	3.36		231.0	28.78
0950	10.50	19.82	6.97	0.277	6.15	3.55		246.9	37.20
0955	14.00	20.00	7.00	0.272	2.35	3.68		240.5	42.98
1000	17.50	20.01	6.94	0.266	2.46	3.89		237.1	47.18
1005	21.00	20.22	6.87	0.260	3.89	3.86		228.6	50.68
1010	24.50	20.05	6.74	0.254	2.15	3.67		230.2	55.82

e. Acceptance criteria pass/fail

Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Butler

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
MW-3D	40ML Glass	3	HCL	8260	0900 <u>8/6/15</u>
MW-3D-a	40ML Glass	3	HCL	8260	0900 <u>8/6/15</u>

Comments _____

Signature [Signature] Date 8/6/15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-8-15 Time: Start 0826 am/pm
 Project No: _____ Finish 0917 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: CLEAR 70's Collector(s): JAMES LEAPHANT

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.13 c. Length of Water Column 8.35 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 16.78 d. Calculated System Volume (see back) 5.1 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YSI</u>	<u>556</u>	<u>082101253</u>
	<u>HF SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0828	INITIAL	20.18	4.70	176	0.98	117.0	61.26	300	17.04	CLOUDY / WHITE
0833	1.5	20.12	2.71	174	0.81	111.2	36.15	300	17.15	CLEAR "
0838	3.0	19.96	3.13	176	0.68	147.5	29.24	300	17.25	" "
0843	4.5	19.94	3.53	172	0.58	128.5	16.06	300	17.29	" "
0848	6.0	19.99	3.84	165	0.63	117.1	11.84	300	17.32	" "
0853	7.5	20.09	4.21	159	0.64	103.0	7.46	300	17.33	" "
0858	9.0	20.13	4.35	148	0.60	102.0	6.26	300	17.34	" "

- d. Acceptance criteria pass/fail
- | | Yes | No | N/A |
|-------------------------------------|-------------------------------------|--------------------------|--------------------------|
| Has required volume been removed | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

(continued on back)

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3. SAMPLE COLLECTION:

Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-4</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOCS</u>	<u>0855 0905</u>

Comments _____

Signature J. Leaphant Date 7-8-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-7-15 Time: Start 1242 am/pm
 Project No: _____ Finish 1348 am/pm
 Site Location: NEWBERRY
 Weather Conds: P. Cloudy Collector(s): JAMES LEAPHANT

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.53 c. Length of Water Column 10.23 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 15.30 d. Calculated System Volume (see back) 1.66 Gal. / 6.3 liters

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP + 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>081101253</u>
<u>HF SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1246	1.5	21.24	4.41	66	1.03	221.5	4.40	300	15.57	clear/none
1251	1.5	20.39	2.62	63	1.30	279.6	2.83	300	15.60	" "
1256	3.0	19.91	2.50	62	1.09	278.6	3.96	300	15.62	" "
1301	4.5	19.48	2.55	62	1.33	277.4	6.47	300	15.64	" "
1306	6.0	19.60	2.79	63	1.28	264.6	4.11	300	15.63	" "
1311	7.5	19.45	3.10	63	1.41	253.2	2.94	300	15.63	" "
1316	9.0	19.45	3.42	63	1.51	236.6	1.47	300	15.63	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

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3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-5</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOC'S</u>	<u>1340</u>

Comments _____

Signature J. Leaphant Date 7-7-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/27/15
 Project No: 60328308 Time: Start 1325 am/pm
 Site Location: Newberry, SC Finish 1440 am/pm
 Weather Conds: Clear 80's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 55.35 c. Casing Material PVC e. Length of Water Column 38.71 (a-b)
 b. Water Table Depth 16.58 d. Casing Diameter 2" f. Calculated Well Volume (see back) 6.31

WELL PURGING DATA

a. Purge Method Peristaltic Pump

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity _____ NTUs
- Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSE	556	08J101253
HF Scientific	MicroTPW	#01503451

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP (mV)	DTW (ft)
1409	3.6	20.36	5.71	0.628	4.57	1.29	-	-105.0	19.27
1414	4.05	20.21	5.66	0.628	3.39	1.23	-	-98.8	19.27
1419	4.50	20.24	5.69	0.630	3.59	1.30	-	-97.7	19.27
1424	4.95	20.21	5.69	0.630	3.77	1.33	-	-95.8	19.27
1429	5.40	20.15	5.66	0.630	2.82	1.40	-	-90.2	19.27
1434	5.85	20.24	5.69	0.632	3.00	1.46	-	-86.7	19.27
1439	6.30	20.21	5.69	0.631	2.17	1.45	-	-81.2	19.27

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| | Yes | No | N/A |
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION:

Method: LowFlow/Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
MW-5E	40mL Glass	3	HCL	8260	1440

Comments _____

Signature [Signature]

Date 8/27/15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-8-15 Time: Start 0925 am/pm
 Project No: _____ Finish 1010 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: Clear, 70's Collector(s): James Leighton

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 26.38 c. Length of Water Column 7.96 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 17.42 d. Calculated System Volume (see back) 4.9 liters

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>081101253</u>
<u>HIF SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>0927</u>	<u>12.0</u>	<u>20.33</u>	<u>6.12</u>	<u>187</u>	<u>1.08</u>	<u>34.0</u>	<u>169.3</u>	<u>300</u>	<u>17.77</u>	<u>MILKY POWD</u>
<u>0932</u>	<u>1.5</u>	<u>19.77</u>	<u>4.84</u>	<u>180</u>	<u>0.55</u>	<u>24.2</u>	<u>108.6</u>	<u>300</u>	<u>17.80</u>	<u>" "</u>
<u>0937</u>	<u>3.0</u>	<u>19.62</u>	<u>4.56</u>	<u>172</u>	<u>0.43</u>	<u>34.5</u>	<u>63.71</u>	<u>300</u>	<u>17.82</u>	<u>CLOUDY "</u>
<u>0942</u>	<u>4.5</u>	<u>19.57</u>	<u>3.88</u>	<u>166</u>	<u>0.44</u>	<u>67.5</u>	<u>29.83</u>	<u>300</u>	<u>17.84</u>	<u>CLEAR "</u>
<u>0947</u>	<u>6.0</u>	<u>19.54</u>	<u>4.19</u>	<u>158</u>	<u>0.35</u>	<u>52.7</u>	<u>19.40</u>	<u>300</u>	<u>17.84</u>	<u>" "</u>
<u>0952</u>	<u>7.5</u>	<u>19.62</u>	<u>4.32</u>	<u>148</u>	<u>0.34</u>	<u>48.9</u>	<u>8.25</u>	<u>300</u>	<u>17.84</u>	<u>" "</u>
<u>0957</u>	<u>9.0</u>	<u>19.78</u>	<u>4.54</u>	<u>139</u>	<u>0.37</u>	<u>43.4</u>	<u>6.62</u>	<u>300</u>	<u>17.85</u>	<u>" "</u>

d. Acceptance criteria pass/fail (continued on back)

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-6</u>	<u>40 ml VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOCS</u>	<u>1000</u>

Comments _____

Signature J. Leighton Date 7-8-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/26/15
 Project No: 60328308 Time: Start 1430 am/pm
 Site Location: Neathenly, SC Finish 1545 am/pm
 Weather Conds: clear, 80's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 499 c. Casing Material PVC e. Length of Water Column 31.87 (a-b)
 b. Water Table Depth 18.03 d. Casing Diameter 2" f. Calculated Well Volume (see back) 5.19

WELL PURGING DATA
 a. Purge Method Peristaltic Pump
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %
 c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>070101243</u>
<u>HE SCIENCE</u>	<u>MICROFLOW</u>	<u>201503451</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	DTX Other
1508	2.8	21.03	5.94	0.164	5.20	0.27		-184.0	19.31
1513	3.2	21.09	5.97	0.165	5.73	0.23		-190.1	19.35
1518	3.6	21.16	5.95	0.161	3.88	0.25		-287.1	19.38
1523	4.0	21.14	5.93	0.159	2.65	0.24		-286.1	19.42
1528	4.4	21.24	5.93	0.155	4.67	0.28		-277.9	19.45
1533	4.8	21.31	5.96	0.153	1.91	0.29		-272.9	19.46
1538	5.2	21.35	5.95	0.150	2.23	0.31		-266.3	19.46

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Low Flow / Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-6E</u>	<u>40ML Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1540</u>

Comments _____

Signature [Signature] Date 8/26/15

Ground Water Sample Collection Record

Client: Phillips Date: 8/5/15
 Project No: 60328308 Time: Start 1220 am/pm
 Site Location: Newberry, SC Finish 0930 am/pm
 Weather Conds: Clear 90's Collector(s) J Butler

8/6/15

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 104.88 c. Casing Material PVC e. Length of Water Column 88.34 (a-b)
 b. Water Table Depth 16.54 d. Casing Diameter 4" f. Calculated Well Volume (see back) 57.67

WELL PURGING DATA

a. Purge Method Grindfos

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity _____ NTUs
- Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>0501520AU</u>
<u>HE Scientific</u>	<u>MK107PW</u>	<u>200704141</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ARD Odor	DTW/ Other
1238	Initial	20.35	11.25	0.598	21.66	1.09		44.5	19.71
1238	3.5	20.58	10.46	0.409	20.97	1.15		72.4	27.95
1238	7.0	20.89	10.64	0.392	10.83	1.44		52.6	33.86
1248	10.5	21.21	10.80	0.356	9.71	2.00		32.4	40.36
1248	14.0	21.38	10.68	0.312	9.36	2.96		29.2	45.58
1253	17.5	22.28	10.53	0.279	8.74	4.17		26.3	49.80
1258	21.0	21.90	10.61	0.262	7.29	4.77		14.2	55.81

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|------------------------------|-----------------------------|------------------------------|
| Has required volume been removed | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

If no or N/A - Explain below.

Barter

SAMPLE COLLECTION:

Method: Barter

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-6D</u>	<u>40mb Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>0930</u>

8/6/15

Comments _____

Signature [Signature]

Date 8/6/15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-7-15 Time: Start 1356 am/pm
 Project No: _____ Finish 1448 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: P. CLOUDY 90's Collector(s): James Leaphant

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.26 c. Length of Water Column 10.68 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 14.58 d. Calculated System Volume (see back) 6.6 Liters

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>081101253</u>
<u>HF SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1359	<u>14.5</u>	<u>20.23</u>	<u>4.50</u>	<u>52</u>	<u>1.52</u>	<u>297.0</u>	<u>123.4</u>	<u>300</u>	<u>14.82</u>	<u>MILKY/PORE</u>
1404	<u>1.5</u>	<u>19.32</u>	<u>3.20</u>	<u>52</u>	<u>1.12</u>	<u>519.1</u>	<u>64.60</u>	<u>300</u>	<u>14.85</u>	<u>" "</u>
1409	<u>3.0</u>	<u>18.95</u>	<u>3.03</u>	<u>52</u>	<u>0.82</u>	<u>590.1</u>	<u>47.15</u>	<u>300</u>	<u>14.86</u>	<u>CLEAR "</u>
1414	<u>4.5</u>	<u>18.82</u>	<u>3.45</u>	<u>51</u>	<u>0.76</u>	<u>585.4</u>	<u>36.09</u>	<u>300</u>	<u>14.88</u>	<u>" "</u>
1419	<u>6.0</u>	<u>18.82</u>	<u>3.76</u>	<u>51</u>	<u>0.74</u>	<u>575.7</u>	<u>26.15</u>	<u>300</u>	<u>14.88</u>	<u>" "</u>
1424	<u>7.5</u>	<u>18.82</u>	<u>3.74</u>	<u>51</u>	<u>0.80</u>	<u>579.0</u>	<u>16.63</u>	<u>300</u>	<u>14.88</u>	<u>" "</u>
1429	<u>9.0</u>	<u>18.76</u>	<u>3.64</u>	<u>51</u>	<u>0.87</u>	<u>586.8</u>	<u>6.66</u>	<u>300</u>	<u>14.88</u>	<u>" "</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-7</u>	<u>40 ml VOP</u>	<u>3</u>	<u>HCL</u>	<u>VOC'S</u>	<u>1432</u>
	<u>250 ml POLY</u>	<u>1</u>	<u>H2O2</u>	<u>METALS</u>	

Comments: DUP-1 Collected VOC'S & METALS

Signature: J. Leaphant Date: 7-7-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/27/15
 Project No: 60328308 Time: Start 1500 am/pm
 Site Location: Newberry, SC Finish 1550 am/pm
 Weather Conds: Clear 80's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 45.03 c. Casing Material PVC e. Length of Water Column 29.53 (a-b)
 b. Water Table Depth 15.50 d. Casing Diameter 2" f. Calculated Well Volume (see back) 4.81

WELL PURGING DATA
 a. Purge Method Peristaltic Pump
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %
 c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08J101253</u>
<u>HESCIENTRIC</u>	<u>MicroTPW</u>	<u>201503451</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	Other
1526	<u>2.63</u>	<u>19.89</u>	<u>5.48</u>	<u>0.132</u>	<u>16.19</u>	<u>0.36</u>		<u>-223.8</u>	<u>16.77</u>
<u>1531</u>	<u>3.16</u>	<u>19.64</u>	<u>5.46</u>	<u>0.132</u>	<u>9.06</u>	<u>0.28</u>		<u>-235.5</u>	<u>16.77</u>
<u>1536</u>	<u>3.68</u>	<u>19.52</u>	<u>5.41</u>	<u>0.130</u>	<u>9.29</u>	<u>0.25</u>		<u>-239.1</u>	<u>16.77</u>
<u>1541</u>	<u>4.21</u>	<u>19.51</u>	<u>5.41</u>	<u>0.127</u>	<u>10.02</u>	<u>0.25</u>		<u>-242.9</u>	<u>16.77</u>
<u>1546</u>	<u>4.73</u>	<u>19.49</u>	<u>5.40</u>	<u>0.127</u>	<u>9.32</u>	<u>0.25</u>		<u>-245.5</u>	<u>16.77</u>

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: LOW FLOW/Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-7E</u>	<u>40ML Glass</u>	<u>3</u>	<u>HC</u>	<u>8260</u>	<u>1350</u>

Comments _____

Signature [Signature] Date 8/27/15

Ground Water Sample Collection Record

Client: Phillips Date: 8/5/15
 Project No: 60328308 Time: Start 1500 am/pm
 Site Location: Newberry SC Finish 1000 am/pm
 Weather Conds: cloudy 90s Collector(s) J. Butler

8/6/15

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 9462 c. Casing Material Pvc e. Length of Water Column 79.18 (a-b)
 b. Water Table Depth 1544 d. Casing Diameter 4" f. Calculated Well Volume (see back) 51.63

WELL PURGING DATA

a. Purge Method Grindfos

- b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
YSI	556	0501520 AU
HF Scientific	MicroTPV	200704141

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	DTN Other
1513	4.0	20.13	9.85	0.170	61.84	1.72		79.0	19.54
1518	8.0	19.62	9.02	0.148	98.48	2.72		110.8	27.11
1523	12.0	19.47	8.92	0.148	83.18	3.26		111.9	34.36
1528	16.0	20.13	9.27	0.148	55.15	3.27		85.1	40.24
1533	20.0	20.20	9.55	0.150	39.56	3.32		69.8	47.83
1538	24.0	20.31	9.27	0.149	44.12	3.35		78.9	53.18
1543	28.0	19.98	9.24	0.149	38.66	3.30		77.2	58.13

- e. Acceptance criteria pass/fail
- | | Yes | No | N/A |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION:

Method: Bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
MW-7D	40mL Glass	3	HCL	8260	1000

8/6/15

Comments _____

Signature J. Butler

Date 8/6/15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-8-15 Time: Start 1116 am/pm
 Project No: _____ Finish 1156 am/pm
 Site Location: NEWBERRY SC
 Weather Conds: CLEAR, 80's Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.18 c. Length of Water Column 8.94 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 16.24 d. Calculated System Volume (see back) 5.5 LITERS

2. WELL PURGE DATA

a. Purge Method: POTENTIATIC PUMP

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>082101253</u>
<u>HP SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1119	<u>1.0</u>	<u>21.06</u>	<u>4.12</u>	<u>39</u>	<u>0.86</u>	<u>237.4</u>	<u>15.12</u>	<u>400</u>	<u>16.83</u>	<u>CLEAR / NONE</u>
1124	<u>2.0</u>	<u>20.34</u>	<u>2.00</u>	<u>38</u>	<u>0.50</u>	<u>369.6</u>	<u>9.47</u>	<u>300</u>	<u>16.92</u>	<u>" "</u>
1129	<u>3.5</u>	<u>20.52</u>	<u>3.07</u>	<u>39</u>	<u>0.44</u>	<u>316.0</u>	<u>7.94</u>	<u>300</u>	<u>16.92</u>	<u>" "</u>
1134	<u>5.0</u>	<u>20.66</u>	<u>3.50</u>	<u>39</u>	<u>0.39</u>	<u>301.3</u>	<u>6.12</u>	<u>300</u>	<u>16.93</u>	<u>" "</u>
1139	<u>6.5</u>	<u>20.67</u>	<u>3.63</u>	<u>39</u>	<u>0.34</u>	<u>301.2</u>	<u>5.35</u>	<u>300</u>	<u>16.93</u>	<u>" "</u>
1144	<u>8.0</u>	<u>20.55</u>	<u>3.58</u>	<u>39</u>	<u>0.31</u>	<u>303.2</u>	<u>4.77</u>	<u>300</u>	<u>16.93</u>	<u>" "</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: POTENTIATIC PUMP / SAND STRAIN

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-8</u>	<u>40 ml vovc</u>	<u>3</u>	<u>4CC</u>	<u>VOC's</u>	<u>1147</u>

Comments _____

Signature J. Leighton Date 7-8-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-8-15 Time: Start 1230 am/pm
 Project No: _____ Finish 1315 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear, 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.55 c. Length of Water Column 8.46 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 17.09 d. Calculated System Volume (see back) 5.2 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH +1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>082101253</u>
<u>HF Scientific</u>	<u>2000</u>	<u>201503451</u>

Time (24hr)	Volume		pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
	Removed (Liters)	Temp. (°C)								
1233	12.15	20.68	4.32	47	1.01	293.2	7.78	300	—	Clear / None
1238	1.5	20.00	2.67	47	0.56	401.9	6.82	300	17.65	" "
1243	3.0	19.85	3.12	47	0.39	411.7	6.08	300	17.65	" "
1248	4.5	19.72	3.43	47	0.35	416.0	3.59	250	17.65	" "
1253	5.75	19.94	3.83	47	0.37	405.9	3.46	250	17.65	" "
1258	7.00	20.10	3.82	47	0.34	420.2	4.02	250	17.65	" "
1303	8.25	20.11	3.86	47	0.33	430.0	2.95	250	17.65	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-9</u>	<u>40 ml vial</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1305</u>

Comments _____

Signature J Leaphart Date 7-8-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/26/15
 Project No: 60328368 Time: Start 1310 am/pm
 Site Location: Newberry, SC Finish am/pm
 Weather Conds: cloudy, 80's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 45.22 c. Casing Material PVC e. Length of Water Column 26.86 (a-b)
 b. Water Table Depth 18.36 d. Casing Diameter 2" f. Calculated Well Volume (see back) 4.37

WELL PURGING DATA
 a. Purge Method Peristaltic Pump
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ well volumes)
 - Maximum Allowable Turbidity NTUs
 - Stabilization of parameters %
 c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08J101253</u>
<u>HEScientific</u>	<u>MicroTPW</u>	<u>201503151</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # Page #

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	DTW Other
<u>1346</u>	<u>2.4</u>	<u>20.85</u>	<u>6.66</u>	<u>0.165</u>	<u>773.9</u>	<u>3.20</u>	<u> </u>	<u>94.5</u>	<u>22.05</u>
<u>1351</u>	<u>2.8</u>	<u>20.96</u>	<u>6.68</u>	<u>0.166</u>	<u>905.2</u>	<u>3.11</u>	<u> </u>	<u>92.4</u>	<u>22.05</u>
<u>1356</u>	<u>3.2</u>	<u>20.86</u>	<u>6.67</u>	<u>0.168</u>	<u>738.1</u>	<u>3.05</u>	<u> </u>	<u>89.9</u>	<u>22.05</u>
<u>1401</u>	<u>3.6</u>	<u>20.91</u>	<u>6.67</u>	<u>0.172</u>	<u>648.2</u>	<u>3.00</u>	<u> </u>	<u>87.9</u>	<u>22.05</u>
<u>1406</u>	<u>4.0</u>	<u>20.93</u>	<u>6.70</u>	<u>0.175</u>	<u>649.0</u>	<u>3.00</u>	<u> </u>	<u>86.1</u>	<u>22.05</u>
<u>1411</u>	<u>4.4</u>	<u>20.90</u>	<u>6.70</u>	<u>0.178</u>	<u>640.5</u>	<u>3.00</u>	<u> </u>	<u>85.9</u>	<u>22.05</u>

e. Acceptance criteria pass/fail

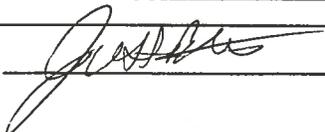
	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Low Flow/Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-9I</u>	<u>40ml Glass</u>	<u>3</u>	<u>HL</u>	<u>2260</u>	<u>1415</u>

Comments

Signature  Date 8/26/15

Ground Water Sample Collection Record

Client: Phillips Date: 8/6/15
 Project No: 0032303 Time: Start 1130 am/pm
 Site Location: Newberry SC Finish 1230 am/pm
 Weather Conds: cloudy 70's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30.08 c. Casing Material PVC Well Piezometer
 b. Water Table Depth 11.96 d. Casing Diameter 2" e. Length of Water Column 18.12 (a-b)
 f. Calculated Well Volume (see back) 2.95

WELL PURGING DATA

a. Purge Method Peristaltic Pump

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity _____ NTUs
- Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>KJE</u>	<u>SSC</u>	<u>0501520AO</u>
<u>HFSuerrRe</u>	<u>MicroTPW</u>	<u>2007041-11</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	GRP Odor	DTW Other
<u>11:52</u>	<u>Initial (1gal)</u>	<u>19.81</u>	<u>4.82</u>	<u>0.181</u>	<u>14.23</u>	<u>4.91</u>		<u>154.3</u>	<u>14.67</u>
<u>11:57</u>	<u>1.3</u>	<u>19.74</u>	<u>4.87</u>	<u>0.181</u>	<u>10.56</u>	<u>4.86</u>		<u>152.6</u>	<u>14.89</u>
<u>12:02</u>	<u>1.6</u>	<u>19.81</u>	<u>5.03</u>	<u>0.180</u>	<u>8.87</u>	<u>4.96</u>		<u>144.6</u>	<u>14.98</u>
<u>12:07</u>	<u>1.9</u>	<u>19.84</u>	<u>5.08</u>	<u>0.179</u>	<u>7.39</u>	<u>5.02</u>		<u>141.9</u>	<u>15.00</u>
<u>12:12</u>	<u>2.1</u>	<u>19.61</u>	<u>4.97</u>	<u>0.177</u>	<u>5.33</u>	<u>4.99</u>		<u>147.5</u>	<u>15.01</u>
<u>12:17</u>	<u>2.4</u>	<u>19.77</u>	<u>5.09</u>	<u>0.177</u>	<u>2.97</u>	<u>4.73</u>		<u>138.9</u>	<u>15.01</u>
<u>12:22</u>	<u>2.7</u>	<u>19.69</u>	<u>5.11</u>	<u>0.176</u>	<u>2.32</u>	<u>4.69</u>		<u>135.7</u>	<u>15.01</u>
<u>12:27</u>	<u>3.0</u>	<u>19.64</u>	<u>5.03</u>	<u>0.177</u>	<u>3.02</u>	<u>4.65</u>		<u>139.2</u>	<u>15.01</u>

e. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION:

Method: Low Flow / Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-10</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1230</u>

Comments _____

Signature J Butler

Date 8/6/15

Well ID: MW-10i

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 9-8-15 Time: Start 1343 am/pm
 Project No: 60328308.11 Finish 1426 am/pm
 Site Location: Newberry SC
 Weather Conds: P. Cloudy, 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 40.92 c. Length of Water Column 30.22 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 10.70 d. Calculated System Volume (see back) 18.61 Liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	082101253
HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1346	1.00	22.00	6.04	115	2.66	70.2	>1100	150	10.78	TAN NONE
1351	0.75	21.77	5.51	110	0.99	80.6	327.3	150	10.75	Cloudy "
1356	1.50	21.51	5.52	106	0.91	82.4	99.15	150	10.75	" "
1401	2.25	21.43	5.47	103	0.90	82.3	35.00	150	10.76	Clear "
1406	3.00	21.12	5.45	103	0.89	79.4	12.58	150	10.76	" "
1411	3.75	21.13	5.47	103	0.87	73.6	6.03	150	10.76	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-10i	40ml voa	3	Hcl	VOC's	1415

Comments _____

Signature James Leaphart Date 9-8-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/6/15
 Project No: 60328308 Time: Start 1340 am/pm
 Site Location: Newberry, SC Finish 1435 am/pm
 Weather Conds: cloudy 90s Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30.07 c. Casing Material PVC Well Piezometer
 b. Water Table Depth 18.86 d. Casing Diameter 2" e. Length of Water Column 11.21 (a-b)
 f. Calculated Well Volume (see back) 1.83

WELL PURGING DATA

a. Purge Method Peristaltic Pump

b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>0501520AU</u>
<u>HEXAMER</u>	<u>MicroTPW</u>	<u>200704141</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	DTW/Other
1404	Initial (0.75 gal)	24.10	5.22	0.113	224.9	3.98		79.3	22.03
1409	0.95	24.02	5.36	0.112	212.0	4.14		71.5	21.45
1414	1.15	23.92	5.26	0.112	184.3	4.15		75.2	21.68
1419	1.35	23.12	4.88	0.110	150.7	4.15		100.1	21.98
1424	1.55	22.59	4.60	0.108	155.3	4.21		115.7	22.25
1429	1.75	22.52	4.59	0.107	127.0	4.19		116.3	22.40
1434	1.95	22.55	4.60	0.107	132.3	4.15		112.3	22.51

e. Acceptance criteria pass/fail

Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Low Flow/Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
MW-11	40AL GLOSS	3	HC	8260	1435

Comments _____

Signature [Signature] Date 8/6/15

Well ID: MW-12

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8-10-15 Time: Start 0937 am/pm
 Project No: 60328308.11 Finish 1025 am/pm
 Site Location: Newberry SC
 Weather Conds: P. Cloudy 70's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30.87 c. Length of Water Column 25.22 (a-b) Casing Diameter/Material
2" / PVC
 b. Water Table Depth 5.65 d. Calculated System Volume (see back) 4.15.5 liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	08J101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0943	1.0	19.69	2.62	79	2.08	350.8	69.22	250	6.80	Cloudy/powd
0948	2.25	19.36	2.30	78	1.82	373.7	43.31	250	6.70	" "
0953	3.50	19.19	2.85	78	1.78	347.6	28.89	250	6.79	Cloudy "
0958	4.75	19.52	3.24	78	1.71	327.1	29.74	250	6.67	" "
1003	6.00	19.52	3.86	78	1.62	287.5	23.18	250	6.68	" "
1008	7.25	19.39	4.13	78	1.67	281.9	20.96	250	6.63	" "
1013	8.50	19.38	4.21	78	1.62	278.5	17.67	250	6.64	" "

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-12</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1015</u>

Comments _____

Signature J. Leaphart Date 8-10-15

Well ID: ML-13

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8-10-15 Time: Start 1519 am/pm
 Project No: 60328308.11 Finish 1602 am/pm
 Site Location: Newberry SC
 Weather Conds: P. Cloudy 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.67 c. Length of Water Column 22.10 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 2.57 d. Calculated System Volume (see back) 13.6 Liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH +1.0 unit - ORP + 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	083101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1522	1.0	21.36	5.87	95	1.20	106.3	>1100	200	2.95	Brown/ropy
1527	1.5	22.05	5.59	90	0.85	110.6	222.6	150	2.88	Cloudy "
1532	2.0	21.95	5.54	89	0.76	116.5	120.3	150	2.88	" "
1537	2.5	21.85	5.49	89	0.69	120.4	52.92	150	2.85	" "
1542	3.0	21.53	5.39	89	0.62	123.4	27.24	150	2.85	Clear "
1547	3.5	21.82	5.47	90	0.60	111.3	22.44	150	2.85	" "
1552	4.0	21.96	5.54	90	0.56	101.5	13.23	150	2.84	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>ML-13</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1555</u>

Comments _____

Signature J. Leaphart Date 8-10-15

Well ID: MW-14

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8-10-15 Time: Start 1040 am/pm
 Project No: 60328308.11 Finish 1115 am/pm
 Site Location: Newberry SC
 Weather Conds: P. Cloudy 70's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 19.79 c. Length of Water Column 17.8 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 1.99 d. Calculated System Volume (see back) 11 Liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH +1.0 unit - ORP +10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	082101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1043	1.0	22.34	5.35	67	1.57	114.0	166.0	200	2.24	cloudy / none
1048	2.0	22.05	5.21	66	0.89	98.6	73.12	200	2.35	" "
1053	3.0	21.78	5.24	66	0.66	78.0	34.30	200	2.38	clear "
1058	4.0	21.78	5.29	66	0.52	65.4	19.92	200	2.40	" "
1103	5.0	21.73	5.29	65	0.51	58.6	9.52	200	2.43	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-14</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1105</u>

Comments _____

Signature J. Leaphart Date 8-10-15

Well ID: MW-15

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8-10-15 Time: Start 1136 am/pm
 Project No: 60328308.11 Finish 1230 am/pm
 Site Location: Newberry SC
 Weather Conds: P. Cloudy, 81° Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 11.32 c. Length of Water Column 8.94 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 2.38 d. Calculated System Volume (see back) 5.5 liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	082101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1138	1.0	22.80	6.04	126	1.83	122.5	336.5	150	3.14	lt. tan / none
1143	1.75	23.25	5.66	127	1.25	133.0	299.0	150	3.38	" "
1148	2.5	23.04	5.59	128	0.92	128.4	245.9	150	3.55	" "
1153	3.25	22.86	5.33	123	0.65	114.1	151.5	150	3.64	" "
1158	4.00	22.65	5.48	119	0.56	84.8	108.8	150	3.67	cloudy "
1203	4.75	22.45	5.50	115	0.53	67.7	86.57	150	3.70	" "
1208	5.50	22.47	5.53	114	0.53	55.2	78.34	150	3.69	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

If no or N/A - Explain below.

1213	6.25	22.62	5.58	112	0.51	44.4	68.87	150	3.65	" "
1218	7.00	23.09	5.65	111	0.53	33.6	63.93	150	3.60	" "

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-15</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1220</u>

Comments _____

Signature James Leaphart Date 8-10-15

Well ID: MCW-16

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8-10-15 Time: Start 1323 am/pm
 Project No: 60328308.11 Finish 1404 am/pm
 Site Location: Newberry SC
 Weather Conds: P. Cloudy 80's Collector(s): James Leapart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 20.29 c. Length of Water Column 12.91 (a-b) Casing Diameter/Material
2" / PVC
 b. Water Table Depth 4.38 d. Calculated System Volume (see back) 8.0 liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	082101253
HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1327	1.0	21.73	5.41	357	3.30	151.4	112.7	150	7.68	Cloudy / porous
1332	1.75	21.20	4.56	368	2.85	209.6	70.83	150	7.69	" "
1337	2.50	21.31	4.91	370	2.82	193.6	32.72	150	7.65	clear "
1342	3.25	21.11	5.16	371	2.85	184.9	19.18	150	7.65	" "
1347	4.00	21.12	5.13	371	2.84	189.6	12.85	150	7.65	" "
1352	4.75	20.87	5.19	372	2.85	187.3	7.53	150	7.65	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MCW-16</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1355</u>
<u>MS</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	
<u>MSD</u>	<u>"</u>	<u>"</u>	<u>"</u>	<u>"</u>	

Comments stick up = 0.42' ~~flush~~ casing not installed yet.

Signature [Signature] Date 8-10-15

Well ID: ML-17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 8-10-15 Time: Start 1419 am/pm
 Project No: 60328308.11 Finish 1502 am/pm
 Site Location: Newberry SC
 Weather Conds: P. Cloudy, 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30.32 c. Length of Water Column 24.65 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 5.67 d. Calculated System Volume (see back) 15.2 liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH +1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	08J101253
HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1423	1.0	21.32	5.52	91	1.72	169.4	228	150	5.93	lt. Tan / none
1428	1.75	20.90	4.50	88	1.39	221.2	82.96	150	5.95	Cloudy ..
1433	2.50	20.31	4.52	87	1.27	217.9	43.66	150	5.96	" ..
1438	3.25	20.26	4.83	86	1.25	196.2	30.47	150	5.94	Clear ..
1443	4.00	20.34	5.17	86	1.25	177.6	24.37	150	5.94	" ..
1448	4.75	20.29	5.25	86	1.27	172.1	20.93	150	5.94	" ..
1453	5.50	20.12	5.25	87	1.26	170.4	21.06	150	5.95	" ..

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>ML-17</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1455</u>

Comments Stuck up = 0.41' Flush Casing NOT INSTALLED YET.

Signature J. Leaphart Date 8-10-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/6/15
 Project No: 6032803 Time: Start 1020 am/pm
 Site Location: Newberry SC Finish 1120 am/pm
 Weather Conds: Clear 80's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 23.41 c. Casing Material PVC e. Length of Water Column 13.16 (a-b)
 b. Water Table Depth 10.25 d. Casing Diameter 2" f. Calculated Well Volume (see back) 2.15

WELL PURGING DATA

a. Purge Method Peristaltic Pump

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity _____ NTUs
- Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>356</u>	<u>0501520 AU</u>
<u>NE Scientific</u>	<u>MicroTPI</u>	<u>200704141</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	DTW Other
1035	Initial (1gal)	19.87	4.15	0.096	27.23	3.96		257.3	10.73
1040	1.3	19.68	4.09	0.085	25.60	3.80		260.7	10.73
1045	1.6	19.61	4.26	0.078	17.29	3.91		251.8	10.73
1050	1.9	19.50	4.43	0.076	16.37	3.71		243.0	10.73
1055	2.2	19.30	4.88	0.073	11.10	3.69		242.3	10.73
1100	2.5	19.19	4.39	0.071	7.07	3.62		245.5	10.73
1105	2.8	19.14	4.38	0.070	4.28	3.64		241.7	10.73

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| | Yes | No | N/A |
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION:

Method: Low Flow/Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-18</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1110</u>

Comments _____

Signature _____

Date 8/6/15

Well ID: MW-18D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 9-10/9-11-15 Time: Start 1100 am/pm
 Project No: 60328308.11 Finish 1145 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 65.45 c. Length of Water Column 31.85 (a-b) Casing Diameter/Material
2" / PVC
 b. Water Table Depth 33.60 d. Calculated System Volume (see back) 5.19

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH +1.0 unit - ORP +10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	081101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1110	0.25	23.75	11.97	4100	7.00	16.9	211.8	—	—	Clear / None
1117	7.50	21.68	11.82	4110	6.64	-10.6	392.6	—	—	" "
1126	15.00	22.45	11.88	4944	6.82	-33.9	463.5	—	—	" "
1140	22.50	20.06	12.22	6928	8.27	-28.2	945.0	—	—	" "
0830	23.00	18.87	10.81	1226	4.44	106.7	46.57	—	45.02	Clear / None

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-18D</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>0830</u>

Comments Dry e ~ 8 gallons

Signature [Signature] Date 9-10-15
9-11-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 8-11-15 Time: Start 0934 am/pm
 Project No: 60328308.11 Finish 1028 am/pm
 Site Location: NEWBERRY SC
 Weather Conds: Cloudy, 70's Collector(s): JAMES LEAPHANT

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 14.47 c. Length of Water Column 10.96 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 3.51 d. Calculated System Volume (see back) 6.8 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

	Make	Model	Serial Number
	<u>YSI</u>	<u>556</u>	<u>082101253</u>
	<u>HF SCIENTIFIC</u>	<u>20000</u>	<u>20503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0938	1.0	20.80	6.65	146	1.69	-17.7	>1100	100	3.91	TAN/NONE
0943	1.5	20.76	5.33	116	4.23	83.0	>1100	100	4.12	" "
0948	2.0	21.02	5.08	101	5.41	119.1	>1100	100	4.22	" "
0953	2.5	21.13	5.41	97	5.91	115.6	>1100	100	4.28	" "
0958	3.0	21.25	5.43	94	5.89	132.9	>1100	100	4.35	" "
1003	3.5	21.28	5.46	92	5.88	146.5	>1100	100	4.40	" "
1008	4.0	21.08	5.41	92	5.52	162.2	>1100	100	4.45	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-19</u>	<u>40 ML VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1015</u>

Comments: TURBIDITY 525 NTU'S AT SAMPLE TIME

Signature: Jh Leaphant Date: 8-11-15

Ground Water Sample Collection Record

Client: SHARPS DEARLE Date: 8-11-15
 Project No: 6032630 B.11 Time: Start 1247 am/pm
 Site Location: NEW BRIDGES SC Finish 1336 am/pm
 Weather Conds: P. Cloudy 80's Collector(s) JAMES LEAPHANT

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 34.87 c. Casing Material PVC e. Length of Water Column _____ (a-b)
 b. Water Table Depth 8.59 d. Casing Diameter 2" f. Calculated Well Volume (see back) _____

WELL PURGING DATA
 a. Purge Method PERISTALTIC PUMP - LOW FLOW
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ NA well volumes) _____
 - Maximum Allowable Turbidity NA NTUs
 - Stabilization of parameters 10 %
 c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>SS6</u>	<u>08J101253</u>
<u>HP SCIENTIFIC</u>	<u>2000</u>	<u>201503451</u>

 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume L Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other	DTW
1250	1.0	20.94	5.68	86	>1100	3.52	TAN	POOR	86.4	9.00
1255	1.5	21.03	4.42	86	403.4	3.03	CLOUDY	"	122.8	9.07
1300	2.0	21.06	4.72	86	203.0	2.92	"	"	96.7	9.11
1305	2.5	21.02	5.00	86	143.9	2.75	"	"	73.8	9.13
1310	3.0	21.07	5.32	86	132.5	2.64	"	"	50.2	9.14
1315	3.5	21.11	5.47	86	123.7	2.53	"	"	38.6	9.14
1320	4.0	21.21	5.47	86	89.18	2.55	"	"	35.4	9.14
1325	4.5	20.89	5.44	86	74.63	2.42	"	"	33.7	9.14

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: PERISTALTIC PUMP - LOW FLOW

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MLW-20</u>	<u>4x mL VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOC'S</u>	<u>1328</u>

Comments _____

Signature J. Leaphant Date 8-11-15

Ground Water Sample Collection Record

Client: <u>Phillips</u>	Date: <u>8/13/15</u>
Project No: <u>60328303</u>	Time: Start <u>0950</u> am/pm
Site Location: <u>Newberry SC</u>	Finish _____ am/pm
Weather Conds: <u>(Clear 80's)</u> Collector(s) <u>J Butler</u>	

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 53.42 c. Casing Material PVC e. Length of Water Column 45.47 (a-b)
- b. Water Table Depth 7.95 d. Casing Diameter 2" f. Calculated Well Volume (see back) 7.4

WELL PURGING DATA

a. Purge Method Peristaltic Pump

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity _____ NTUs
- Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>0501510A2</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>2007041141</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Det	DW Other
1027	4.9	18.41	4.55	0.107	5.62	3.10		54.3	8.61
1032	4.9	18.44	4.63	0.106	6.38	3.18		49.8	8.61
1037	5.4	18.44	4.71	0.107	5.54	3.16		41.1	8.61
1042	5.9	18.47	4.78	0.106	4.15	3.17		35.7	8.61
1047	6.4	18.48	4.77	0.106	5.07	3.17		36.9	8.61
1052	6.9	18.49	4.79	0.105	3.85	3.18		30.2	8.61
1057	7.4	18.51	4.80	0.103	2.67	3.19		36.5	8.61

e. Acceptance criteria pass/fail

- | | Yes | No | N/A |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |

If no or N/A - Explain below.

SAMPLE COLLECTION:

Method: Low Flow/Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-20I</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1100</u>
<u>MW-20I-a</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1100</u>

Comments _____

Signature [Signature]

Date 8/13/15

Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 8-11-15
 Project No: 60328308.11 Time: Start 1041 am/pm
 Site Location: NEWBERRY SC Finish 1129 am/pm
 Weather Conds: CLOUDY, 70's Collector(s) JAMES LEAPHANT

WATER LEVEL DATA: (measured from Top of Casing)

- a. Total Well Length 22.47 c. Casing Material PVC Well Piezometer
 b. Water Table Depth 11.34 d. Casing Diameter 2" e. Length of Water Column 11.13 (a-b)
 f. Calculated Well Volume (see back) 6.9 LITERS

WELL PURGING DATA

- a. Purge Method PERISTALTIC PUMP - LOW FLOW
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ NA well volumes) _____
 - Maximum Allowable Turbidity NA NTUs
 - Stabilization of parameters 10 %
 c. Field Testing Equipment Used:
 Make Model Serial Number
YSI 556 081101253
HF SCIENTIFIC 20000 201503451
 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume L Removed (gall)	Turbidity (NTUs)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	ORP Other	DTW
1045	1.0	19.84	5.29	124	366.8	2.95	TAN	NOPE	169.0	11.39
1050	1.75	19.71	3.67	124	190.6	2.47	CLOUDY	"	249.7	11.38
1055	2.50	19.64	3.71	124	100.9	2.32	"	"	242.6	11.38
1100	3.25	19.61	4.03	122	58.13	2.25	"	"	222.2	11.38
1105	4.00	19.49	4.23	121	39.79	2.11	CLEAR	"	210.1	11.39
1110	4.75	19.49	4.46	120	25.66	1.87	"	"	196.4	11.39
1115	5.50	19.36	4.50	119	23.09	1.70	"	"	193.7	11.39

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|-------------------------------------|-----------------------------|---|
| Has required volume been removed | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input checked="" type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> |
| Have parameters stabilized | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION:

Method: PERISTALTIC PUMP - LOW FLOW

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
MW-21	40 ml vial	3	HCL	VOC's	1120

Comments _____

Signature J Leaphant

Date 8-11-15

Well ID: MLW-22

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 9-8-15 Time: Start 1243 am/pm
 Project No: 60328308.11 Finish 1325 am/pm
 Site Location: Newberry SC
 Weather Conds: cloudy 80's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 26.10 c. Length of Water Column 12.27 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 13.83 d. Calculated System Volume (see back) 7.5 Liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	08101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1248	1.00	22.08	5.18	114	3.82	119.0	24.79	150	14.72	CLEAR/odorless
1253	0.75	21.90	4.50	111	2.87	155.3	5.33	150	15.40	" "
1258	1.50	21.88	4.64	110	2.57	153.0	4.64	150	15.97	" "
1303	2.25	22.03	4.82	110	2.41	144.1	7.77	150	16.00	" "
1308	3.00	22.02	4.88	108	2.25	145.1	3.18	150	16.10	" "
1313	3.75	22.30	4.97	107	2.28	142.0	2.09	150	16.09	" "

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Has required volume been removed

Has required turbidity been reached

Have parameters stabilized

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MLW-22</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1315</u>

Comments _____

Signature James Leaphart Date 9-8-15



Well/Piezo ID: MW-21I

Ground Water Sample Collection Record

Client: Phillips Date: 8/12/15
 Project No: 60328308 Time: Start 1340 am/pm
 Site Location: Newberry SC Finish _____ am/pm
 Weather Conds: clear 80's Collector(s) _____

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 5508 c. Casing Material PVC e. Length of Water Column 34.87 (a-b)
 b. Water Table Depth 20.21 d. Casing Diameter 2" f. Calculated Well Volume (see back) 568

WELL PURGING DATA
 a. Purge Method Peristaltic Pump
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %
 c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>0501520110</u>
<u>HEscantec</u>	<u>MicroTPV</u>	<u>2007041141</u>

 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Odor	PTW Other
1407	2.8	19.07	4.81	0.161	139.3	5.41		153.3	26.5
1412	3.3	19.08	4.87	0.162	128.4	5.31		142.1	26.60
1417	3.8	19.13	4.89	0.161	102.2	5.18		144.2	26.89
1422	4.3	19.37	5.13	0.160	102.2	5.16		144.9	26.74
1427	4.8	19.32	4.99	0.161	99.60	5.20		157.4	26.75
1432	5.3	19.39	5.02	0.163	109.9	5.20		152.4	26.76
1437	5.8	19.38	5.01	0.166	107.2	5.15		149.2	26.77

e. Acceptance criteria pass/fail

Has required volume been removed	Yes <input type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Low Flow/Reverse

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>MW-20 I</u>	<u>40ml Gbss</u>	<u>3</u>	<u>HCL</u>	<u>2260</u>	<u>1440</u>

Comments _____

Signature [Signature] Date 8/12/15

Well ID: MW-22

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 9-8-15 Time: Start 1243 am/pm
 Project No: 60328308.11 Finish 1325 am/pm
 Site Location: Newberry SC
 Weather Conds: Cloudy 80s Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 26.10 c. Length of Water Column 12.27 (a-b) Casing Diameter/Material
2" / PVC
 b. Water Table Depth 13.83 d. Calculated System Volume (see back) 7.5 Liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	081101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1248	1.00	22.08	4.18	114	3.32	119.0	24.79	150	14.72	Clear/odorless
1253	0.75	21.90	4.50	111	2.87	155.3	6.33	150	15.40	" "
1258	1.50	21.88	4.64	110	2.57	153.0	4.64	150	15.97	" "
1303	2.25	22.03	4.82	110	2.41	144.1	7.77	150	16.00	" "
1308	3.00	22.02	4.88	108	2.25	145.1	3.18	150	16.10	" "
1313	3.75	22.30	4.97	107	2.28	142.0	2.09	150	16.09	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-22</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1315</u>

Comments _____

Signature James Leaphart Date 9-8-15

Low Flow Ground Water Sample Collection Record

Client: SUMMIT Date: 7-9-15 Time: Start 1155 am/pm
 Project No: _____ Finish 1242 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: CLEAR, 80's Collector(s): JAMES LEPLANT

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 28.15 c. Length of Water Column 9.56 (a-b) Casing Diameter/Material 1" / PVC
 b. Water Table Depth 18.49 d. Calculated System Volume (see back) 1.5 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>MSI</u>	<u>556</u>	<u>082101253</u>
<u>HF Scientific</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor	
1158	INITIAL	21.69	4.06	36	1.95	372.0	19.57	180	20.50	<u>CLEAR</u>	<u>NO O.D.</u>
1203	0.90	21.44	3.41	36	0.93	467.0	21.48	180	20.42	"	"
1208	1.80	21.24	2.73	36	0.71	515.3	15.65	180	20.42	"	"
1213	2.70	21.23	3.02	36	0.64	485.9	15.49	180	20.42	"	"
1218	3.60	21.24	3.38	36	0.67	459.2	10.19	180	20.41	"	"
1223	4.50	21.22	3.59	36	0.74	431.6	6.24	180	20.41	"	"
1228	5.40	21.31	3.66	36	0.76	428.3	5.73	180	20.41	"	"

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

(continued on back)

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SAMA (STEP)

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TAW-21</u>	<u>40 ml VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOCS</u>	<u>1230</u>

Comments _____

Signature J. Leplant Date 7-9-15

Low Flow Ground Water Sample Collection Record

Client: SUNBELT Date: 7-9-15 Time: Start 1117 am/pm
 Project No: _____ Finish 1147 am/pm
 Site Location: NEWBERRY SC
 Weather Conds: Clear, 80's Collector(s): James Leighton

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 27.97 c. Length of Water Column 10.83 (a-b) Casing Diameter/Material 1" / PVC
 b. Water Table Depth 17.14 d. Calculated System Volume (see back) 1.7 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH +1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>550</u>	<u>082101253</u>
<u>W/S Scientific</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1120	1.15	22.72	4.27	34	3.53	286.7	45.51	180	19.50	Cloudy / None
1125	0.90	22.61	4.15	34	3.37	299.7	37.00	180	19.32	Clear ..
1130	1.80	22.50	4.10	34	3.45	302.8	14.52	180	19.31	" "
1135	2.70	22.44	4.19	34	3.55	294.2	11.29	180	19.31	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-22</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HC</u>	<u>VOCS</u>	<u>1138</u>

Comments _____

Signature: James Leighton Date: 7-9-15

Low Flow Ground Water Sample Collection Record

Client: SNAKESHEAD Date: 7-9-15 Time: Start 0953 am/pm
 Project No: _____ Finish 1026 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: CLOUD, 70's Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 26.82 c. Length of Water Column 9.77 (a-b) Casing Diameter/Material 1" / PVC
 b. Water Table Depth 16.05 d. Calculated System Volume (see back) 1.5 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH +1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>082101253</u>
<u>HP Scientific</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>0953</u>	<u>1.15</u>	<u>22.29</u>	<u>4.27</u>	<u>35</u>	<u>2.27</u>	<u>213.7</u>	<u>>1100</u>	<u>180</u>	<u>18.75</u>	<u>Brown</u>
<u>1000</u>	<u>0.90</u>	<u>22.11</u>	<u>4.08</u>	<u>33</u>	<u>2.19</u>	<u>223.5</u>	<u>—</u>	<u>180</u>	<u>20.53</u>	<u>"</u>
<u>1005</u>	<u>1.80</u>	<u>22.00</u>	<u>4.13</u>	<u>32</u>	<u>2.47</u>	<u>232.7</u>	<u>—</u>	<u>180</u>	<u>21.75</u>	<u>"</u>
<u>1010</u>	<u>2.70</u>	<u>22.02</u>	<u>4.24</u>	<u>32</u>	<u>3.25</u>	<u>233.8</u>	<u>42.18</u>	<u>180</u>	<u>22.75</u>	<u>"</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-23</u>	<u>40 ml vial</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1015</u>

Comments _____

Signature J. Leighton Date 7-9-15

Low Flow Ground Water Sample Collection Record

Client: SWAKES, JORGE Date: 7-8-15 Time: Start 1405 am/pm
 Project No: _____ Finish 1435 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: Cloudy, 90's Collector(s): James Leaphant

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.84 c. Length of Water Column 7.41 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 17.59 d. Calculated System Volume (see back) 1.15 LITERS

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH +1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08J101253</u>
<u>HP SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1408	1.15	23.01	4.15	51	1.73	413.0	204.5	180	19.12	Cloudy / none
1413	0.90	22.32	4.03	51	1.34	446.0	874.4	180	19.22	" "
1418	1.80	21.95	4.07	51	1.19	446.2	>1100	180	19.19	" "
1423	2.70	21.95	4.05	51	1.17	440.4	804.9	180	19.20	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

Turbidity trending up - VOC's only.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-24</u>	<u>40 ml vial</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1425</u>

Comments Turbidity at time of sample 33 NTU's

Signature J. Leaphant Date 7-8-15

Low Flow Ground Water Sample Collection Record

Client: SUNBELTSOURCE Date: 7-8-15 Time: Start 1455 am/pm
 Project No: _____ Finish 1523 am/pm
 Site Location: NEWBERRY SC
 Weather Conds: Clear, 90's Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 21.87 c. Length of Water Column 9.23 (a-b) Casing Diameter/Material 1" / PVC
 b. Water Table Depth 15.64 d. Calculated System Volume (see back) 1.43 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>000101253</u>
<u>HP SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1457</u>	<u>1.0</u>	<u>23.12</u>	<u>5.10</u>	<u>58</u>	<u>5.27</u>	<u>294.5</u>	<u>82.45</u>	<u>200</u>	<u>17.50</u>	<u>Cloudy / none</u>
<u>1502</u>	<u>1.0</u>	<u>22.52</u>	<u>4.59</u>	<u>53</u>	<u>5.00</u>	<u>306.1</u>	<u>56.15</u>	<u>200</u>	<u>17.49</u>	<u>" "</u>
<u>1507</u>	<u>2.0</u>	<u>22.11</u>	<u>4.21</u>	<u>53</u>	<u>5.15</u>	<u>310.8</u>	<u>32.32</u>	<u>200</u>	<u>17.47</u>	<u>CLEAR "</u>
<u>1512</u>	<u>3.0</u>	<u>21.97</u>	<u>4.30</u>	<u>54</u>	<u>5.37</u>	<u>303.6</u>	<u>15.19</u>	<u>200</u>	<u>17.47</u>	<u>" "</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION:

Method: PERISTALTIC PUMP / SDA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TWJ-25</u>	<u>40 ml USA</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1515</u>

Comments _____

Signature J. Leighton Date 7-8-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-9-15 Time: Start 0922 am/pm
 Project No: _____ Finish _____ am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: Clear, 70's Collector(s): James Leighton

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 12.90 c. Length of Water Column 1.3 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 11.60 d. Calculated System Volume (see back) 0.20 Liters

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08J101253</u>
<u>HP SIGNIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.
Dry

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-29</u>	<u>40 ml vial</u>	<u>3</u>	<u>HCL</u>	<u>VOC'S</u>	<u>NO SAMPLE</u>

Comments Dry @ 1/3 Flow Cell.

Signature [Signature] Date 7-9-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-9-15 Time: Start 1033 am/pm
 Project No: _____ Finish 1109 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: Clear, 80's Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.05 c. Length of Water Column 10.64 (a-b) Casing Diameter/Material
1" PVC
 b. Water Table Depth 14.41 d. Calculated System Volume (see back) 1.6 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>666</u>	<u>08J101253</u>
<u>HF SCIENTIFIC</u>	<u>2000</u>	<u>201503451</u>

Time (24hr)	Volume		pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor	
	Removed (Liters)	Temp. ($^{\circ}$ C)									
1037	10.11	23.02	5.05	49	5.91	207.0	40.34	180	15.70	Cloudy	None
1042	0.90	22.82	5.00	48	5.78	222.5	36.40	180	15.75	"	"
1047	1.80	22.71	4.99	47	5.55	231.4	21.89	180	15.75	Clear	"
1052	2.70	22.61	4.94	48	5.29	237.3	16.16	180	15.75	"	"

d. Acceptance criteria pass/fail

Has required volume been removed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>	N/A <input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP (SEDA STRAW)

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-30</u>	<u>40 ml vial</u>	<u>3</u>	<u>HCL</u>	<u>NO₂S</u>	<u>1055</u>

Comments _____

Signature J. Leighton Date 7-9-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-9-15 Time: Start 0839 am/pm
 Project No: _____ Finish 0914 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: clear, 70's Collector(s): JAMES LEIGHT

- 1. WATER LEVEL DATA: (measured from Top of Casing)** 9.61
- a. Total Well Length 21.65 c. Length of Water Column 8.66 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 12.04 d. Calculated System Volume (see back) 1.4 liters

- 2. WELL PURGE DATA**
- a. Purge Method: PERISTALTIC PUMP
- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH +1.0 unit - ORP +10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>536</u>	<u>082101253</u>
<u>HF SCIENTIFIC</u>	<u>20005</u>	<u>201503451</u>

Time (24hr)	Volume		pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
	Removed (Liters)	Temp. (°C)								
0842	1.01	21.94	4.79	52	6.13	210.5	51.12	180	14.52	clear
0847	0.90	21.69	2.77	51	6.00	315.2	38.98	180	15.07	"
0852	1.80	21.59	3.02	51	6.06	298.5	25.17	180	15.12	"
0857	2.70	21.51	3.45	52	6.20	276.3	13.60	180	15.15	"
0902	3.60	21.48	3.68	52	6.14	266.5	8.22	180	15.20	"

- d. Acceptance criteria pass/fail
- | | | | | |
|-------------------------------------|-------------------------------------|--------------------------|-------------------------------------|---------------------|
| | Yes | No | N/A | (continued on back) |
| Has required volume been removed | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input checked="" type="checkbox"/> | |
| Have parameters stabilized | <input checked="" type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> | |
- If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SEED STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-31</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCL</u>	<u>DOC S</u>	<u>0905</u>

Comments _____

Signature J. Leight Date 7-9-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-8-15 Time: Start 1330 am/pm
 Project No: _____ Finish 1359 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: Cloudy, 90's Collector(s): JAMES LEAPHART

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.00 c. Length of Water Column 6.35 (a-b) Casing Diameter/Material 1" / PVC
 b. Water Table Depth 18.65 d. Calculated System Volume (see back) 1.0 liter

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>082101253</u>
<u>HF SCIENTIFIC</u>	<u>20000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color	Odor
1334	1.15	22.77	3.98	45	1.14	490.2	51.07	180	22.28	cloudy	new
1339	0.90	22.35	3.80	45	2.72	486.0	50.33	180	23.69	"	"
1344	1.80	22.44	3.87	45	3.66	448.3	38.85	180	22.73	"	"

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.
well goes dry

3. SAMPLE COLLECTION:

Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-32</u>	<u>40 ml vial</u>	<u>3</u>	<u>HCL</u>	<u>VOC's</u>	<u>1350</u>

Comments: dry @ 1.5 liters - allow to recover before collecting sample.

Signature: [Signature] Date: 7-8-15

Low Flow Ground Water Sample Collection Record

Client: SHAKESPEARE Date: 7-9-15 Time: Start 1255 am/pm
 Project No: _____ Finish 1330 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: Cloudy 90's Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.05 c. Length of Water Column 8.27 (a-b) Casing Diameter/Material 1" / PVC
 b. Water Table Depth 16.78 d. Calculated System Volume (see back) 1.3 LITERS

2. WELL PURGE DATA

a. Purge Method: PERISTALTIC PUMP

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08J101253</u>
<u>HF SCIENTIFIC</u>	<u>2000</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1258	1.00	22.53	4.12	67	1.20	429.1	69.69	180	18.20	Cloudy / none
1303	0.90	22.39	3.80	68	0.67	513.4	51.35	180	18.25	" "
1308	1.80	22.14	3.78	68	0.46	533.7	36.18	180	18.20	" "
1313	2.70	22.09	3.82	68	0.39	527.7	22.15	180	18.20	" "
1318	3.60	22.04	3.86	68	0.38	533.5	14.10	180	18.20	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-33</u>	<u>40 mL VOA</u>	<u>3</u>	<u>HCL</u>	<u>NOCS</u>	<u>1320</u>

Comments _____

Signature J. Leighton Date 7-9-15

Ground Water Sample Collection Record

Client: Phillips Date: 8/4/15
 Project No: 60328308 Time: Start 1305 am/pm
 Site Location: Newberry, SC Finish 0900 am/pm
 Weather Conds: clear 90's Collector(s) J. Butler

8/5/15

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 24.05 c. Casing Material PVC e. Length of Water Column 77.1 (a-b)
 b. Water Table Depth 6.95 d. Casing Diameter 6" f. Calculated Well Volume (see back) 113.3'

WELL PURGING DATA
 a. Purge Method Grundfos Pump

- b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05015ADAJ</u>
<u>HEScientific</u>	<u>M20PPV</u>	<u>200704141</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	DRP Odor	DTW Other
1317	<u>Initial</u>	<u>18.60</u>	<u>11.66</u>	<u>2.661</u>	<u>93.51</u>	<u>4.08</u>	<u>4.89</u>	<u>-40.8</u>	<u>8.15</u>
1322	<u>7.0</u>	<u>18.12</u>	<u>11.34</u>	<u>1.944</u>	<u>52.28</u>	<u>4.09</u>		<u>-49.0</u>	<u>11.94</u>
1327	<u>14.0</u>	<u>18.43</u>	<u>11.20</u>	<u>1.104</u>	<u>30.77</u>	<u>5.47</u>		<u>-49.0</u>	<u>16.85</u>
1332	<u>21.0</u>	<u>18.24</u>	<u>11.24</u>	<u>1.068</u>	<u>20.81</u>	<u>5.70</u>		<u>-47.5</u>	<u>20.64</u>
1337	<u>28.0</u>	<u>18.25</u>	<u>11.26</u>	<u>1.060</u>	<u>15.06</u>	<u>5.68</u>		<u>-44.8</u>	<u>23.65</u>
1342	<u>35.0</u>	<u>18.09</u>	<u>11.29</u>	<u>1.054</u>	<u>17.45</u>	<u>5.71</u>		<u>-47.5</u>	<u>28.92</u>
1347	<u>42.0</u>	<u>18.04</u>	<u>11.30</u>	<u>1.054</u>	<u>18.97</u>	<u>5.76</u>		<u>-46.4</u>	<u>33.42</u>

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|------------------------------|-----------------------------|------------------------------|
| Has required volume been removed | Yes <input type="checkbox"/> | No <input type="checkbox"/> | N/A <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>RDW-1</u>	<u>40ml Glass</u>	<u>3</u>	<u>HeL</u>	<u>8260</u>	<u>1640</u>

0900 8/5/15

Comments _____

Signature [Signature] Date 8/9/15

Ground Water Sample Collection Record

Client: Phillips Date: 8/4/15
 Project No: 60328308 Time: Start 0920 am/pm
 Site Location: Newberry SC Finish 1210 am/pm
 Weather Conds: Clear 80's Collector(s) J Butler

WATER LEVEL DATA: (measured from Top of Casing)

Well Piezometer

- a. Total Well Length 69.05 c. Casing Material PVC e. Length of Water Column 50.05 (a-b)
 b. Water Table Depth 19.0 d. Casing Diameter 6" f. Calculated Well Volume (see back) 73.6

WELL PURGING DATA

a. Purge Method Grundfos Pump

b. Acceptance Criteria defined (from workplan)

- Minimum Required Purge Volume (@ _____ well volumes) _____
- Maximum Allowable Turbidity _____ NTUs
- Stabilization of parameters _____ %

c. Field Testing Equipment Used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>0501520 AU</u>
<u>HF Scientific</u>	<u>MicroTPW</u>	<u>205704141</u>

d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	ORP Oxid	DTW Other
0930	Initial	17.97	10.52	0.876	14.14	3.80		188.5	19.81
0935	~5	18.18	9.98	0.900	14.62	3.82		132.8	21.10
0940	~10	18.27	10.24	0.756	15.55	3.89		79.0	22.80
0945	~15	18.14	10.32	0.729	8.78	3.95		56.3	24.55
0950	~20	18.26	10.43	0.728	5.23	3.97		31.5	26.75
0955	~25	18.17	10.49	0.724	5.25	3.93		22.4	28.90
1000	~30	18.22	10.51	0.732	6.61	3.92		13.5	30.65

- e. Acceptance criteria pass/fail
- | | | | |
|-------------------------------------|--------------------------|--------------------------|--------------------------|
| | Yes | No | N/A |
| Has required volume been removed | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Has required turbidity been reached | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
| Have parameters stabilized | <input type="checkbox"/> | <input type="checkbox"/> | <input type="checkbox"/> |
- If no or N/A - Explain below.

SAMPLE COLLECTION:

Method: Bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
<u>RDW-2</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>8260</u>	<u>1200</u>

Comments _____

Signature J Butler

Date 8/4/15

Well ID: MW-23

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 1-13-16 Time: Start 1413 am/pm
 Project No: 60328308.11 Finish 1450 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 50's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30.37 c. Length of Water Column 21.52 (a-b) Casing Diameter/Material
2" / PVC
 b. Water Table Depth 8.85 d. Calculated System Volume (see back) 3.50

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH +1.0 unit - ORP +10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	08J101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1415	INITIAL	18.58	4.80	2061	8.05	280.6	109.2	200	9.14	MILKY / POND
1420	1.0	18.44	4.44	63	6.98	283.0	93.75	200	9.28	" "
1425	2.0	18.32	4.44	63	6.91	279.6	86.76	200	9.28	" "
1430	3.0	18.26	4.44	63	6.97	279.6	68.77	200	9.28	CLOUDY "
1435	4.0	18.28	4.53	63	7.06	276.6	65.27	200	9.31	" "
1440	5.0	18.36	4.49	63	7.21	275.6	50.33	200	9.32	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-23</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1445</u>

Comments _____

Signature [Signature] Date 1-13-16

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 2/23/2016 Time: Start 13:28 am/pm
 Project No: 6032830811 Finish 14:10 am/pm
 Site Location: Shakespeare Newberry
 Weather Conds: Cloudy / wet conditions Collector(s): Elliott Harrington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30.42 c. Length of Water Column 21.11 (a-b) Casing Diameter/Material 2 in PVC
 b. Water Table Depth 9.31 d. Calculated System Volume (see back) 5.44

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
 - pH + 1.0 unit - ORP + 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	
<u>Micro TPW</u>	<u>20,000</u>	

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
13:50	INITIAL	17.43	5.71	.069	7.79	173.9	246.9	200	9.72	cloudy/milky
13:35	1L	17.41	5.36	.068	7.41	182.5	61.79	200	9.73	clear
13:40	2L	17.79	5.24	.068	7.50	195.2	20.10	200	9.80	clear
13:45	3L	17.78	5.22	.068	7.28	203.2	13.54	200	9.75	clear
13:50	4L	17.86	5.17	.068	7.54	214.5	12.43	200	9.80	clear
13:55	5L	17.87	5.15	.068	7.25	226.8	10.44	200	9.80	clear
14:00	6L	17.89	5.13	.068	7.18	233.0	8.86	200	9.89	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Low-flow Sampling / Soda Straw

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-23</u>	<u>40 Mill Vac</u>	<u>3</u>	<u>0</u>	<u>TCL/VOC's</u>	<u>14:05</u>

Comments _____

Signature J. E. Harrington Date 2/23/2016

Well ID: MW-24

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 1-13-14 Time: Start 1239 am/pm
 Project No: 60328308.11 Finish 1320 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 40's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 26.30 c. Length of Water Column 12.52 (a-b) Casing Diameter/Material
2" / PVC
 b. Water Table Depth 12.78 d. Calculated System Volume (see back) 2.04

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	YSI	556	08J101253
	HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1242	1.0	17.83	4.60	39	7.79	271.6	63.62	200	12.81	Clear
1247	1.0	17.98	4.31	38	7.95	280.8	64.66	200	12.85	"
1252	2.0	18.17	4.29	38	7.91	279.6	58.79	200	12.88	"
1257	3.0	18.20	4.31	37	7.91	283.0	58.94	200	12.90	"
1302	4.0	18.27	4.26	39	7.96	288.7	39.64	200	12.91	"
1307	5.0	18.29	4.21	38	8.13	293.5	17.44	200	12.91	"
1312	6.0	18.33	4.14	37	8.52	298.0	8.86	200	12.91	"

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-24</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1315</u>

Comments _____

Signature [Signature] Date 1-13-14

Low Flow Ground Water Sample Collection Record

Client: Philips - Shoalspace Newberry Date: 3/3/2016 Time: Start 1220 am/pm
 Project No: 60323308 Finish _____ am/pm
 Site Location: Newberry, SC
 Weather Conds: Partly Cloudy, Cool Collector(s): S. Carr

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 38.22 c. Length of Water Column 23.17 (a-b) Casing Diameter/Material
 b. Water Table Depth 15.04 d. Calculated System Volume (see back) 3.78 2" / Sch. 40 PVC

2. WELL PURGE DATA

a. Purge Method: low flow w/ peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH +1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>054116</u>
<u>HF Scientific</u>	<u>14110 TFW</u>	<u>201104076</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>Initial</u>	<u>—</u>	<u>17.93</u>	<u>6.57</u>	<u>.164</u>	<u>1.19</u>	<u>13.2</u>	<u>73.03</u>	<u>—</u>	<u>—</u>	<u>cloudy</u>
<u>1330</u>	<u>1.25</u>	<u>18.05</u>	<u>5.85</u>	<u>.125</u>	<u>1.54</u>	<u>49.2</u>	<u>16.36</u>	<u>—</u>	<u>—</u>	<u>clear</u>
<u>1345</u>	<u>2.50</u>	<u>17.96</u>	<u>5.72</u>	<u>0.118</u>	<u>2.02</u>	<u>49.4</u>	<u>7.09</u>	<u>—</u>	<u>—</u>	<u>clear</u>
<u>1401</u>	<u>4.50</u>	<u>17.89</u>	<u>5.64</u>	<u>0.112</u>	<u>2.36</u>	<u>57.0</u>	<u>2.79</u>	<u>—</u>	<u>—</u>	<u>"</u>
<u>1428</u>	<u>7.50</u>	<u>17.93</u>	<u>5.52</u>	<u>104</u>	<u>2.73</u>	<u>67.9</u>	<u>1.06</u>	<u>—</u>	<u>—</u>	<u>—</u>
<u>1445</u>	<u>8.00</u>	<u>17.92</u>	<u>5.52</u>	<u>102</u>	<u>2.77</u>	<u>89.4</u>	<u>1.61</u>	<u>—</u>	<u>—</u>	<u>—</u>

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed Yes No N/A
- Has required turbidity been reached Yes No N/A
- Have parameters stabilized Yes No N/A

If no or N/A - Explain below.

Water level was rising when purging started

3. SAMPLE COLLECTION: Method: Soda straw

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW24E</u>	<u>40 ml vial</u>	<u>3</u>	<u>None</u>	<u>TCL VOCs</u>	

Comments Encountered just over 2 well volumes prior to sample collection.

Signature [Signature] Date 3/3/2016

Well ID: SDW-1

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Date: 1-13-16 Time: Start 1144 am/pm
 Project No: 60328308.11 Finish 1220 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear, 40's Collector(s): James Leaphart

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 85.99 c. Length of Water Column 68.21 (a-b) Casing Diameter/Material 2" / PVC
 b. Water Table Depth 17.78 d. Calculated System Volume (see back) 100.26

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
 - pH +1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
YSI	556	08J101253
HF Scientific	20000	201503451

Time (24hr)	Volume Remove (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1145	INITIAL	16.25	4.37	85	6.36	282.4	160.8	300	17.70	CLOUDY / POWD
1150	1.5	16.47	5.44	86	4.98	235.0	44.01	300	17.75	" "
1155	3.0	16.66	5.43	85	4.72	235.2	23.78	300	17.75	Clear / "
1200	4.5	16.82	5.40	84	4.55	233.9	15.42	300	17.75	" "
1205	6.0	16.65	5.36	83	4.60	235.1	9.62	300	17.75	" "
1210	7.5	16.52	5.38	83	4.56	230.8	9.29	300	17.75	" "

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>SDW-1</u>	<u>40ml voa</u>	<u>3</u>	<u>Hcl</u>	<u>VOC's</u>	<u>1215</u>

Comments _____

Signature James Leaphart Date 1-13-16



Well ID: SDW-2

Groundwater Sample Collection Record

Client: SHAKESPEARE Date: 4-25-16 Time: Start 1200 (24hr)
 Project No: 60328308.11 Finish 1220
 Site Location: NEWBERRY SC
 Weather: Cloudy 70's Collector(s): James Leighton

1. WATER LEVEL DATA: (measured from Top of Casing)

Total well length: 88.00 Water column length: 2.72

Water table depth: 85.28 Casing type/diameter: PVC 1/2" Minimum purge volume: NA (liters)

2. WELL PURGE DATA

Purge Method: Bailer

Acceptance Criteria defined (Field Sampling Plan - 100% Design Project Operations Plan)

- Temperature 3% - ORP +/-10mV - Drawdown < 0.3 ft
- pH ± 0.1 unit - SpCond. 3%
- D.O. <0.5 mg/L - Turbidity <10 NTU
- >0.5mg/L within 10% >10 NTU within 10%

Field Testing Equipment used:	Make	Model	Serial number(s)
	YSI	<u>556</u>	<u>15J103578</u>
	HF Scientific	<u>Hack</u>	<u>2100 Q</u>

Well Headspace= NA
Begin purge at 1210

Time (24hr)	Purge Vol. (Gals)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Comments
<u>1213</u>	<u>0.00</u>	<u>20.98</u>	<u>8.75</u>	<u>565</u>	<u>-49.2</u>	<u>1.63</u>	<u>0.12</u>	<u>NA</u>	<u>NA</u>	<u>Flow cell full</u>

3. SAMPLE COLLECTION

Method: Bailer

Sample ID	Container Type	No. of Containers	Preservation	Analysis Required	Time
<u>SDW-2</u>	<u>40ml VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOA's</u>	<u>1215</u>

4-26-16

Comments: Dry At 0.50 Gallons

Signature(s) of Collector(s): [Signature] Date: 4-26-16



Well ID: MW-9D

Groundwater Sample Collection Record

Client: SLOKES/DEME Date: 4-25-16 Time: Start 1235 (24hr)
 Project No: 60328308.11 Finish 1350
 Site Location: NEWBERRY, SC
 Weather: CLEAR 70's Collector(s): JAMES LEIGHTON

1. WATER LEVEL DATA: (measured from Top of Casing)

Total well length: 154.14 Water column length: 148.24

Water table depth: 11.90 Casing type/diameter: R/C 2" Minimum purge volume: NA (liters)

2. WELL PURGE DATA

Purge Method: GRUNDFOS SUB. PUMP

Acceptance Criteria defined (Field Sampling Plan - 100% Design Project Operations Plan)

- Temperature 3% - ORP +/-10mV - Drawdown < 0.3 ft
- pH ± 0.1 unit - SpCond. 3%
- D.O. < 0.5 mg/L - Turbidity < 10 NTU
- > 0.5mg/L within 10% > 10 NTU within 10%

Field Testing Equipment used:	Make	Model	Serial number(s)
	YSI	556	15J103578
	HACH	2100 Q	14050C032814

Well Headspace = NA
Begin purge at 1248

Time (24hr)	Purge Vol. (Gals)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Comments
1249	0.00	19.10	9.76	684	-101.1	2.46	—	0.75	16.30	Flow cell full
1254	3.00	20.41	9.10	217	-73.0	3.11	95.6	0.25	25.45	Slow Pump To 4025 GPM
1259	3.25	20.69	9.40	247	-89.1	3.12	84.5	0.25	25.75	
1304	3.50	21.22	9.90	434	-113.8	2.56	71.7	0.25	25.65	
1309	3.75	21.14	9.94	430	-117.8	1.93	66.3	0.25	25.76	
1314	4.00	21.19	9.67	313	-107.7	1.93	59.8	0.25	25.80	
1319	4.25	21.32	9.49	273	-99.4	2.25	79.2	0.25	25.78	
1324	4.50	21.32	9.40	258	-95.5	2.46	85.3	0.25	25.79	
1329	4.75	21.29	9.37	252	-94.2	2.63	81.6	0.25	25.78	

3. SAMPLE COLLECTION Method: GRUNDFOS

Sample ID	Container Type	No. of Containers	Preservation	Analysis Required	Time
MW-9D	40 mL VOA	3	HCL	VOC's	1340
MW-9D-DUP	40 mL VOA	3	HCL	VOC's	1340

Comments: _____

Signature(s) of Collector(s): [Signature] Date: 4-25-16



Well ID: MW-9D

Groundwater Sample Collection Record

Client: SLOKES/DEME Date: 4-25-16 Time: Start 1235 (24hr)
 Project No: 60328308.11 Finish 1350
 Site Location: NEWBERRY, SC
 Weather: Cloudy 70's Collector(s): James Leaphant

1. WATER LEVEL DATA: (measured from Top of Casing)

Total well length: 154.14 Water column length: 148.24

Water table depth: 11.90 Casing type/diameter: PVC 12" Minimum purge volume: NA (liters)

2. WELL PURGE DATA

Purge Method: GRUNDFOS SUB. Pump

Acceptance Criteria defined (Field Sampling Plan - 100% Design Project Operations Plan)

- Temperature 3%
- pH ± 0.1 unit
- D.O. < 0.5 mg/L
- ORP +/- 10mV
- SpCond. 3%
- Turbidity < 10 NTU
- Drawdown < 0.3 ft
- > 0.5mg/L within 10%
- > 10 NTU within 10%

Field Testing Equipment used:	Make	Model	Serial number(s)
	YSI	556	152103578
	HF Scientific	HACH 2100 Q	14050C032814

Well Headspace = NA
 Begin purge at 1248

Time (24hr)	Purge Vol. (Gals)	Temp. (°C)	pH	Spec. Cond. (µs/cm)	ORP (mV)	DO (mg/L)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Comments
1249	0.00	11.10	9.76	684	-101.1	2.46	—	0.75	16.30	Flow cell full
1254	3.00	20.41	9.10	217	-73.0	3.41	95.6	0.25	25.45	Slow Pump To 4025 GPM
1259	3.25	20.69	9.10	247	-89.1	3.12	84.5	0.25	25.75	
1304	3.50	21.22	9.90	434	-113.8	2.56	71.4	0.25	25.65	
1309	3.75	21.14	9.94	430	-117.8	1.93	66.3	0.25	25.76	
1314	4.00	21.19	9.67	313	-107.7	1.93	59.8	0.25	25.80	
1319	4.25	21.32	9.49	273	-99.4	2.25	79.2	0.25	25.78	
1324	4.50	21.32	9.40	258	-95.5	2.46	85.3	0.25	25.79	
1329	4.75	21.29	9.37	252	-94.2	2.63	81.6	0.25	25.78	

3. SAMPLE COLLECTION Method: GRUNDFOS

Sample ID	Container Type	No. of Containers	Preservation	Analysis Required	Time
MW-9D	40 mL VOA	3	HCL	VOC's	1340
MW-9D-Dup	40 mL VOA	3	HCL	VOC's	1340

Comments: _____

Signature(s) of Collector(s): James Leaphant Date: 4-25-16

PHASE II RI GROUNDWATER SAMPLING LOGS

Low Flow Ground Water Sample Collection Record

Client: PHILIPS Date: 6/15/17 Time: Start 1128 am/pm
 Project No: 605 34823 Finish 1200 am/pm
 Site Location: NEWBERRY, SC
 Weather Conds: SLYNY, 80S-90S Collector(s): E. HARRINGTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 14 c. Length of Water Column _____ (a-b) Casing Diameter/Material _____
 b. Water Table Depth 12.2' d. Calculated System Volume (see back) _____ 2 in / PVC

2. WELL PURGE DATA

a. Purge Method: LOW-FLOW SAMPLING

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>VSI</u>	<u>556</u>	<u>06 R1082 AAA</u>
<u>HE SCIENTIFIC</u>		<u>LO750315</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1151	0	22.07	5.23	0.033	8.60	249.6	56.63	150	12.7	clear
1136	0.20	21.46	1.56	0.030	7.26	432.9	46.11	150	12.79	clear
1141	1.40	21.73	2.43	0.027	7.14	382.5	19.38	150	0	clear
1146	2.1	21.54	2.33	0.029	7.17	363.1	9.02	150	0	clear
1151	2.8	21.84	3.37	0.029	7.12	302.7	5.34	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP - SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW1</u>	<u>3 VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOC</u>	<u>1200</u>
	<u>250 POLY</u>	<u>1</u>	<u>Fast Flow H2O2</u>	<u>METALS</u>	
	<u>250 POLY</u>	<u>1</u>	<u>Distilled Water</u>	<u>Diss METALS</u>	
	<u>500 ml POLY</u>	<u>1</u>	<u>500ml Amber New</u>	<u>Substrate CI</u>	
Comments	<u>250 POLY</u>	<u>2</u>	<u>None</u>	<u>Substrate</u>	
	<u>2 VOA</u>	<u>2</u>	<u>None</u>	<u>PCR</u>	
			<u>HCL</u>	<u>Texas Iron</u>	

Signature: [Signature] Date: 6/15/17



Well ID: MW-2

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/13/17 Time: Start 1026 am/pm
 Project No: 60538283 Finish 1115 am/pm
 Site Location: Newberry SC
 Weather Conds: clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.77 c. Length of Water Column 15.81 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 896 d. Calculated System Volume (see back) 2.58

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H1116 A6</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>201103984</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1030	Initial	22.20	4.07	0.022	9.34	298.3	16.78	252	9.48	NA
1035	1.26	22.14	3.88	0.019	8.86	299.7	11.96		9.55	
1040	2.52	21.88	3.88	0.019	9.07	296.3	9.90		9.57	
1045	3.78	21.94	3.88	0.019	9.02	294.7	8.93		9.57	
1050	5.04	22.03	3.92	0.019	8.68	292.3	6.95		9.57	
1055	6.30	22.03	3.93	0.019	8.67	291.4	5.85		9.57	
1100	7.56	22.14	3.89	0.019	8.65	292.3	5.75	↓	9.57	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-2</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1105</u>

Comments _____

Signature [Signature] Date 6/13/17

Low Flow Ground Water Sample Collection Record

Client: PHILIPS Date: 6/21/17 Time: Start 1227 am/pm
 Project No: 60534825 Finish 1335 am/pm
 Site Location: Norbury, SC
 Weather Conds: Sunny / cloudy Collector(s): E. Herrington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 14.96 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in / PVC
 b. Water Table Depth 10.16 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low-flow

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>XSI</u>	<u>556</u>	<u>06R108244</u>
<u>HF Scientific</u>		<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1230</u>	<u>0</u>	<u>20.81</u>	<u>7.04</u>	<u>0.183</u>	<u>6.25</u>	<u>154.7</u>	<u>44.96</u>	<u>150</u>	<u>11.67</u>	<u>Clear</u>
<u>1235</u>	<u>0.70</u>	<u>21.51</u>	<u>4.82</u>	<u>0.164</u>	<u>3.78</u>	<u>221.1</u>	<u>108.1</u>	<u>150</u>	<u>13.00</u>	<u>Clear</u>
<u>1245</u>	<u>2.1</u>	<u>20.94</u>	<u>5.14</u>	<u>0.155</u>	<u>3.87</u>	<u>202.6</u>	<u>35.74</u>	<u>150</u>	<u>14.1</u>	<u>Clear</u>
<u>1255</u>	<u>4.2</u>	<u>20.92</u>	<u>5.46</u>	<u>0.154</u>	<u>3.82</u>	<u>185.7</u>	<u>29.46</u>	<u>150</u>	<u>15.12</u>	<u>Clear</u>
<u>1300</u>	<u>4.9</u>	<u>21.11</u>	<u>5.63</u>	<u>0.154</u>	<u>3.74</u>	<u>173.0</u>	<u>19.25</u>	<u>150</u>	<u>0</u>	<u>Clear</u>
<u>1305</u>	<u>5.4</u>	<u>20.97</u>	<u>5.52</u>	<u>0.154</u>	<u>3.71</u>	<u>175.4</u>	<u>19.98</u>	<u>150</u>	<u>0</u>	<u>Clear</u>
<u>1315</u>	<u>6.1</u>	<u>20.85</u>	<u>5.19</u>	<u>0.151</u>	<u>3.66</u>	<u>182.4</u>	<u>16.35</u>	<u>150</u>	<u>0</u>	<u>Clear</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION:

Method: Peristaltic Pump / Side draw

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-2E</u>	<u>VOL</u>	<u>3</u>	<u>ALL</u>	<u>VOL</u>	<u>1325</u>

Comments _____

Signature: [Signature] Date: 6/21/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/22/17 Time: Start 1436 am/pm
 Project No: 605.34283 Finish 1525 am/pm
 Site Location: Newberry SC
 Weather Conds: Cloudy 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 84.76 c. Length of Water Column 74.5 (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 10.26 d. Calculated System Volume (see back) 48.43

2. WELL PURGE DATA

a. Purge Method: Grundfos Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>024101000</u>
<u>HFScreenPac</u>	<u>MicroTPW</u>	<u>100704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1440	Initial	20.39	9.55	0.150	6.44	100.9	2.26	530	10.05	NA
1445	2.65	20.40	9.64	0.151	6.12	89.0	4.38		11.31	
1450	5.30	20.65	9.70	0.150	6.01	63.2	3.11		11.97	
1455	7.95	20.54	9.71	0.150	6.14	59.5	2.07		12.95	
1500	10.60	20.66	9.71	0.151	6.10	58.5	1.36		13.90	
1505	13.25	20.55	9.68	0.151	6.12	54.0	1.34	↓	14.83	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Grundfos Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-2D 40ml Glass</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1510</u>
<u>MW-2D-a</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1510</u>

Comments _____

Signature Justin Butler Date 6/22/17



Well ID: MW-3

Low Flow Ground Water Sample Collection Record

Client: shakespeare Composition structures Date: 6/12/17 Time: Start 1307 am/pm
 Project No: 60534283 Finish 1350 am/pm
 Site Location: Newberry, SC
 Weather Conds: Partly cloudy, 80's Collector(s): Justin Butter

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.79 c. Length of Water Column 10.69 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 14.10 d. Calculated System Volume (see back) 1.74

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H1116 A6</u>
<u>HF Suentzky</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1309	Initial	21.07	4.36	0.070	11.23	435.4	46.19	220	14.96	NA
1314	1.10	20.05	4.19	0.069	3.94	421.3	25.92	21	15.27	↓
1319	2.20	20.01	4.08	0.072	3.71	408.1	21.23		15.39	↓
1324	3.36	19.98	3.98	0.071	3.48	390.7	15.16		15.39	↓
1329	4.40	19.80	4.10	0.071	2.75	436.4	10.00		15.45	↓
1334	5.50	19.75	4.13	0.071	2.69	440.1	6.95		15.53	↓
1339	6.60	19.72	4.15	0.071	2.67	443.9	7.10	↓	15.59	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-3</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1340</u>

Comments _____

Signature Justin Butter Date 6/12/17

Low Flow Ground Water Sample Collection Record

Client: Philips Date: 6/15/17 Time: Start 1543 am/pm
 Project No: 60834823 Finish 1635 am/pm
 Site Location: Newberry SC
 Weather Conds: Sunny, 90° Collector(s): E. Henry

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 55 ft c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in PVC
 b. Water Table Depth 15.15 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low flow

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>06R1082 AH</u>
<u>HES Duster E12</u>		<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1546	0	21.17	5.68	0.253	2.30	103.8	17.48	150	15.35	clear
1551	0.2	22.56	3.76	0.268	1.02	185.7	10.26	150	0	clear
1556	1.4	21.99	4.40	0.254	0.97	135.1	6.67	150	0	clear
1601	2.1	21.10	4.76	0.253	0.83	106.0	6.57	150	0	clear
1606	2.8	21.51	4.75	0.253	0.78	106.4	1.82	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump, Soledad

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW 3I</u>	<u>VOA</u>	<u>3</u>	<u>HCL</u>	<u>VOA</u>	<u>1625</u>

Comments _____

Signature [Signature] Date 6/15/17



Well ID: MW-3D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/21/17 Time: Start 0923 am/pm
 Project No: 60934283 Finish 1015 am/pm
 Site Location: Newberry SC
 Weather Conds: cloudy 70° Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 105.00 c. Length of Water Column 90.15 (a-b) Casing Diameter/Material
58.85 4" PVC
 b. Water Table Depth 14.85 d. Calculated System Volume (see back) 353.07

2. WELL PURGE DATA

a. Purge Method: Grnd by Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YSI</u>	<u>556</u>	<u>08L101000</u>
	<u>HE scientific</u>	<u>MicroTPro</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>0927</u>	<u>Initial</u>	<u>19.33</u>	<u>7.29</u>	<u>0.255</u>	<u>2.36</u>	<u>231.4</u>	<u>1.70</u>		<u>14.66</u>	<u>NA</u>
<u>0932</u>		<u>19.38</u>	<u>6.78</u>	<u>0.275</u>	<u>2.19</u>	<u>222.7</u>	<u>225.8</u>		<u>15.57</u>	
<u>0937</u>		<u>19.64</u>	<u>7.05</u>	<u>0.277</u>	<u>2.03</u>	<u>192.8</u>	<u>364.9</u>		<u>15.90</u>	
<u>0942</u>		<u>19.94</u>	<u>7.24</u>	<u>0.277</u>	<u>2.00</u>	<u>170.4</u>	<u>465.1</u>		<u>16.21</u>	
<u>0947</u>		<u>19.74</u>	<u>7.32</u>	<u>0.277</u>	<u>1.99</u>	<u>156.3</u>	<u>194.9</u>		<u>16.69</u>	
<u>0952</u>		<u>19.66</u>	<u>7.06</u>	<u>0.277</u>	<u>2.04</u>	<u>141.1</u>	<u>114.7</u>		<u>17.19</u>	
<u>0957</u>		<u>19.67</u>	<u>7.38</u>	<u>0.277</u>	<u>2.04</u>	<u>133.4</u>	<u>98.42</u>		<u>17.42</u>	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Grndfos Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-3D</u>	<u>40 mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1000</u>

Comments _____

Signature Justin Butler Date 6/21/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/12/17 Time: Start 1607 am/pm
 Project No: 60534283 Finish 1655 am/pm
 Site Location: Newberry SC
 Weather Conds: Partly Cloudy 80B Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.18 c. Length of Water Column 6.89 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 18.29 d. Calculated System Volume (see back) 1.12

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H1116A6</u>
<u>HEscientific</u>	<u>MicroTPW</u>	<u>201102384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1611	Initial	21.98	4.92	0.133	7.21	127.5	12.38	252	18.53	NA
1616	1.26	21.27	4.92	0.139	3.11	115.1	15.60		18.64	
1621	2.52	21.03	4.90	0.137	2.18	112.7	11.27		18.72	
1626	3.78	20.96	4.85	0.126	1.74	117.3	12.03		18.77	
1631	5.04	20.83	4.82	0.123	1.48	119.3	9.61		18.80	
1636	6.30	20.92	4.78	0.116	1.27	124.3	11.04		18.81	
1641	7.56	20.91	4.79	0.111	1.34	128.3	7.28	↓	18.82	↓

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed Yes No N/A
- Has required turbidity been reached Yes No N/A
- Have parameters stabilized Yes No N/A

If no or N/A - Explain below.

1

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-4</u>	<u>90ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1645</u>

Comments _____

Signature Justin Butler Date 6/12/17



Well ID: MW-5

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/12/17 Time: Start 1444 am/pm
 Project No: 60534283 Finish 1530 am/pm
 Site Location: Newberry GC
 Weather Conds: cloudy 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.57 c. Length of Water Column 8.68 (a-b) Casing Diameter/Material 2", PVC
 b. Water Table Depth 16.89 d. Calculated System Volume (see back) 1.41

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H1116AG</u>
<u>HFS venturgr.</u>	<u>Micro TPW</u>	<u>200103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1448	Initial	20.46	4.58	0.070	7.41	474.3	34.58	25.2	17.15	NA
1453	1.26	20.01	4.56	0.070	5.50	450.5	27.08		17.25	
1458	2.52	19.98	4.55	0.070	4.60	425.1	16.83		17.30	
1503	3.78	19.92	4.55	0.070	4.26	404.4	11.80		17.31	
1508	5.04	20.02	4.56	0.070	4.20	388.4	8.33		17.31	
1513	6.30	19.91	4.54	0.070	4.22	376.7	13.76		17.31	
1518	7.56	19.85	4.53	0.071	4.30	368.8	6.18	↓	17.31	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-5</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1520</u>

Comments _____

Signature Date 6/12/17

Low Flow Ground Water Sample Collection Record

Client: Philips Date: 6/21/17 Time: Start 1108 am/pm
 Project No: 60531423 Finish 1710 am/pm
 Site Location: Dunbar SC
 Weather Conds: _____ Collector(s): E. Harrington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 55.5 c. Length of Water Column _____ (a-b) Casing Diameter/Material _____
 b. Water Table Depth 4.95 ^{Pressure} d. Calculated System Volume (see back) _____ 2in / PVC

2. WELL PURGE DATA

a. Purge Method: low-flow

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>06R1082 AH</u>
<u>HF Scientific</u>		<u>20150351</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1121	0	20.71	7.44	0.812	5.28	147.7	57.52	150	18.1	clear
1124	0.70	20.69	6.51	0.824	3.44	129.1	53.34	150	18.45	clear
1121	1.40	20.48	6.56	0.830	3.16	164.2	47.29	150	0	clear
1131	2.8	20.02	6.53	0.842	2.98	143.8	46.04	150	0	clear
1141	4.2	20.33	6.58	0.795	3.24	126.0	34.41	150	0	clear
1151	5.4	20.50	6.46	0.789	3.12	120.4	13.87	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump / Side stream

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MWST</u>	<u>VOA</u>	<u>3</u>	<u>HC2</u>	<u>VOC</u>	<u>1200</u>

Comments _____

Signature: [Signature] Date: 6/21/17

Well ID: MW-6

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/19/17 Time: Start 1114 am/pm
 Project No: 60534273 Finish 1225 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.33 c. Length of Water Column 6.06 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 19.27 d. Calculated System Volume (see back) 0.99

2. WELL PURGE DATAa. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YSE</u>	<u>556</u>	<u>08141050</u>
	<u>HPSCAL/MPA/MPF/PV</u>	<u>MicroTPW</u>	<u>200701141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1118	Initial	22.66	4.65	0.106	6.44	116.5	27.32	220	19.44	N/A
1123	1.10	21.10	3.49	0.106	1.16	187.9	15.64		19.47	
1129	2.20	21.38	3.60	0.111	0.92	190.2	6.95		19.51	
1133	3.30	21.20	3.72	0.114	0.73	186.0	4.51		19.58	
1138	4.40	21.19	4.05	0.114	0.62	178.5	2.78		19.52	
1143	5.50	21.21	4.07	0.113	0.51	176.9	2.54		19.52	
1148	6.60	21.27	4.10	0.114	0.48	180.5	2.82		19.58	

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed Yes No N/A
- Has required turbidity been reached Yes No N/A
- Have parameters stabilized Yes No N/A

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-6	40ml Glass	3	HCL	TEL VOC	1150
MW-6-a	40ml Glass	3	HCL	TGL VOC	1150
MW-6	250ml Poly	1	ZNACETATE + NaOH	Sulfide	1150
MW-6	250ml Poly	1	HNO ₃	Metals Fe, Mn	1150
MW-6 Comments	250ml Poly	1	None	Diss Metals	1150
MW-6	500 ml Poly	1	None	GI/204, Alka	1150
MW-6	40ml Glass	2	HCL	Ferrous Iron	1150
MW-6	40ml Glass	2	Benzalkonium Chloride	Co ₂ , Methyl Ethane, Ethane	1150
MW-6	1L Poly	1	None	PCK	1150

Signature: Justin Butler Date: 6/19/17



Well ID: MW-6D

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/19/17 Time: Start 1312 am/pm
 Project No: 60534283 Finish 1420 am/pm
 Site Location: Newberry SC
 Weather Conds: clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 105.0 c. Length of Water Column 87.75 (a-b) Casing Diameter/Material
 b. Water Table Depth 17.25 d. Calculated System Volume (see back) 57.28 4" PVC
~~14.30~~

2. WELL PURGE DATA

a. Purge Method: Grundfos Peristaltic Pump
 b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH + 1.0 unit - ORP + 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YSE</u>	<u>556</u>	<u>08L101000</u>
	<u>HFSucientGR</u>	<u>MicroTPW</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1316	Initial	21.20	7.94	0.170	4.57	71.8	8.21	325 328	17.10	NA
1321	1.89	20.88	7.80	0.171	4.05	167.7	7.31		18.48	
1326	3.78	21.73	8.22	0.170	3.95	159.8	7.48		18.82	
1331	5.67	21.14	8.38	0.170	4.03	176.7	7.37		19.48	
1336	7.56	21.83	8.49	0.170	4.05	186.2	3.70		19.83	
1341	9.45	21.54	8.53	0.170	4.09	196.1	2.75		20.42	
1346	11.34	21.43	8.52	0.170	3.99	205.1	6.65	↓	21.11	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Grundfos Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-6D	40mL Glass	3	HCL	TCL VOC	1350
MW-6D	250mL Poly	1	Zn Acetate + NaOH	in/Gde	1350
MW-6D	250mL Poly	1	HNO3	metals, Fe, Mn	1350
MW-6D	250mL Poly	1	None	Dis. Metals	1350
MW-6D	500 mL Poly	1	None	CI/SO4, Alka	1350
MW-6D	40mL Glass	2	HCL	Ferrous Iron	1350
MW-6D	40mL Glass	2	Benzalkonium chloride	CO2, methy, Ethene, Ethene	1350
MW-6D	1L Poly	1	None	PER	1350

Signature: [Signature] Date: 6/19/17

Low Flow Ground Water Sample Collection Record

Client: Phillips Date: 06/15/17 Time: Start 1130 am/pm
 Project No: 60534823 Finish 1250 am/pm
 Site Location: Newberry, SC
 Weather Conds: Sunny Collector(s): E. Harrington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 50.05 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in PVC
 b. Water Table Depth 16.49 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low - Flow

- b. Acceptance Criteria defined (see workplan)
- Temperature 3% -D.O. 10%
 - pH +1.0 unit - ORP ± 10mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>06R10824H</u>
<u>HF</u>	<u>Scientific</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1133	0	24.94	6.78	0.210	4.37	24.7	127.5	150	19.58	brown
1138	0.4	24.92	5.49	0.212	4.87	155.7	118.6	150	0	brown / clear
1143	1.4	24.66	3.90	0.214	2.04	132.4	92.64	150	0	clear
1148	2.1	24.60	4.15	0.262	2.33	121.7	78.54	150	0	clear
1153	2.8	24.51	4.01	0.199	2.25	87.6	59.53	150	0	clear
1203	4.2	24.59	5.21	0.187	2.90	64.1	50.42	150	0	clear
1213	4.9	24.53	5.42	0.197	1.82	57.9	31.69	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump, Soak Stone

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW 67</u>	<u>600A</u>	<u>3</u>	<u>HCl</u>	<u>TU, VOCs</u>	<u>1235</u>

Comments 1223 / 5.6 / 21.59 / 5.43 / 0.187 / 2.72 / 61.6 / 3.24 / 150 / 0 / clear

Signature [Signature] Date 6/15/17



Well ID: MW-7

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/12/17 Time: Start 1355 am/pm
 Project No: 60534283 Finish 1940 am/pm
 Site Location: Newberry SC
 Weather Conds: cloudy 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.30 c. Length of Water Column 9.48 (a-b) Casing Diameter/Material PVC, 2"
 b. Water Table Depth 15.82 d. Calculated System Volume (see back) 1.55

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>SS6</u>	<u>051111646</u>
<u>HEScientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1359	Initial	19.67	4.03	0.081	5.19	549.1	38.97	252	16.11	NA
1404	1.26	19.19	3.99	0.081	3.37	549.5	33.46		16.23	
1409	2.52	19.08	3.97	0.076	3.27	552.3	27.91		16.26	
1414	3.78	19.01	3.99	0.078	2.99	553.9	20.49		16.28	
1419	5.04	19.05	3.98	0.081	2.77	551.1	18.21		16.29	
1424	6.30	19.04	3.98	0.083	2.71	552.0	15.30		16.30	
1429	7.56	19.07	3.97	0.084	2.67	554.1	13.11	↓	16.30	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-7</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1930</u>

Comments _____

Signature [Signature] Date 6/12/17

Low Flow Ground Water Sample Collection Record

Client: Phillips Date: 6/17/17 Time: Start 1456 am/pm
 Project No: 60592823 Finish 1615 am/pm
 Site Location: Dunbar, SC
 Weather Conds: Sunny Collector(s): E. HARRINGTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 45.26 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in / PVC
 b. Water Table Depth 15.04 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: LOW-FLOW

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>06R1082AH</u>
<u>HE SCIENTIFIC</u>		<u>201503454</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1459	0	21.21	5.26	0.062	6.85	184.3	82.78	150	16.69	clear
1504	0.20	21.68	2.47	0.069	1.35	319.2	82.34	150	16.71	clear
1509	1.40	21.40	3.02	0.067	1.02	272.2	85.64	150	0	clear
1514	2.1	21.33	3.32	0.067	1.10	253.2	70.60	150	0	clear
1519	2.4	21.37	3.51	0.068	1.04	217.0	64.71	150	0	clear
1529	4.2	20.81	3.82	0.067	1.10	200.1	46.35	150	0	clear
1539	5.4	21.04	4.40	0.068	1.27	175.1	36.81	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP / SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>mw 7E</u>	<u>clear glass</u>	<u>3</u>	<u>HCL</u>	<u>VOC</u>	<u>1600</u>
	<u>plastic</u>	<u>1</u>	<u>HNO3</u>	<u>MEALS</u>	
	<u>plastic</u>	<u>1</u>	<u>None</u>	<u>DRUG METALS</u>	
	<u>plastic</u>	<u>1</u>	<u>None</u>	<u>Cl / SO4, AIKE</u>	

Comments: 1549 / 6.8 / 20.92 / 4.57 / 0.068 / 1.20 / 175.1 / 25.09 / 150 / 0 / clear

<u>plastic</u>	<u>2</u>	<u>Zn Analyte + NO3H</u>	<u>Silica</u>
<u>Amber</u>	<u>2</u>	<u>HCL</u>	<u>Formaldehyde</u>
<u>Plastic</u>	<u>1</u>	<u>None</u>	<u>PCR</u>

Signature: [Signature] Date: 06/17/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Commission Structures Date: 6/22/17 Time: Start 0917 am/pm
 Project No: 60534253 Finish _____ am/pm
 Site Location: Newberry St
 Weather Conds: Prizele 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 94.82 c. Length of Water Column 78.61 (a-b) Casing Diameter/Material 4" PVC
 b. Water Table Depth 16.21 d. Calculated System Volume (see back) 51.10

2. WELL PURGE DATA

a. Purge Method: Grundfos Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>08L101000</u>
<u>HE scientific</u>	<u>MicroTPW</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>0921</u>	<u>Initial</u>	<u>19.15</u>	<u>8.67</u>	<u>0.147</u>	<u>4.39</u>	<u>191.3</u>	<u>53.45</u>	<u>378</u>	<u>16.36</u>	<u>NA</u>
<u>0926</u>	<u>1.89</u>	<u>19.11</u>	<u>8.23</u>	<u>0.144</u>	<u>2.90</u>	<u>209.6</u>	<u>58.47</u>	↓	<u>16.86</u>	↓
<u>0931</u>	<u>3.78</u>	<u>19.20</u>	<u>8.74</u>	<u>0.145</u>	<u>2.58</u>	<u>153.5</u>	<u>48.08</u>	↓	<u>17.60</u>	↓
<u>0936</u>	<u>5.67</u>	<u>19.26</u>	<u>8.98</u>	<u>0.144</u>	<u>2.51</u>	<u>124.9</u>	<u>45.31</u>	↓	<u>18.42</u>	↓
<u>0941</u>	<u>7.56</u>	<u>19.31</u>	<u>9.04</u>	<u>0.144</u>	<u>2.66</u>	<u>120.9</u>	<u>44.30</u>	↓	<u>19.04</u>	↓
<u>0946</u>	<u>9.45</u>	<u>19.33</u>	<u>9.16</u>	<u>0.143</u>	<u>2.83</u>	<u>107.4</u>	<u>41.06</u>	↓	<u>19.77</u>	↓
<u>0951</u>	<u>11.34</u>	<u>19.30</u>	<u>9.17</u>	<u>0.143</u>	<u>2.95</u>	<u>101.6</u>	<u>36.86</u>	↓	<u>20.60</u>	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

f no or N/A - Explain below.

<u>0956</u>	<u>13.23</u>	<u>19.37</u>	<u>9.17</u>	<u>0.142</u>	<u>3.00</u>	<u>103.2</u>	<u>31.95</u>	<u>378</u>	<u>21.17</u>	<u>NA</u>
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3. SAMPLE COLLECTION: Method: Grundfos Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-7D</u>	<u>40mL glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1000</u>

Comments _____

Signature Justin Butler Date 6/22/17

Low Flow Ground Water Sample Collection Record

Client: PHILIPS Date: 6/14/17 Time: Start 1925 am/pm
 Project No: 60584823 Finish 1915 am/pm
 Site Location: NEUBERRY 15L
 Weather Conds: Sunny 80s-90s Collector(s): E HARRINGTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 20 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in
 b. Water Table Depth 17.49 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low-Flow

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>VSI</u>	<u>556</u>	<u>06121082AH</u>
<u>HE Schmitt</u>		<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1328	0	21.83	3.58	0.050	3.35	276.9	32.74	150	18.14	clear
1333	0.2	22.0	1.51	0.048	1.05	430.8	26.40	150	18.25	clear
1338	1.4	22.14	1.88	0.047	0.87	419.9	35.14	150	0	clear
1343	2.1	22.00	2.44	0.047	0.584	401.5	45.78	150	0	clear
1348	2.8	21.81	2.47	0.047	0.61	405.9	29.37	150	0	clear
1353	3.5	22.01	2.02	0.047	0.57	377.2	17.10	150	0	clear
1358	4.2	22.08	3.50	0.047	0.54	353.9	11.02	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: PERISTALTIC PUMP - SODA STRAW

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-8</u>	<u>clear glass</u>	<u>3</u>	<u>HCL</u>	<u>LOG</u>	<u>1405</u>
	<u>clear glass</u>	<u>2</u>	<u>HCL</u>	<u>Top Blank</u>	
	<u>Plastic</u>	<u>1</u>	<u>HNO3</u>	<u>METALS</u>	
	<u>Plastic</u>	<u>1</u>	<u>None</u>	<u>Diss METALS</u>	
Comments	<u>Plastic</u>	<u>1</u>	<u>None</u>	<u>Cl / SO4, ALK</u>	
	<u>Plastic</u>	<u>2</u>	<u>Zn Acetate + WA OTH</u>	<u>Sulfide</u>	
	<u>Amber</u>	<u>2</u>	<u>HCL</u>	<u>Formic Ion</u>	
	<u>Plastic</u>	<u>1</u>	<u>None</u>	<u>PCR</u>	

Signature: [Signature] Date: 6/14/17



Well ID: MW-9

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/12/17 Time: Start 1130 am/pm
 Project No: 60534283 Finish 1215 am/pm
 Site Location: Newberry
 Weather Conds: Clear, 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.59 c. Length of Water Column 7.52 (a-b) Casing Diameter/Material
2", PV6
 b. Water Table Depth 18.07 d. Calculated System Volume (see back) 1.23

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>506</u>	<u>05H1116 A6</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1133	Initial	20.84	4.78	0.060	9.49	350.8	34.92	220	18.35	NA
1138	1.10	20.63	4.45	0.054	5.84	371.2	19.48		18.42	
1143	2.20	20.57	4.31	0.051	4.12	396.8	15.84		18.45	
1148	3.30	20.51	4.25	0.051	3.37	401.2	8.10		18.51	
1153	4.40	20.40	4.23	0.050	2.69	420.7	8.97		18.56	
1158	5.50	20.22	4.16	0.050	2.65	425.3	5.54		18.60	
1203	6.60	20.28	4.24	0.050	2.59	429.2	4.96	\downarrow	18.65	\downarrow

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-9</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TEC VOC</u>	<u>1205</u>

Comments _____

Signature [Signature] Date 6/12/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare composition structures Date: 6/20/17 Time: Start 1116 am/pm
 Project No: 60934283 Finish 1225 am/pm
 Site Location: Newberry, SC
 Weather Conds: cloudy 80's Collector(s): Justin Butter

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 42.48 c. Length of Water Column 26.29 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 16.19 d. Calculated System Volume (see back) 4.29

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08L101000</u>
<u>HFScientific</u>	<u>Micro TPV</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1120	Initial	19.97	6.90	0.383	1.61	71.6	109A	220	18.08	NA
1125	1.10	20.11	6.78	0.247	1.79	95.9	420.3		18.98	
1130	2.20	19.96	6.49	0.184	1.92	126.0	281.5		19.48	
1135	3.30	19.95	6.29	0.178	1.89	136.0	103.6		20.00	
1140	4.40	20.00	6.31	0.191	2.77	145.7	92.67		20.28	
1145	5.50	19.83	6.31	0.196	2.83	152.3	85.18		20.54	
1150	6.60	19.80	6.30	0.195	2.87	161.1	93.06	↓	20.71	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

If no or N/A - Explain below.

1155	7.70	19.79	6.29	0.193	2.84	169.4	87.21	220	20.84	NA
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3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-9E	40ml Glass	3	HCL	TCL VOC	1200
MW-9E-a	40ml Glass	3	HCL	TCL VOC	1200
MW-9E	250 ml Poly	1	ZnAcetate + NaOH	metals Fe, Mn, Sulphide	1200
MW-9E	250 ml Poly	1	HNO ₃	metals Fe, Mn	1200
MW-9E	250 ml Poly	1	None	Diss metals	1200
MW-9E	500 ml Poly	1	None	Cl/Soil Atka	1200
MW-9E	40ml Glass	2	HCL	Ferrous Iron	1200
MW-9E	40 ml Glass	2	Benzalkonium chloride	Cor, meth, Ethene, Ethane	1200
MW-9E	1 L Poly	1	None	PCR	1200

Signature: [Signature] Date: 6/20/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/21/17 Time: Start 1425 am/pm
 Project No: 60534283 Finish 1520 am/pm
 Site Location: Newberry, SC
 Weather Conds: partly cloudy 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 154.04 c. Length of Water Column 137.84 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 16.20 d. Calculated System Volume (see back) 22.47

2. WELL PURGE DATA

a. Purge Method: Grundfos Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSL</u>	<u>556</u>	<u>08L101000</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>2007051141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1429</u>	<u>Initial</u>	<u>20.72</u>	<u>9.94</u>	<u>0.169</u>	<u>3.18</u>	<u>52.8</u>	<u>15.73</u>	<u>298</u>	<u>14.68</u>	<u>NA</u>
<u>1434</u>	<u>1.49</u>	<u>20.86</u>	<u>9.71</u>	<u>0.166</u>	<u>1.98</u>	<u>71.4</u>	<u>14.76</u>		<u>16.11</u>	
<u>1439</u>	<u>2.98</u>	<u>20.16</u>	<u>9.29</u>	<u>0.149</u>	<u>1.79</u>	<u>93.2</u>	<u>313.8</u>		<u>18.03</u>	
<u>1444</u>	<u>4.47</u>	<u>20.48</u>	<u>9.11</u>	<u>0.143</u>	<u>1.64</u>	<u>96.7</u>	<u>671.3</u>		<u>17.88</u>	
<u>1449</u>	<u>5.96</u>	<u>20.41</u>	<u>9.13</u>	<u>0.143</u>	<u>1.48</u>	<u>99.7</u>	<u>394.4</u>		<u>19.70</u>	
<u>1454</u>	<u>7.45</u>	<u>20.39</u>	<u>9.17</u>	<u>0.145</u>	<u>1.46</u>	<u>101.3</u>	<u>886.1</u>		<u>20.41</u>	
<u>1459</u>	<u>8.94</u>	<u>20.23</u>	<u>9.20</u>	<u>0.152</u>	<u>1.38</u>	<u>105.0</u>	<u>391.2</u>	<u>↓</u>	<u>21.05</u>	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

If no or N/A - Explain below.

<u>1504</u>	<u>10.43</u>	<u>20.17</u>	<u>9.22</u>	<u>0.154</u>	<u>1.40</u>	<u>108.0</u>	<u>614.6</u>	<u>298</u>	<u>21.92</u>	<u>NA</u>
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3. SAMPLE COLLECTION: Method: Grundfos Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-9D</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>JCL VOC</u>	<u>1505</u>

Comments _____

Signature: Justin Butler Date: 6/21/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/19/17 Time: Start 1436 am/pm
 Project No: 60939283 Finish 1540 am/pm
 Site Location: Norwberry, SC
 Weather Conds: Clear 90's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 29.64 c. Length of Water Column 17.73 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 11.91 d. Calculated System Volume (see back) 2.89

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>08101000</u>
<u>HFScreen/Azetop</u>	<u>MicroTPW</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1440	Initial	20.58	5.62	0.244	2.96	280.9	20.04	220	13.36	NA
1445	1.10	19.74	4.85	0.244	2.69	313.7	17.65		13.96	
1456	2.20	19.40	4.81	0.244	2.73	317.2	18.12		14.35	
1455	3.30	19.59	4.99	0.244	2.71	311.0	19.46		14.39	
1500	4.40	19.76	4.99	0.244	2.75	315.3	10.01		14.45	
1505	5.50	19.86	5.00	0.243	2.72	318.6	7.38		14.51	
1510	6.60	19.82	4.99	0.245	2.72	321.6	6.93	↓	14.55	↓

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed Yes No N/A
- Has required turbidity been reached Yes No N/A
- Have parameters stabilized Yes No N/A

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-10	40mL Glass	3	HCL	ICL VOC	1515
MW-10	250mL Poly	1	Zn Acetate + NaOH	Sulfide	1515
MW-10	250mL Poly	1	HNO3	metals, Fe, Mn	1515
MW-10	250mL Poly	1	None	Diss metals	1515
MW-10	500mL Poly	1	None	CI, SO4 Alka	1515
MW-10	40mL Glass	2	HCL	Ferrous Iron	1515
MW-10	40mL Glass	2	Benzalkonium chloride	CO2, meth, Ethene, Ethane	1515
MW-10	1L Poly	1	None	PCR	1515

Signature: Justin Butler Date: 6/19/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/20/17 Time: Start 0958 am/pm
 Project No: 60934283 Finish 1050 am/pm
 Site Location: Newberry SC
 Weather Conds: Rain 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 40.98 c. Length of Water Column 29.92 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 11.06 d. Calculated System Volume (see back) 4.88

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSL</u>	<u>556</u>	<u>08101006</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0952	Initial	19.21	5.69	0.104	4.03	230.9	49.80	220	11.41	NA
0957	1.10	18.98	4.64	0.090	3.71	251.0	25.55		11.46	
1002	2.20	18.81	4.81	0.087	3.63	232.7	32.68		11.46	
1007	3.30	18.77	4.89	0.086	3.64	229.7	24.71		11.51	
1012	4.40	18.82	4.93	0.086	3.73	229.5	18.26		11.55	
1017	5.50	18.76	4.89	0.085	3.69	235.1	11.21		11.57	
1022	6.60	18.70	4.87	0.085	3.64	228.3	9.28		11.59	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
MW-10I	40 mL Glass	3	HCL	TCL VOC	1025
MW-10I	250 mL Glass Poly	1	Zn Acetate + NaOH	Sulfide	1025
MW-10I	250 mL Poly	1	HNO ₃	Metals Fe, Mn	1025
MW-10I	250 mL Poly	1	None	Diss Metals	1025
MW-10I	200 mL Poly	1	None	C+SO ₄ Alka	1025
MW-10I	40 mL Glass	2	HCL	Ferrous Iron	1025
MW-10I	40 mL Glass	2	Benzalkonium Chloride	CO ₂ , Meth, Ethene, Ethane	1025
MW-10I	1L Poly	1	None	PCR	1025

Signature: Justin Butler Date: 6/20/17



Well ID: MW-11

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/15/17 Time: Start 1249 am/pm
 Project No: 60534283 Finish 1335 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear 90's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 2768 c. Length of Water Column 16.82 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 12.86 d. Calculated System Volume (see back) 2.74

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YSI</u>	<u>556</u>	<u>05H1116A6</u>
	<u>Hydramatic</u>	<u>MicroPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1253	Initial	21.14	5.05	0.084	6.47	139.5	169.2	220	14.12	NA
1258	1.10	19.79	4.91	0.085	1.07	142.3	79.25		15.25	
1303	2.20	19.63	4.83	0.084	1.93	143.1	48.35		16.43	
1308	3.30	19.78	4.87	0.084	1.42	141.1	46.23		17.26	
1313	4.40	19.92	4.86	0.084	0.85	124.7	24.53		17.97	
1318	5.50	20.23	4.87	0.084	0.86	118.2	23.18		18.48	
1323	6.60	20.16	4.89	0.084	0.81	111.3	20.95		18.95	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-11</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1325</u>

Comments _____

Signature [Signature] Date 6/15/17



Well ID: MW-12

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/16/17 Time: Start 1426 am/pm
 Project No: 60534283 Finish 1515 am/pm
 Site Location: Newberry SC
 Weather Conds: partly cloudy 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 30.88 c. Length of Water Column 24.83 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 6.05 d. Calculated System Volume (see back) 4.05

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP + 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YST</u>	<u>556</u>	<u>020101006</u>
	<u>HIEScientific</u>	<u>MicroPur</u>	<u>200704191</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1430	Initial	19.87	5.10	0.076	3.03	228.9	73.14	252	6.57	N/A
1435	1.26	19.05	4.91	0.076	2.47	253.2	17.93		7.51	
1440	2.52	18.78	4.78	0.076	2.33	269.7	22.65		7.67	
1445	3.78	18.84	4.84	0.076	2.28	270.8	20.94		7.99	
1450	5.04	18.79	4.88	0.076	2.25	276.4	17.12		8.15	
1455	6.30	18.64	4.87	0.076	2.21	273.3	12.95		8.31	
1500	7.56	18.62	4.90	0.076	2.27	270.7	13.90	✓	8.50	✓

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-12</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>JLL VOL</u>	<u>1505</u>

Comments _____

Signature Date 6/16/17



Well ID: MW-12F

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/22/17 Time: Start 1245 am/pm
 Project No: 60534283 Finish 1325 am/pm
 Site Location: Newberry, SC
 Weather Conds: cloudy 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 46.18 c. Length of Water Column 42.02 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 4.16 d. Calculated System Volume (see back) 6.85

2. WELL PURGE DATA

a. Purge Method: Grundfos pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YSI</u>	<u>SSC</u>	<u>084101000</u>
	<u>HF Scientific</u>	<u>MicroTPV</u>	<u>200704144</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1247</u>	<u>Initial</u>	<u>17.85</u>	<u>5.17</u>	<u>0.107</u>	<u>1.95</u>	<u>126.2</u>	<u>27.41</u>	<u>474</u>	<u>4.51</u>	<u>NA</u>
<u>1252</u>	<u>2.37</u>	<u>17.91</u>	<u>5.17</u>	<u>0.106</u>	<u>1.81</u>	<u>100.4</u>	<u>6.68</u>	↓	<u>4.63</u>	↓
<u>1257</u>	<u>4.74</u>	<u>17.91</u>	<u>5.17</u>	<u>0.108</u>	<u>1.79</u>	<u>85.2</u>	<u>4.08</u>	↓	<u>4.63</u>	↓
<u>1302</u>	<u>7.11</u>	<u>17.93</u>	<u>5.18</u>	<u>0.107</u>	<u>1.81</u>	<u>86.4</u>	<u>3.00</u>	↓	<u>4.63</u>	↓
<u>1307</u>	<u>9.48</u>	<u>17.96</u>	<u>5.19</u>	<u>0.106</u>	<u>1.84</u>	<u>89.9</u>	<u>2.99</u>	↓	<u>4.63</u>	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Grundfos Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-12F</u>	<u>40 ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1310</u>

Comments _____

Signature Justin Butler Date 6/22/17



Well ID: MW-13

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition structure Date: 6/16/17 Time: Start 1328 am/pm
 Project No: 66534283 Finish _____ am/pm
 Site Location: Newberry SC
 Weather Conds: Partly cloudy 80s Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.72 c. Length of Water Column 21.45 (a-b) Casing Diameter/Material
1" PVC
 b. Water Table Depth 3.27 d. Calculated System Volume (see back) 3.50

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:	Make	Model	Serial Number
	<u>YSC</u>	<u>556</u>	<u>08101000</u>
	<u>HFScientific</u>	<u>MicroTPW</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1332	Initial	19.78	5.44	0.084	1.87	182.4	63.80	252	3.71	NA
1337	1.26	19.70	5.13	0.083	1.51	211.1	31.19		3.75	
1342	2.52	19.18	5.10	0.083	1.50	226.6	23.23		3.77	
1347	3.78	19.24	5.15	0.083	1.40	232.6	19.90		3.79	
1352	5.04	18.96	5.14	0.083	1.36	238.5	16.80		3.80	
1357	6.30	18.85	5.13	0.083	1.30	242.1	11.52		3.81	
1402	7.56	18.95	5.16	0.083	1.27	239.6	9.97	↓	3.82	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-13</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1405</u>

Comments _____

Signature [Signature] Date 6/16/17



Well ID: MW-14

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/16/17 Time: Start 1040 am/pm
 Project No: 60534283 Finish 1725 am/pm
 Site Location: Newberry SC
 Weather Conds: Fair 86's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 19.55 c. Length of Water Column 16.92 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 2.63 d. Calculated System Volume (see back) 2.75

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>08L101000</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>2007041141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1044	Initial	20.93	5.21	0.068	2.64	255.7	81.63	2.52	3.13	N/A
1049	1.26	19.66	5.02	0.068	1.92	244.6	43.34		3.23	
1054	2.52	19.69	4.46	0.067	1.67	295.8	20.40		3.26	
1059	3.78	19.68	4.67	0.066	1.46	282.2	3.43		3.28	
1104	5.04	19.89	4.80	0.066	1.43	277.4	2.87		3.29	
1109	6.30	19.87	4.81	0.066	1.41	277.9	3.11		3.29	
1114	7.56	19.89	4.80	0.066	1.41	279.7	3.35		3.29	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-14</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCLVOC</u>	<u>1115</u>

Comments _____

Signature [Signature] Date 6/16/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/16/17 Time: Start 0931 am/pm
 Project No: 60534223 Finish 1025 am/pm
 Site Location: Newberry SC
 Weather Conds: clear 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 11.30 c. Length of Water Column 8.17 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 3.13 d. Calculated System Volume (see back) 1.33

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>08L101000</u>
<u>HFScientific</u>	<u>MICROTPW</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0935	Initial	18.69	3.74	0.086	1.02	331.9	167.0	252	4.29	NA
0940	1.26	18.78	3.87	0.086	0.85	320.9	164.8		4.56	
0945	2.52	18.93	4.22	0.085	0.94	302.9	152.7		4.81	
0950	3.78	19.20	4.44	0.084	0.91	287.8	166.1		5.06	
0955	5.04	19.40	4.69	0.084	0.88	272.2	157.6		5.16	
1000	6.30	19.45	4.78	0.083	0.91	263.8	171.5		5.19	
1005	7.56	19.53	4.83	0.083	0.93	258.7	135.6	↓	5.21	

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

If no or N/A - Explain below.

1010	8.82	19.46	4.81	0.083	0.93	253.9	138.8	252	5.24	NA
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3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-15</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1015</u>

Comments _____

Signature Justin Butler Date 6/16/17



Well ID: MW-16

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/15/17 Time: Start 1047 am/pm
 Project No: 60534283 Finish _____ am/pm
 Site Location: Newberry SC
 Weather Conds: Clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 19.70 c. Length of Water Column 11.8 (a-b) Casing Diameter/Material 2"/PVC
 b. Water Table Depth 7.90 d. Calculated System Volume (see back) 1.92

2. WELL PURGE DATA

a. Purge Method: peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>D5H1116AG</u>
<u>HScientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1051	Initial	18.38	4.66	0.340	4.70	217.9	388.1	2.52	8.32	NA
1056	1.26	18.61	4.71	0.342	4.62	204.4	249.0		8.36	
1101	2.52	18.66	4.72	0.343	4.53	199.8	143.4		8.40	
1106	3.78	18.68	4.71	0.344	4.49	196.9	92.58		8.45	
1111	5.04	18.69	4.70	0.344	4.36	195.3	70.54		8.48	
1116	6.30	18.59	4.68	0.345	4.37	196.8	66.82		8.50	
1121	7.56	18.55	4.66	0.345	4.31	194.3	31.852		8.53	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: peristaltic pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-16</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1125</u>

Comments _____

Signature Justin Butler Date 6/15/17



Well ID: MW-17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structure Date: 6/15/17 Time: Start 0945 am/pm
 Project No: 60534283 Finish 1630 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 29.68 c. Length of Water Column 23.27 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 6.91 d. Calculated System Volume (see back) 3.79

2. WELL PURGE DATA

a. Purge Method: peristaltic Pump
 b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H1116AG</u>
<u>HEScientific</u>	<u>MicroTPW</u>	<u>101103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0949	Initial	18.82	4.70	0.095	2.48	221.3	71100	252	6.81	NA
0954	1.26	18.96	4.56	0.093	2.13	220.4	623.4		6.81	
0959	2.52	18.72	4.41	0.091	2.49	218.6	276.9		6.82	
1004	3.78	18.70	4.24	0.091	2.37	220.8	225.0		6.82	
1009	5.04	18.71	4.08	0.090	2.47	223.1	80.19		6.82	
1014	6.30	18.73	4.00	0.090	2.51	219.2	53.39		6.82	
1019	7.56	18.75	4.07	0.090	2.56	215.3	39.89	↓	6.82	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-17</u>	<u>90ml glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1020</u>

Comments _____

Signature Date 6/15/17



Well ID: MW-18

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/20/17 Time: Start 1413 am/pm
 Project No: 60534283 Finish 1500 am/pm
 Site Location: Newberry SC
 Weather Conds: cloudy 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 21.09 c. Length of Water Column 13.64 (a-b) Casing Diameter/Material 8" PVC
 b. Water Table Depth 7.45 d. Calculated System Volume (see back) 2.22

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>084101000</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>2007041141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1417	Initial	18.45	5.58	0.064	4.65	264.9	6.92	220	8.61	N/A
1422	1.10	18.18	4.64	0.062	4.39	301.3	2.09		8.61	
1427	2.20	18.00	4.47	0.062	4.36	296.2	1.79		8.63	
1432	3.30	17.86	4.73	0.062	4.44	280.6	1.25		8.64	
1437	4.40	17.76	4.78	0.062	4.38	272.3	1.43		8.65	
1442	5.50	17.75	4.83	0.062	4.45	276.3	1.61		8.65	
1447	6.60	17.72	4.84	0.062	4.40	274.9	1.53	↓	8.65	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-18</u>	<u>40 mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1450</u>
<u>MW-18-M5</u>	<u>40 mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1450</u>
<u>MW-18-M5D</u>	<u>40 mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1450</u>

Comments _____

Signature Date 6/20/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare composition structures Date: 6/19/17 Time: Start 1548 am/pm
 Project No: 60534283 Finish 1650 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear 90F Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 85.50 c. Length of Water Column 76.89 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 8.61 d. Calculated System Volume (see back) 12.53

2. WELL PURGE DATA

a. Purge Method: Gravel Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>08-101006</u>
<u>HFScientific</u>	<u>MICROTPW</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>15:52</u>	<u>Initial</u>	<u>19.59</u>	<u>12.05</u>	<u>4.729</u>	<u>3.83</u>	<u>-8.1</u>	<u>282.9</u>	<u>220</u>	<u>9.18</u>	<u>NA</u>
<u>15:57</u>	<u>1.10</u>	<u>20.81</u>	<u>12.17</u>	<u>6.367</u>	<u>0.73</u>	<u>-62.1</u>	<u>50.25</u>		<u>9.90</u>	
<u>16:02</u>	<u>2.20</u>	<u>19.51</u>	<u>12.21</u>	<u>6.389</u>	<u>0.37</u>	<u>-62.9</u>	<u>21.43</u>		<u>12.67</u>	
<u>16:07</u>	<u>3.30</u>	<u>19.88</u>	<u>12.23</u>	<u>6.118</u>	<u>0.28</u>	<u>-61.6</u>	<u>12.69</u>		<u>14.90</u>	
<u>16:12</u>	<u>4.40</u>	<u>19.68</u>	<u>12.25</u>	<u>5.273</u>	<u>0.57</u>	<u>-88.1</u>	<u>10.11</u>		<u>17.31</u>	
<u>16:29</u>	<u>39.62</u>	<u>22.62</u>	<u>12.31</u>	<u>6.031</u>	<u>0.50</u>	<u>-48.1</u>	<u>11.00</u>		<u>63.41</u>	
<u>16:34</u>	<u>40.72</u>	<u>22.78</u>	<u>12.35</u>	<u>6.037</u>	<u>0.65</u>	<u>-51.8</u>	<u>5.23</u>	<u>↓</u>	<u>63.79</u>	

Drop top with pump down to 63'

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

(continued on back)

If no or N/A - Explain below.

<u>16:39</u>	<u>46.82</u>	<u>22.71</u>	<u>12.34</u>	<u>6.040</u>	<u>0.71</u>	<u>-51.6</u>	<u>9.79</u>	<u>220</u>	<u>64.01</u>	<u>NA</u>
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3. SAMPLE COLLECTION: Method: Gravel Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-18D</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCLVOC</u>	<u>1640</u>

Comments _____

Signature [Signature] Date 6/19/17

Low Flow Ground Water Sample Collection Record

Client: Philips Date: 6/13/17 Time: Start 11:15 am/pm
 Project No: _____ Finish _____ am/pm
 Site Location: Newberry, SC
 Weather Conds: Sunny Collector(s): E. Harrington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 15 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in / PVC
 b. Water Table Depth 3.56 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low-Flow
 b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>661082A#</u>
<u>ITE Scientific</u>		<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
11:21	0	18.8	6.60	0.075	23.87	82.7	153.5	150	4.6	milky
11:24	0.2	19.1	3.70	0.070	23.2	257.7	113.5	150	0	clear
11:31	2.0	19.7	3.96	0.073	2.64	265.7	71.25	200	0	clear
11:36	3.0	19.3	4.56	0.100	3.71	243.4	60.98	200	0	clear
11:41	3.2	19.3	4.82	0.101	5.70	247.9	92.0	150	0	clear
11:46	4.4	19.4	4.86	0.103	3.49	252.6	220.7	150	0	clear
11:52	5.1	19.5	4.93	0.104	3.40	251.4	262.6	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump, Side-Stream

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-14</u>	<u>VOA</u>	<u>3</u>	<u>ALL</u>	<u>TLUOCS</u>	<u>11:40</u>

Comments 11:56 | 5.8 | 19.68 | 5.04 | 0.107 | 3.57 | 222.5 | 150 | 5.2 | clear

Signature E. Harrington Date 6/13/17

Low Flow Ground Water Sample Collection Record

Client: Philips Date: 6/20/17 Time: Start 0837 am/pm
 Project No: 60534823 Finish 0945 am/pm
 Site Location: Newberry, SC
 Weather Conds: Steady, Raining Collector(s): E. Herwig

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 35 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in / PVC
 b. Water Table Depth 7.89 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low-flow /
 b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>06R1582AH</u>
<u>HE Scientific</u>		<u>20150351</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>0840</u>	<u>0</u>	<u>18.60</u>	<u>4.72</u>	<u>0.109</u>	<u>8.27</u>	<u>264.6</u>	<u>60.61</u>	<u>150</u>	<u>8.67</u>	<u>clear</u>
<u>0845</u>	<u>0.7</u>	<u>19.00</u>	<u>2.07</u>	<u>0.106</u>	<u>8.75</u>	<u>363.2</u>	<u>58.44</u>	<u>150</u>	<u>8.72</u>	<u>clear</u>
<u>0850</u>	<u>1.4</u>	<u>18.86</u>	<u>2.60</u>	<u>0.106</u>	<u>8.82</u>	<u>337.2</u>	<u>45.00</u>	<u>150</u>	<u>0</u>	<u>clear</u>
<u>0855</u>	<u>2.1</u>	<u>18.76</u>	<u>2.79</u>	<u>0.105</u>	<u>8.74</u>	<u>329.7</u>	<u>46.37</u>	<u>150</u>	<u>0</u>	<u>clear</u>
<u>0900</u>	<u>2.8</u>	<u>18.67</u>	<u>3.06</u>	<u>0.104</u>	<u>3.69</u>	<u>377.9</u>	<u>38.57</u>	<u>150</u>	<u>0</u>	<u>clear</u>
<u>0910</u>	<u>4.2</u>	<u>18.59</u>	<u>3.38</u>	<u>0.105</u>	<u>3.56</u>	<u>303.0</u>	<u>24.77</u>	<u>150</u>	<u>0</u>	<u>clear</u>
<u>0920</u>	<u>6.5</u>	<u>18.54</u>	<u>3.78</u>	<u>0.104</u>	<u>3.47</u>	<u>283.8</u>	<u>24.49</u>	<u>150</u>	<u>0</u>	<u>clear</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION:

Method: Pedestaltic Pump / Soaker-Straw

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW20</u>	<u>Clear glass</u>	<u>3</u>	<u>HCL</u>	<u>VOL</u>	<u>0930</u>
	<u>plastic</u>	<u>1</u>	<u>HNO3</u>	<u>metals</u>	
	<u>plastic</u>	<u>1</u>	<u>None</u>	<u>Diss Metals</u>	
	<u>plastic</u>	<u>1</u>	<u>None</u>	<u>Cl / SO4, Alka</u>	
Comments	<u>plastic</u>	<u>2</u>	<u>Zn Acetate + NaOH</u>	<u>sulfide</u>	
	<u>Amber</u>	<u>2</u>	<u>HCL</u>	<u>Ferrous Ion</u>	
	<u>plastic</u>	<u>1</u>	<u>None</u>	<u>PCR</u>	

Signature: [Signature] Date: 6/20/17

Well ID: MW201

Low Flow Ground Water Sample Collection Record

Client: Phillips Date: 6/20/17 Time: Start 1014 am/pm
 Project No: 60534823 Finish 1105 am/pm
 Site Location: Nursery, SL
 Weather Conds: Rainy Collector(s): E. HARRINGTON

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 55 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2"-PVC
 b. Water Table Depth 5.39 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low-Flow

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YST</u>	<u>550</u>	<u>06R1082 A17</u>
<u>HE scientific</u>		<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1014	0	18.53	5.60	0.081	8.70	281.8	29.40	150	8.29	Clear
1023	0.20	18.98	4.74	0.091	5.76	281.8	12.70	150	0	clear
1028	1.4	18.90	4.52	0.092	5.76	273.7	7.94	150	0	clear
1033	2.1	18.72	4.57	0.091	5.87	274.1	8.50	150	0	clear
1038	2.8	18.58	4.65	0.091	5.66	272.3	9.71	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION:

Method: Peristaltic Pump / Suck-stem

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW201</u>	<u>clear glass</u>	<u>3</u>	<u>HCL</u>	<u>UOC</u>	<u>1050</u>
	<u>Plastic</u>	<u>1</u>	<u>H2O2</u>	<u>METALS</u>	
	<u>Plastic</u>	<u>1</u>	<u>None</u>	<u>DISS METALS</u>	
	<u>Plastic</u>	<u>1</u>	<u>None</u>	<u>Cl, SO4, Alk</u>	
Comments	<u>Plastic</u>	<u>2</u>	<u>Zn Acetate + NaOH</u>	<u>Sulfide</u>	
	<u>Amber</u>	<u>2</u>	<u>HCL</u>	<u>Environ Iron</u>	
	<u>Plastic</u>	<u>1</u>	<u>None</u>	<u>PCR</u>	

Signature: [Signature] Date: 6/20/17

Low Flow Ground Water Sample Collection Record

Client: Philips Date: 6/15/17 Time: Start 1406 am/pm
 Project No: 60524823 Finish 1525 am/pm
 Site Location: Newberry, SC
 Weather Conds: Sunny, 90's Collector(s): E. Herring

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 31 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in / PVC
 b. Water Table Depth 11.47 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low-flow

b. Acceptance Criteria defined (see workplan)
 - Temperature 3% -D.O. 10%
 - pH ± 1.0 unit - ORP ± 10 mV
 - Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>VSI</u>	<u>554</u>	<u>06R1682AH</u>
<u>AFSU</u>	<u>4242</u>	<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1411	0	18.89	5.92	0.118	3.78	149.7	108	150	0.5	clear
1416	0.4	18.31	1.25	0.106	3.64	370.9	108.7	150	0	clear
1421	1.4	18.46	2.30	0.105	3.47	341.5	92.32	150	0	clear
1426	2.1	19.2	4.09	0.104	3.37	242.0	55.62	150	0	clear
1431	2.9	19.32	4.66	0.104	3.50	216.2	46.24	150	0	clear
1441	3.5 4.1	19.51	4.82	0.106	3.45	214	42.34	150	0	clear
1451	6.4	19.4	4.66	0.106	3.45	206.1	23.4	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Pristaltic Pump / Soda Straws

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-21</u>	<u>VOA</u>	<u>3</u>	<u>H2O</u>	<u>VOC</u>	<u>1525</u>

Comments 150 | 6.4 | 19.58 | 4.93 | 0.105 | 3.39 | 194.2 | 18.2 | 150 | 0 | clear

Signature: [Signature] Date: 6/15/17



Well ID: MW-21I

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structure Date: 6/15/17 Time: Start 1516 am/pm
 Project No: 60534283 Finish 1605 am/pm
 Site Location: Newberry St.
 Weather Conds: Partly Cloudy 90's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 55.13 c. Length of Water Column 37.54 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 17.59 d. Calculated System Volume (see back) 6.12

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H1116AG</u>
<u>HFScientific</u>	<u>MicroPW</u>	<u>201103284</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1520	Initial	20.17	7.92	0.113	2.67	92.1	120.8	220	19.63	N/A
1525	1.10	19.41	6.79	0.104	2.06	109.1	138.6		20.95	
1530	2.20	19.27	5.68	0.104	2.35	151.7	107.9		21.73	
1535	3.30	19.28	5.89	0.103	2.28	120.4	71.85		22.43	
1540	4.40	19.39	5.83	0.100	3.26	123.7	39.05		23.11	
1545	5.50	19.43	5.80	0.099	3.23	128.6	29.07		23.51	
1550	6.60	19.42	5.77	0.098	3.30	135.4	28.37	↓	23.88	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-21I</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TOC VOG</u>	<u>1555</u>

Comments _____

Signature Justin Butler Date 6/15/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/13/17 Time: Start 0931 am/pm
 Project No: 60524283 Finish 1020 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 26.10 c. Length of Water Column 10.8 (a-b) Casing Diameter/Material 2" PVC
 b. Water Table Depth 15.30 d. Calculated System Volume (see back) 1.76

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H1116AG</u>
<u>HE scientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0935	Initial	21.27	4.64	0.144	9.37	241.0	16.30	188	15.71	NA
0940	0.94	20.97	4.31	0.138	9.07	280.3	8.14		16.16	
0945	1.88	20.84	4.19	0.137	8.93	297.1	9.13		16.36	
0950	2.82	20.93	4.05	0.138	8.54	303.8	8.68		16.40	
0955	3.76	21.03	3.85	0.140	8.45	310.1	9.46		16.43	
1000	4.70	21.02	3.81	0.142	8.54	317.3	7.87		16.44	
1005	5.64	21.07	3.84	0.143	8.51	318.6	7.15		16.46	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-22</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCLVOC</u>	<u>1010</u>

Comments _____

Signature Justin Butler Date 6/13/17



Well ID: MW-23

Low Flow Ground Water Sample Collection Record

Client: Philips Date: _____ Time: Start 1407 am/pm
 Project No: _____ Finish _____ am/pm
 Site Location: Newberry, SC
 Weather Conds: Sunny Collector(s): E. Harington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.5 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2in PVC
 b. Water Table Depth 20.47 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low - flow

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>VSI</u>	<u>554</u>	<u>06140824H</u>
<u>Hf scientific</u>		<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1417	0	23.90	2.86	0.091	8.06	325.9	82.39	150	20.8	clear
1422	0.7	20.52	1.86	0.087	7.97	447.5	91.54	150	21.69	clear
1427	1.4	20.00	1.75	0.086	8.01	417.1	41.80	150	0	clear
1432	2.1	20.18	2.47	0.086	7.94	592.1	34.8	150	0	clear
1437	2.8	20.72	3.01	0.085	7.78	362.8	19.81	150	0	clear
1442	3.5	20.11	3.49	0.084	7.54	341.7	16.25	150	0	clear
1447	4.2	20.04	3.07	0.085	7.47	333.6	10.54	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump, Sedestaw

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW-23</u>	<u>VOCs</u>	<u>3</u>	<u>HC</u>	<u>TCE VOCs</u>	<u>1500</u>

Comments _____

Signature [Signature] Date 6/13/17

Ground Water Sample Collection Record

Client: Phillips Date: 6/13/17
 Project No: 60584283 Time: Start 920 am/pm
 Site Location: Newberry, SC Finish 1015 am/pm
 Weather Conds: Sunny Collector(s) E. Harrington

WATER LEVEL DATA: (measured from Top of Casing) Well Piezometer
 a. Total Well Length 3064 c. Casing Material PVC e. Length of Water Column _____ (a-b)
 b. Water Table Depth 14.94 d. Casing Diameter 2 inch f. Calculated Well Volume (see back) _____

WELL PURGING DATA
 a. Purge Method Low-Flow
 b. Acceptance Criteria defined (from workplan)
 - Minimum Required Purge Volume (@ _____ well volumes) _____
 - Maximum Allowable Turbidity _____ NTUs
 - Stabilization of parameters _____ %
 c. Field Testing Equipment Used:
 Make Model Serial Number
YSI 556 06K1082 AH
HE Scientific 201502451
 d. Field Testing Equipment Calibration Documentation Found in Field Notebook # _____ Page # _____

Time	Volume Removed (gal)	T° (C/F)	pH	Spec. Cond (umhos)	Turbidity (NTUs)	DO	Color	Odor	Other
0925	0	19.67	5.14	0.053	321.9	8.22	milky	none	15.31
0930	0.4	19.72	2.05	0.050	165.7	7.98	milky	none	0
0935	0.8	19.50	2.54	0.050	60.05	7.93	clear	none	0
0940	1.0	19.43	2.96	0.050	19.19	7.81	clear	none	0
0945	1.2	19.47	3.33	0.050	18.13	7.90	clear	none	0
0950	1.5	19.43	3.54	0.050	14.60	7.87	clear	none	0
0955	1.7	19.37	3.64	0.050	10.82	7.35	clear	none	0

e. Acceptance criteria pass/fail
 Has required volume been removed Yes No N/A
 Has required turbidity been reached Yes No N/A
 Have parameters stabilized Yes No N/A
 If no or N/A - Explain below.

SAMPLE COLLECTION: Method: Peristaltic Pump - Soda Straw

Sample ID	Container Type	No. of Containers	Preservation	Analysis	Time
MW24	3 VOA	3	HCL	TCL VOCs	1005

Comments _____

Signature [Signature] Date 6/13/17

Low Flow Ground Water Sample Collection Record

Client: Philips Date: 6/13/17 Time: Start 1025 am/pm
 Project No: 60534283 Finish _____ am/pm
 Site Location: Newberry, SC
 Weather Conds: Sunny Collector(s): E. Harrington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 39 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in PVC
 b. Water Table Depth 16.65 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Low-Flow

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP + 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>VSI</u>	<u>554</u>	<u>06K1082AH</u>
<u>HF Scientific</u>		<u>201503451</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1030	0	19.78	6.83	0.265	3.11	-12.3	17.23	150	18.0	None
1035	0.70	19.81	5.53	0.175	3.68	42.7	6.91	150	19.41	None
1040	1.4	19.71	5.77	0.169	3.48	35.2	6.85	150	20.34	None
1045	2.4	19.74	5.95	0.171	2.95	19.4	4.49	200	21.59	None
1050	3.4	19.88	6.09	0.172	2.61	9.4	4.53	200	21.90	None

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump - Sealed Straws

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MW24E</u>	<u>VOC</u>	<u>3</u>	<u>HC</u>	<u>TU VOCs</u>	<u>1105</u>

Comments _____

Signature [Signature] Date 6/13/17

Low Flow Ground Water Sample Collection Record

Client: Philips Date: 6/13/17 Time: Start 1514 am/pm
 Project No: _____ Finish _____ am/pm
 Site Location: Newberry, SC
 Weather Conds: Sunny Collector(s): E. Harrington

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 27.63 c. Length of Water Column _____ (a-b) Casing Diameter/Material 2 in PVC
 b. Water Table Depth 15.71 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: Loop - flow

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP + 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>061408244</u>
<u>HE Scientific</u>		<u>201503431</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1514	0	26.42	5.57	0.072	1.83	130.7	539.4	150	16.60	brown/milky
1521	0.70	20.2	3.31	0.075	0.54	2153	1100	150	17.3	brown
1527	1.40	19.88	3.70	0.078	0.45	158.7	295.7	150	0	brown
1522	2.1	19.52	4.19	0.081	0.39	117.8	200.5	150	0	brown
1543	4.5	17.60	4.83	0.089	0.37	58.6	103.7	150	0	clear/brown
1546	5.2	19.77	5.19	0.090	0.32	31.2	77.01	150	0	clear
1553	5.9	19.75	5.52	0.091	0.33	20.0	56.91	150	0	clear

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump, Soda-Straw

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>MU25</u>	<u>VOA</u>	<u>3</u>	<u>HCL</u>	<u>TCUVOCS</u>	<u>1615</u>

Comments 1858 | 19.85 | 5.49 | 0.093 | 0.33 | 10.1 | 55.74 | 150 | 0 |
19.43 | 4.76 | 0.089 | 0.31 | 56.7 | 150 | 0 |
0625

Signature [Signature] Date 6/13/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structure Date: 6/14/17 Time: Start 0954 am/pm
 Project No: 605.34283 Finish 1040 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 28.18 c. Length of Water Column 8.12 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 20.06 d. Calculated System Volume (see back) 0.33

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP + 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H6111AG</u>
<u>HFX scientific</u>		<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
0957	Initial	21.79	3.98	0.039	6.87	352.3	29.83	220	21.96	N/A
1002	1.10	21.21	3.96	0.037	7.12	361.2	34.41		22.98	
1007	2.20	21.02	3.89	0.036	6.27	370.4	16.32		22.39	
1012	3.30	21.00	3.88	0.036	5.29	375.2	8.79		22.38	
1017	4.40	21.04	3.85	0.036	4.89	379.8	5.76		22.36	
1022	5.50	21.05	3.84	0.036	4.05	382.3	4.59		22.36	
1027	6.60	21.07	3.85	0.036	4.02	385.6	5.48	↓	22.36	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: peristaltic pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>JMW-21</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1030</u>

Comments _____

Signature Justin Butler Date 6/14/17



Well ID: TMW-22

Low Flow Ground Water Sample Collection Record

Client: Shakespeare composition structure Date: 6/14/17 Time: Start 1050 am/pm
 Project No: 60534283 Finish 1130 am/pm
 Site Location: Newberry SC
 Weather Conds: clear 70's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 28.00 c. Length of Water Column 9.13 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 18.87 d. Calculated System Volume (see back) 0.37

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H1116AG</u>
<u>HEXICAP</u>	<u>MICROTIPW</u>	<u>201102284</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1054	Inital	22.38	4.42	0.034	5.09	357.4	38.15	220	21.14	NA
1059	1.10	22.30	4.23	0.034	5.05	361.4	36.90		21.49	
1104	2.20	22.22	4.21	0.034	5.22	358.5	35.00		21.48	
1109	3.30	22.22	4.23	0.033	5.21	353.3	16.00		21.33	
1114	4.40	22.21	4.18	0.034	5.13	351.8	9.60		21.35	
1119	5.50	22.20	4.19	0.034	5.19	349.4	7.95	↓	21.20	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-22</u>	<u>40ml glass</u>	<u>3</u>	<u>MCL</u>	<u>TCL VOC</u>	<u>1120</u>

Comments _____

Signature [Signature] Date 6/14/17



Well ID: TMW-23

Low Flow Ground Water Sample Collection Record

Client: Shakespeare composition structures Date: 6/14/17 Time: Start 1352 am/pm
 Project No: 60538283 Finish 1435 am/pm
 Site Location: Newberry SC
 Weather Conds: Partly Cloudy 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.87 c. Length of Water Column 8.02 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 17.85 d. Calculated System Volume (see back) 0.33

2. WELL PURGE DATA

a. Purge Method: peristaltic pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H1116AG</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1356	Initial	21.95	4.52	0.035	5.15	289.9	40.90	220	21.83	
1401	110	21.75	4.40	0.034	6.27	305.8	43.95		24.90	
1403	Dry	21.69	4.21	0.034	5.52	302.9	102.5		Dry	
1421		21.85	4.31	0.034	5.04	287.6	30.97		24.07	

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

Dry

3. SAMPLE COLLECTION: Method: peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-23</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1425</u>

Comments _____

Signature [Signature] Date 6/14/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/13/17 Time: Start 1210 am/pm
 Project No: 60534283 Finish 1300 am/pm
 Site Location: Newberry, SC
 Weather Conds: clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.93 c. Length of Water Column 5.26 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 19.17 d. Calculated System Volume (see back) 0.24

2. WELL PURGE DATA

a. Purge Method: peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H116AG</u>
<u>HEscientHPr</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1214	Initial	24.06	4.23	0.059	5.05	281.9	52.15	220	21.19	NA
1219	1.10	23.25	4.05	0.058	3.44	320.7	67.58		21.40	
1224	2.20	23.04	3.95	0.058	2.45	337.0	71100		21.35	
1229	3.30	22.99	3.81	0.057	1.93	343.8	71100		21.27	
1234	4.40	22.92	3.88	0.056	1.73	347.2	907.7		21.32	
1239	5.50	22.91	3.86	0.056	1.55	355.0	441.7		21.28	
1244	6.60	22.96	3.87	0.056	1.51	361.0	200.9		21.26	

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed
- Has required turbidity been reached
- Have parameters stabilized

If no or N/A - Explain below.

1249	7.70	23.00	3.87	0.056	1.49	367.9	136.6	220	21.28	NA
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3. SAMPLE COLLECTION: Method: peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-24</u>	<u>40mL glass</u>	<u>3</u>	<u>HCL</u>	<u>TCLVOC</u>	<u>1250</u>

Comments _____

Signature [Signature] Date 6/13/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/13/17 Time: Start 1458 am/pm
 Project No: 60534283 Finish 1540 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear 80's Collector(s): Justin Better

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 24.90 c. Length of Water Column 7.48 (a-b) Casing Diameter/Material 1" Pvc
 b. Water Table Depth 17.42 d. Calculated System Volume (see back) 0.31

2. WELL PURGE DATA

a. Purge Method: peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H1116AG</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>200109389</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1502	<u>Fail</u>	<u>23.35</u>	<u>4.53</u>	<u>0.061</u>	<u>4.29</u>	<u>385.9</u>	<u>44.64</u>	<u>220</u>	<u>19.30</u>	<u>NA</u>
1507	<u>1.10</u>	<u>22.92</u>	<u>4.52</u>	<u>0.057</u>	<u>4.27</u>	<u>372.7</u>	<u>37.19</u>		<u>19.60</u>	
1512	<u>2.20</u>	<u>22.78</u>	<u>4.47</u>	<u>0.056</u>	<u>4.17</u>	<u>371.6</u>	<u>20.36</u>		<u>19.73</u>	
1517	<u>3.30</u>	<u>22.61</u>	<u>4.40</u>	<u>0.055</u>	<u>4.06</u>	<u>371.3</u>	<u>13.89</u>		<u>19.65</u>	
1522	<u>4.40</u>	<u>22.64</u>	<u>4.44</u>	<u>0.055</u>	<u>4.08</u>	<u>366.3</u>	<u>7.67</u>		<u>19.72</u>	
1527	<u>5.50</u>	<u>22.65</u>	<u>4.45</u>	<u>0.055</u>	<u>4.05</u>	<u>365.4</u>	<u>6.13</u>	<u>↓</u>	<u>19.70</u>	<u>↓</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-25</u>	<u>40ML Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOL</u>	<u>1530</u>

Comments _____

Signature [Signature] Date 6/13/17



Well ID: TMW-30

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/14/17 Time: Start 1136 am/pm
 Project No: 60534283 Finish 1220 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.08 c. Length of Water Column 9.16 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 15.92 d. Calculated System Volume (see back) 0.38

2. WELL PURGE DATA

a. Purge Method: peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>156</u>	<u>05H1116A6</u>
<u>AFScientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1140	<u>Initial</u>	<u>22.47</u>	<u>5.11</u>	<u>0.049</u>	<u>5.79</u>	<u>309.3</u>	<u>85.11</u>	<u>220</u>	<u>17.53</u>	<u>N/A</u>
1145	<u>1.10</u>	<u>22.31</u>	<u>5.05</u>	<u>0.048</u>	<u>6.27</u>	<u>307.9</u>	<u>43.66</u>		<u>17.73</u>	
1150	<u>2.20</u>	<u>22.31</u>	<u>4.99</u>	<u>0.047</u>	<u>6.76</u>	<u>305.3</u>	<u>21.17</u>		<u>17.81</u>	
1155	<u>3.30</u>	<u>22.16</u>	<u>5.01</u>	<u>0.047</u>	<u>6.45</u>	<u>300.7</u>	<u>10.34</u>		<u>17.83</u>	
1200	<u>4.40</u>	<u>22.14</u>	<u>5.00</u>	<u>0.046</u>	<u>6.49</u>	<u>299.1</u>	<u>6.93</u>		<u>17.82</u>	
1205	<u>5.50</u>	<u>22.14</u>	<u>4.99</u>	<u>0.046</u>	<u>6.48</u>	<u>297.0</u>	<u>5.56</u>	<u>↓</u>	<u>17.80</u>	<u>↓</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-30</u>	<u>40mL Glass</u>	<u>3</u>	<u>ILL</u>	<u>TCL VOC</u>	<u>1210</u>

Comments _____

Signature Date 6/14/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/14/17 Time: Start 15:30 am/pm
 Project No: 60524283 Finish 1610 am/pm
 Site Location: Newberry, SC
 Weather Conds: partly cloudy 80% Collector(s): Justin Better

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 21.68 c. Length of Water Column 9.25 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 13.43 d. Calculated System Volume (see back) 0.34

2. WELL PURGE DATA

a. Purge Method: peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H1116AG</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1534	Initial	21.78	4.73	0.053	7.30	283.6	60.32	220	15.25	N/A
1539	1.10	22.06	4.83	0.055	7.54	279.4	20.00	↓	15.62	↓
1544	2.20	21.46	4.95	0.058	7.73	279.2	22.53	↓	16.45	↓
1549	3.30	21.25	4.89	0.058	7.56	279.9	15.17	↓	16.88	↓
1554	4.40	21.20	4.89	0.058	7.55	276.2	13.56	↓	16.95	↓
1559	5.50	21.17	4.92	0.058	7.60	275.2	11.42	↓	16.90	↓

d. Acceptance criteria pass/fail

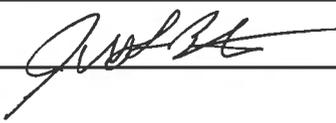
	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-31</u>	<u>40 ML Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1600</u>
<u>TMW-31-M5</u>	<u>40 ML Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1600</u>
<u>TMW-31-M5D</u>	<u>40 ML Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1600</u>

Comments _____

Signature  Date 6/14/17



Well ID: TMW-32

Low Flow Ground Water Sample Collection Record

Client: Shakespeare composition structures Date: 6/13/17 Time: Start 1408 am/pm
 Project No: 60539283 Finish 1450 am/pm
 Site Location: Newberry, SC
 Weather Conds: Clear, 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.05 c. Length of Water Column 5.00 (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 20.05 d. Calculated System Volume (see back) 0.21

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H1116A6</u>
<u>HF Scientific</u>	<u>MIKOTPW</u>	<u>2011 0038 84</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1402</u>	<u>Initial</u>	<u>24.06</u>	<u>3.84</u>	<u>0.049</u>	<u>4.15</u>	<u>434.6</u>	<u>42.07</u>	<u>220</u>	<u>23.67</u>	<u>NA</u>
<u>1417</u>	<u>1.10</u>	<u>23.22</u>	<u>3.89</u>	<u>0.048</u>	<u>4.17</u>	<u>442.6</u>	<u>55.85</u>	<u>↓</u>	<u>24.61</u>	<u>↓</u>
<u>1422</u>	<u>Dry (2.20)</u>	<u>23.10</u>	<u>3.49</u>	<u>0.048</u>	<u>3.21</u>	<u>469.7</u>	<u>70.00</u>	<u>↓</u>	<u>Dry</u>	<u>↓</u>
<u>1427/1430</u>		<u>23.02</u>	<u>3.74</u>	<u>0.048</u>	<u>4.22</u>	<u>443.0</u>	<u>15.93</u>	<u>↓</u>		<u>↓</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

Dry

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-32</u>	<u>40 mL Gases</u>	<u>3</u>	<u>HCL</u>	<u>TCLVOC</u>	<u>1440</u>

Comments _____

Signature Justin Butler Date 6/13/17



Well ID: TMW-33

Low Flow Ground Water Sample Collection Record

Client: Shakespeare composition structures Date: 6/13/17 Time: Start 1550 am/pm
 Project No: 60534283 Finish _____ am/pm
 Site Location: Newberry SC
 Weather Conds: Clear 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 25.00 c. Length of Water Column _____ (a-b) Casing Diameter/Material 1" PVC
 b. Water Table Depth 18.45 d. Calculated System Volume (see back) _____

2. WELL PURGE DATA

a. Purge Method: peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSI</u>	<u>556</u>	<u>05H116AG</u>
<u>MF Scientific</u>	<u>MicroTPW</u>	<u>201103384</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (μ S/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1553</u>	<u>Initial</u>	<u>23.92</u>	<u>3.97</u>	<u>0.099</u>	<u>6.32</u>	<u>393.7</u>	<u>50.47</u>	<u>220</u>	<u>19.26</u>	<u>NA</u>
<u>1558</u>	<u>1.10</u>	<u>23.48</u>	<u>3.87</u>	<u>0.100</u>	<u>5.33</u>	<u>405.6</u>	<u>25.83</u>		<u>19.35</u>	
<u>1603</u>	<u>2.20</u>	<u>23.29</u>	<u>3.86</u>	<u>0.100</u>	<u>4.96</u>	<u>406.4</u>	<u>14.13</u>		<u>19.32</u>	
<u>1608</u>	<u>3.30</u>	<u>23.22</u>	<u>3.84</u>	<u>0.100</u>	<u>4.87</u>	<u>406.7</u>	<u>10.72</u>		<u>19.30</u>	
<u>1613</u>	<u>4.40</u>	<u>23.20</u>	<u>3.82</u>	<u>0.101</u>	<u>4.84</u>	<u>411.1</u>	<u>8.10</u>		<u>19.33</u>	
<u>1618</u>	<u>5.50</u>	<u>23.14</u>	<u>3.81</u>	<u>0.101</u>	<u>4.80</u>	<u>413.3</u>	<u>6.54</u>	\downarrow	<u>19.34</u>	\downarrow

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>TMW-33</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1620</u>

Comments _____

Signature [Signature] Date 6/13/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/21/17 Time: Start 1327 am/pm
 Project No: 60534283 Finish 1420 am/pm
 Site Location: Newberry, SC
 Weather Conds: Partly Cloudy 80's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 84.34 c. Length of Water Column 79.11 (a-b) Casing Diameter/Material
77.4 6" PVC
 b. Water Table Depth 5.23 d. Calculated System Volume (see back) 116.29
43.35

2. WELL PURGE DATA

a. Purge Method: Grundfos Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH + 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>08L161000</u>
<u>HFScientific</u>	<u>MicroTPW</u>	<u>2007041141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1331</u>	<u>Initial</u>	<u>12.77</u>	<u>10.62</u>	<u>0.425</u>	<u>3.78</u>	<u>118.0</u>	<u>614.1</u>	<u>316</u>	<u>5.25</u>	<u>NA</u>
<u>1336</u>	<u>1.53</u>	<u>12.90</u>	<u>10.94</u>	<u>0.882</u>	<u>1.69</u>	<u>53.4</u>	<u>196.2</u>		<u>5.49</u>	
<u>1341</u>	<u>3.16</u>	<u>18.05</u>	<u>11.38</u>	<u>0.980</u>	<u>1.57</u>	<u>5.5</u>	<u>102.7</u>		<u>5.69</u>	
<u>1346</u>	<u>4.74</u>	<u>18.32</u>	<u>11.62</u>	<u>0.926</u>	<u>1.57</u>	<u>-18.6</u>	<u>64.30</u>		<u>5.89</u>	
<u>1351</u>	<u>6.32</u>	<u>18.06</u>	<u>11.65</u>	<u>0.929</u>	<u>1.55</u>	<u>-24.9</u>	<u>58.35</u>		<u>6.16</u>	
<u>1356</u>	<u>7.90</u>	<u>18.28</u>	<u>11.67</u>	<u>0.929</u>	<u>1.54</u>	<u>-24.9</u>	<u>64.13</u>		<u>6.35</u>	
<u>1401</u>	<u>9.48</u>	<u>18.17</u>	<u>11.69</u>	<u>0.930</u>	<u>1.53</u>	<u>-20.6</u>	<u>64.79</u>	<u>↓</u>	<u>6.68</u>	<u>↓</u>

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Grundfos Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>RDW-1</u>	<u>40mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>JGL VOC</u>	<u>1405</u>

Comments _____

Signature [Signature] Date 6/21/17



Well ID: BDW2

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Strategy Date: 6/15/17 Time: Start 1406 am/pm
 Project No: 60534783 Finish 1500 am/pm
 Site Location: Newberry SC
 Weather Conds: Clear 90's Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 68.23 c. Length of Water Column 49.04 (a-b) Casing Diameter/Material 6" PVC
 b. Water Table Depth 19.19 d. Calculated System Volume (see back) 72.09

2. WELL PURGE DATA

a. Purge Method: Peristaltic Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown $< 0.3'$

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>556</u>	<u>05H1116AG</u>
<u>HEScientific</u>	<u>microTPW</u>	<u>20110228Y</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
<u>1410</u>	<u>Initial</u>	<u>18.92</u>	<u>9.94</u>	<u>1.079</u>	<u>0.86</u>	<u>19.2</u>	<u>54.64</u>	<u>.378</u>	<u>19.80</u>	<u>NA</u>
<u>1415</u>	<u>1.99</u>	<u>18.94</u>	<u>10.40</u>	<u>1.285</u>	<u>0.37</u>	<u>13.5</u>	<u>87.50</u>		<u>20.28</u>	
<u>1420</u>	<u>3.78</u>	<u>19.07</u>	<u>10.95</u>	<u>1.263</u>	<u>0.36</u>	<u>-35.4</u>	<u>23.67</u>		<u>20.58</u>	
<u>1425</u>	<u>5.67</u>	<u>19.33</u>	<u>11.31</u>	<u>1.194</u>	<u>0.39</u>	<u>-67.9</u>	<u>15.99</u>		<u>20.96</u>	
<u>1430</u>	<u>7.56</u>	<u>19.42</u>	<u>11.42</u>	<u>1.114</u>	<u>0.43</u>	<u>-78.8</u>	<u>13.76</u>		<u>21.25</u>	
<u>1435</u>	<u>9.45</u>	<u>19.64</u>	<u>11.50</u>	<u>1.022</u>	<u>0.48</u>	<u>-86.2</u>	<u>16.83</u>		<u>21.47</u>	
<u>1440</u>	<u>11.34</u>	<u>19.81</u>	<u>11.54</u>	<u>0.960</u>	<u>0.51</u>	<u>-87.4</u>	<u>13.19</u>		<u>21.56</u>	

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed
- Has required turbidity been reached
- Have parameters stabilized

If no or N/A - Explain below.

<u>1445</u>	<u>13.23</u>	<u>19.79</u>	<u>11.51</u>	<u>0.891</u>	<u>0.53</u>	<u>-85.5</u>	<u>15.64</u>	<u>378</u>	<u>21.64</u>	<u>NA</u>
-------------	--------------	--------------	--------------	--------------	-------------	--------------	--------------	------------	--------------	-----------

3. SAMPLE COLLECTION: Method: Peristaltic Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>BDW2</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1450</u>

Comments _____

Signature Justin Butler Date 6/15/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structures Date: 6/21/17 Time: Start 1143 am/pm
 Project No: 60534283 Finish 1235 am/pm
 Site Location: Newberry St.
 Weather Conds: cloudy 80.5 Collector(s): Justin Butler

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 85.92 c. Length of Water Column 63.77 (a-b) Casing Diameter/Material 6" PVC
 b. Water Table Depth 22.15 d. Calculated System Volume (see back) 93.74

2. WELL PURGE DATA

a. Purge Method: Grundfos Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used:

Make	Model	Serial Number
<u>YSE</u>	<u>SSL</u>	<u>08L101000</u>
<u>HE scientific</u>	<u>MicroTPro</u>	<u>200704141</u>

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1147	Initial	19.93	7.46	0.090	6.58	146.5	27.02	442	22.30	NA
1152	2.21	18.63	5.47	0.094	4.41	201.5	142.9		22.36	
1159	4.42	19.50	5.37	0.090	4.38	182.3	140.2		22.36	
1202	6.63	19.32	5.59	0.084	4.43	168.9	141.5		22.36	
1207	8.84	19.48	5.52	0.080	4.45	174.5	77.91		22.36	
1212	10.05	19.47	5.48	0.078	4.49	182.0	68.14		22.36	
1217	13.26	19.52	5.50	0.078	4.51	183.9	55.43		22.36	↓

d. Acceptance criteria pass/fail

	Yes	No	N/A	(continued on back)
Has required volume been removed	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Has required turbidity been reached	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Have parameters stabilized	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: Grundfos Pump

Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>SDW-1</u>	<u>90 mL Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1220</u>

Comments _____

Signature  Date 6/21/17

Low Flow Ground Water Sample Collection Record

Client: Shakespeare Composition Structure Date: 6/21/17 Time: Start 1036 am/pm
 Project No: 60534283 Finish 1550 am/pm
 Site Location: Newberry SC
 Weather Conds: cloudy 80's Collector(s): _____

1. WATER LEVEL DATA: (measured from Top of Casing)

a. Total Well Length 88.61 c. Length of Water Column 19.11 (a-b) Casing Diameter/Material 2" PVC
69.50
 b. Water Table Depth 88.61 d. Calculated System Volume (see back) 3.11

2. WELL PURGE DATA

a. Purge Method: Grundfos Pump

b. Acceptance Criteria defined (see workplan)

- Temperature 3% -D.O. 10%
- pH ± 1.0 unit - ORP ± 10 mV
- Sp. Cond. 3% - Drawdown < 0.3'

c. Field Testing Equipment used: Make Model Serial Number

Make	Model	Serial Number

Time (24hr)	Volume Removed (Liters)	Temp. (°C)	pH	Spec. Cond. (µS/cm)	DO (mg/L)	ORP (mV)	Turbidity (NTU)	Flow Rate (ml/min)	Drawdown (feet)	Color/Odor
1040	Initial	19.29	7.63	1.963	0.35	-19.5	590.6	758	74.61	NA
1045	3.79	20.02	7.57	1.970	0.33	-16.4	346.6	↓	75.71	↓
1050	7.58	20.14	7.51	1.971	0.44	-56.2	78.40	↓	79.03	↓
1055	11.37	22.23	7.59	1.960	0.47	-29.2	31.99	↓	85.82	↓
6/22/17 1535		20.03	7.62	2.025	0.67	65.5	183.6			

d. Acceptance criteria pass/fail Yes No N/A (continued on back)

- Has required volume been removed
- Has required turbidity been reached
- Have parameters stabilized

If no or N/A - Explain below.

3. SAMPLE COLLECTION: Method: _____

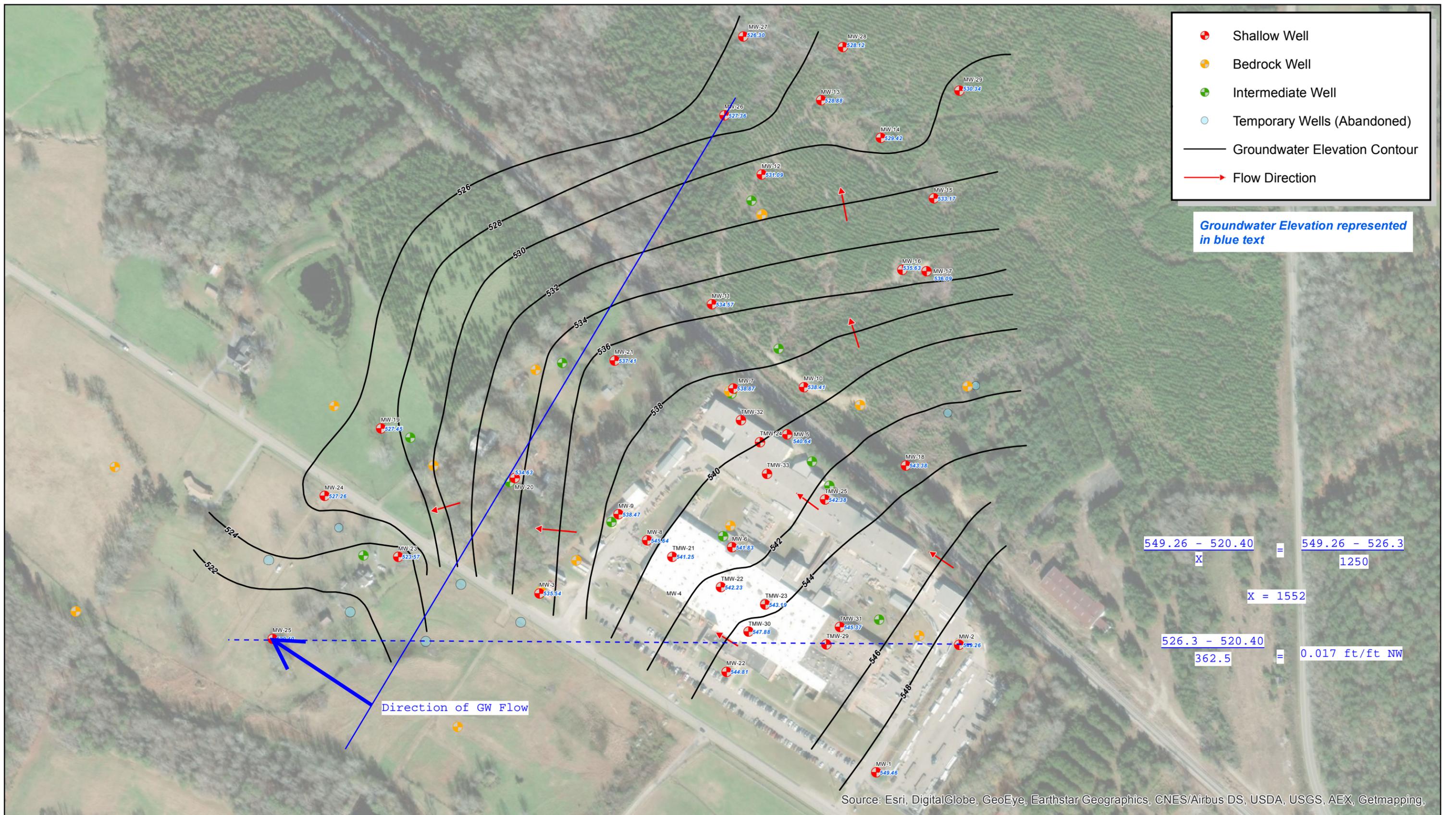
Sample ID	Container Type	No. of Containers	Preservation	Analysis Req.	Time
<u>SDW-2</u>	<u>40ml Glass</u>	<u>3</u>	<u>HCL</u>	<u>TCL VOC</u>	<u>1535</u>

Comments dry @ 1057 ; 6/22/17 1535 Recharge to 84' take sample with boiler

Signature [Signature] Date _____

Appendix E

Hydraulic Conductivity Logs



C:\Projects\Active\60534283_08_Shakespeare\map\SitePlan.mxd

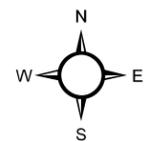


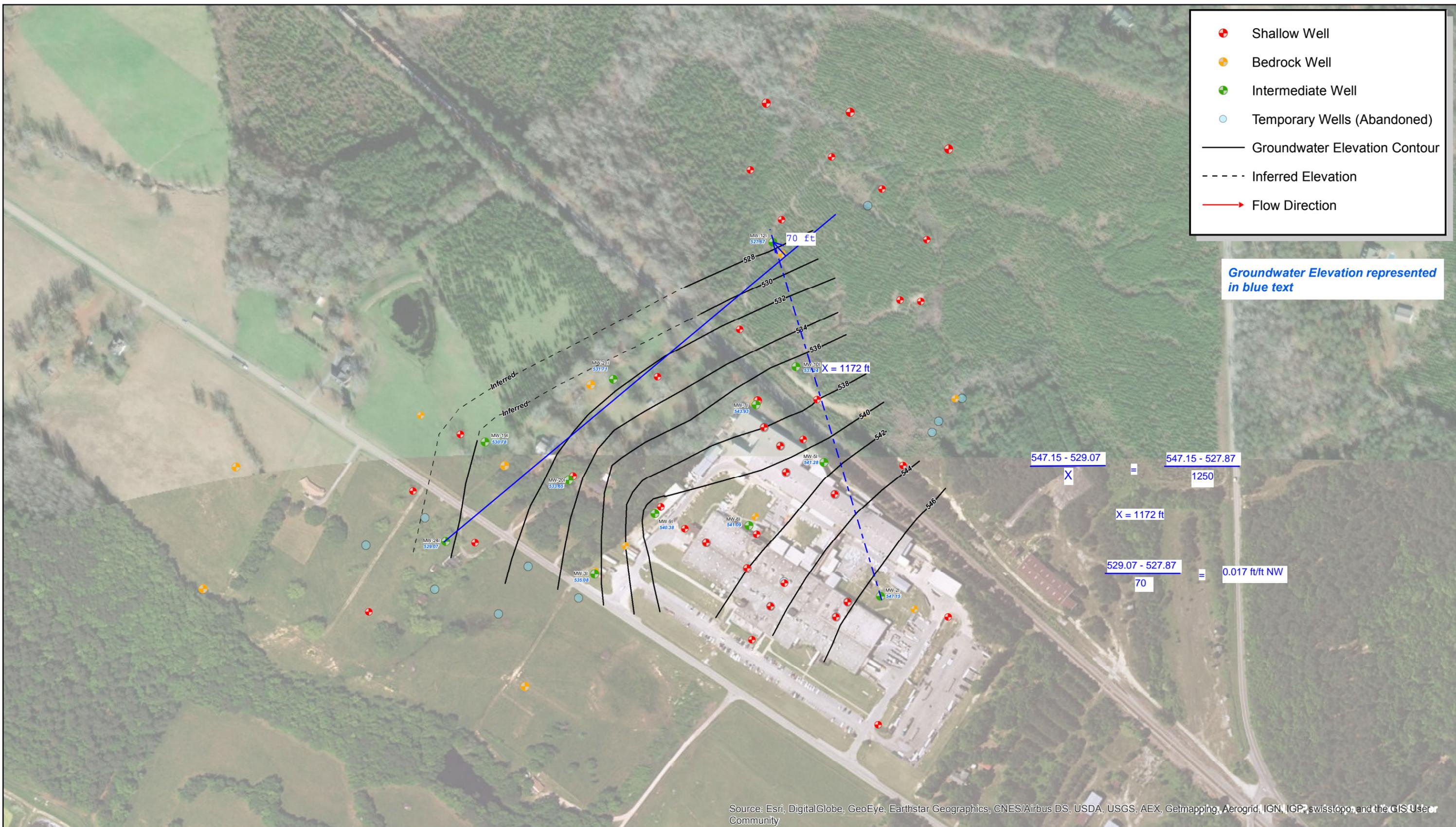
101 Research Drive
 Columbia, SC 29203-9389
 T: (803) 254-4400 F: (803) 771-6676

FIGURE E-1 Hydraulic Gradient Calculation in Shallow Zone (June 2018)

Shakespeare Composition Structures
 Newberry, South Carolina

Project No.: 60534283; Prepared by: JG; Date: 6/11/2018.





Source: Esri, DigitalGlobe, GeoEye, Earthstar Geographics, CNES/Airbus DS, USDA, USGS, AEX, Getmapping, Aerogrid, IGN, IGP, swisstopo, and the GIS User Community

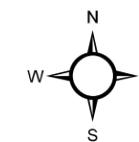


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FIGURE E-2 Hydraulic Gradient Calculation - Intermediate Zone (June 2018)

Shakespeare Composition Structures
Newberry, South Carolina

Project No.: 60534283; Prepared by: JG; Date: 6/11/2018.



0 150 300 600 Feet

G:\Projects\Active\60534283\Shakespeare\map\SitePlan.mxd

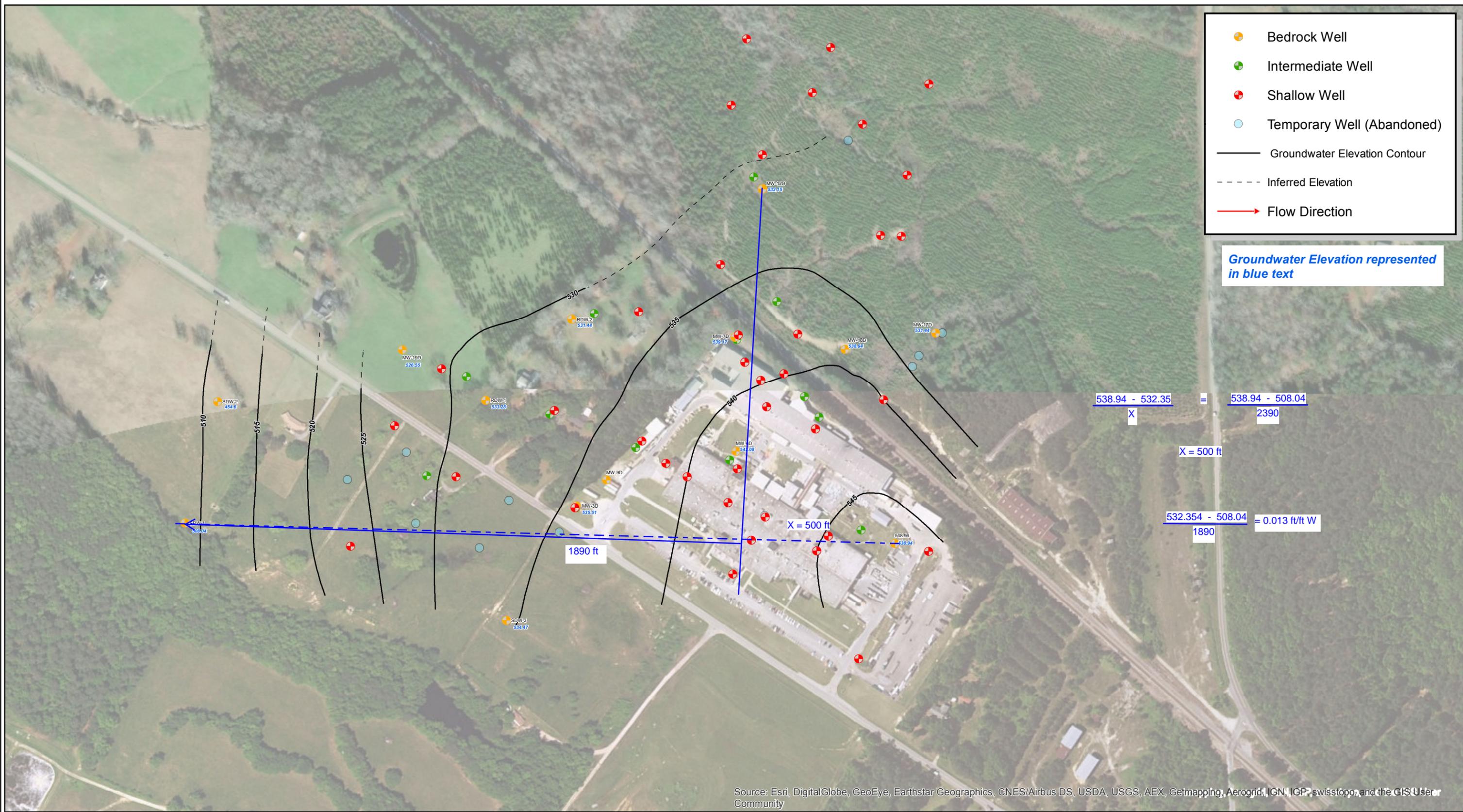


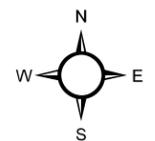
FIGURE E-3 Hydraulic Gradient Calculation - Bedrock Zone (June 2018)

Shakespeare Composition Structures
Newberry, South Carolina

Project No.: 60534283; Prepared by: JG; Date: 6/11/2018.



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T: (803) 254-4400 F: (803) 771-6676



G:\Projects\Active\60534283\Shakespeare\map\SitePlan.mxd

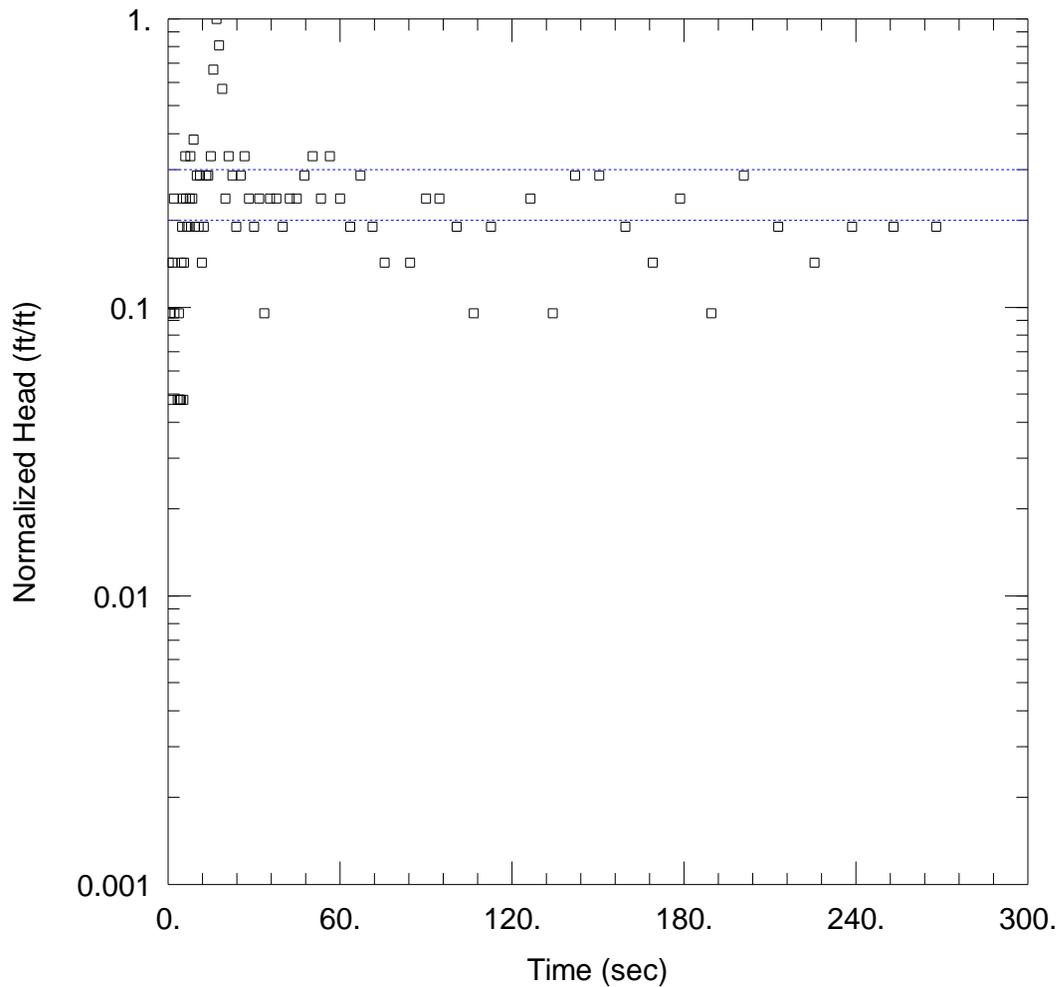
Appendix Table E-1
Vertical Gardient Calculations
Site Investigation
Shakespeare Composite Structures
Newberry, South Carolina

Well ID	TOC Elevation	Depth to Top of Well Screen	Top of Well Screen Elevation	Screen Length (ft)	Screen Mid-point elevation	Depth to Groundwater	Groundwater Elevations	Vertical Gradient - Shallow - Intermediate zone
MW-2	558.42	14.7	543.72	10	538.72	9.13	549.26	0.10
MW-2I	559.97	36.5	523.47	10	518.47	13.69	547.15	
MW-3	549.00	14.7	534.30	10	529.30	15.03	535.54	0.02
MW-3I	548.84	44.7	504.14	10	499.14	14.59	535.08	
MW-5	557.74	15.8	541.94	10	536.94	17.15	540.64	-0.02
MW-5I	559.70	47	512.70	10	507.70	16.7	541.28	
MW-6	561.32	15.7	545.62	10	540.62	19.36	541.82	0.03
MW-6I	560.28	40	520.28	10	515.28	18.81	541.09	
MW-7	554.72	14.8	539.92	10	534.92	16.13	538.87	-0.18
MW-7I	560.07	47.6	512.47	10	507.47	16.35	543.93	
MW-9	556.36	15.8	540.56	10	535.56	18.39	538.47	-0.09
MW-9I	556.07	37.6	518.47	10	513.47	19.26	540.38	
MW-10	550.96	20.3	530.66	10	525.66	12.65	538.41	0.09
MW-10I	548.4	31	517.40	10	512.40	11.14	537.24	
MW-12	537.03	20.37	516.66	10	511.66	6.33	531.09	0.20
MW-12I	536.6	36.8	499.83	10	494.83	4.16	527.67	
MW-19	531.58	4.77	526.81	10	521.81	3.8	527.45	-0.61
MW-19I	536.4	17.6	518.83	5	516.33	6.49	530.78	
MW-20	541.72	25.3	516.42	10	511.42	7.94	534.63	0.05
MW-20I	541.25	43.1	498.15	10	493.15	7.9	533.65	
MW-21	548.24	14.17	534.07	10	529.07	11.41	537.48	0.22
MW-21I	552.82	44.8	508.02	10	503.02	20.98	531.71	
MW-24	541.35	7.5	533.85	10	528.85	15.14	527.26	-0.08
MW-24I	544.99	35	509.99	10	504.99	16.98	529.07	

Average Vertical Gradient -0.022

Hydraulic Conductivity Testing

Aqtesolv Data Files



WELL TEST ANALYSIS

Data Set: L:\...\MW-5_Rising.aqt

Date: 01/10/18

Time: 09:51:09

PROJECT INFORMATION

Company: AECOM

Client: Shakespeare Composite Structur

Project: 60534283

Location: Newberry, SC

Test Well: MW-5

Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 39.25 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-5_rising)

Initial Displacement: -0.021 ft

Static Water Column Height: 8.05 ft

Total Well Penetration Depth: 10. ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.146 ft

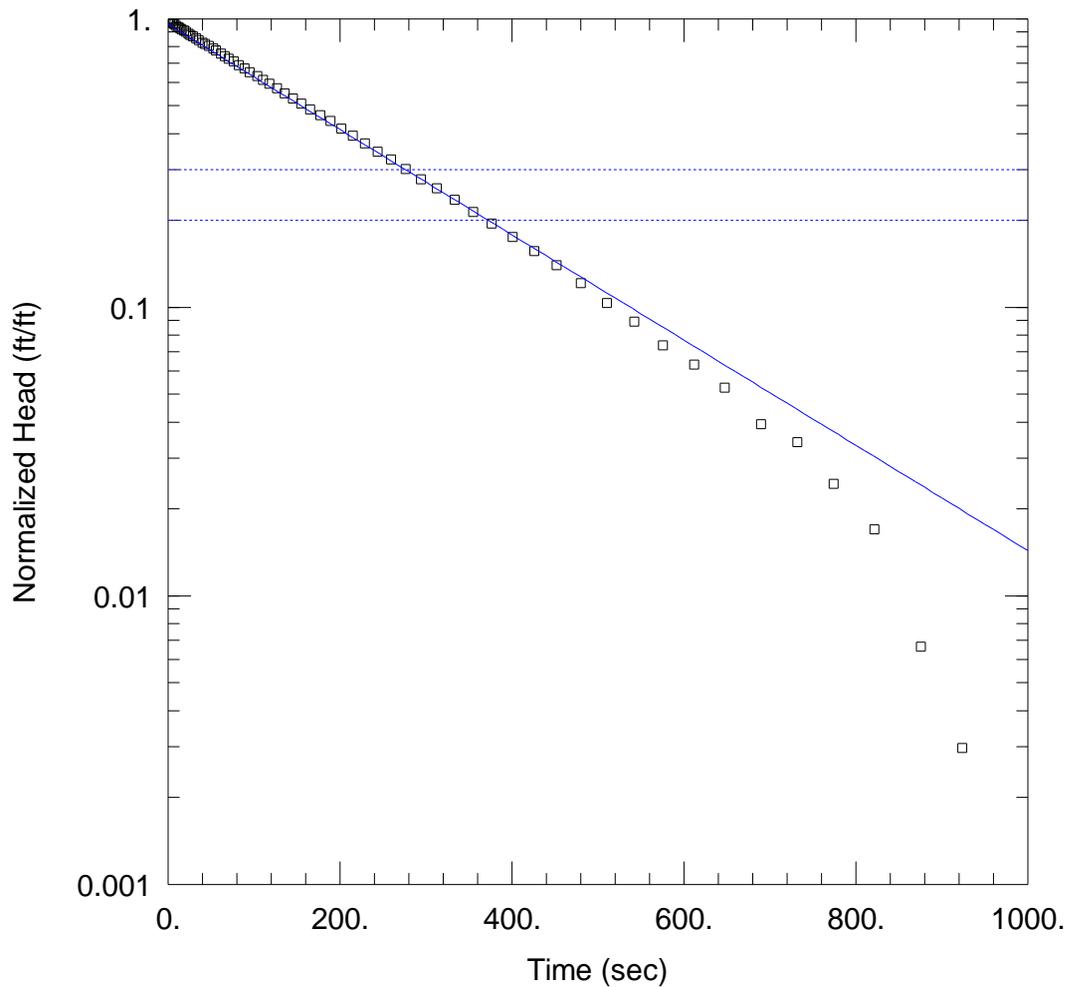
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 1.225 ft/day

y0 = 0.003446 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-5I_Falling.aqt
 Date: 01/10/18

Time: 09:52:40

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-5I
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 38.56 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-5I_falling)

Initial Displacement: 2.702 ft

Static Water Column Height: 38.66 ft

Total Well Penetration Depth: 38.66 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.25 ft

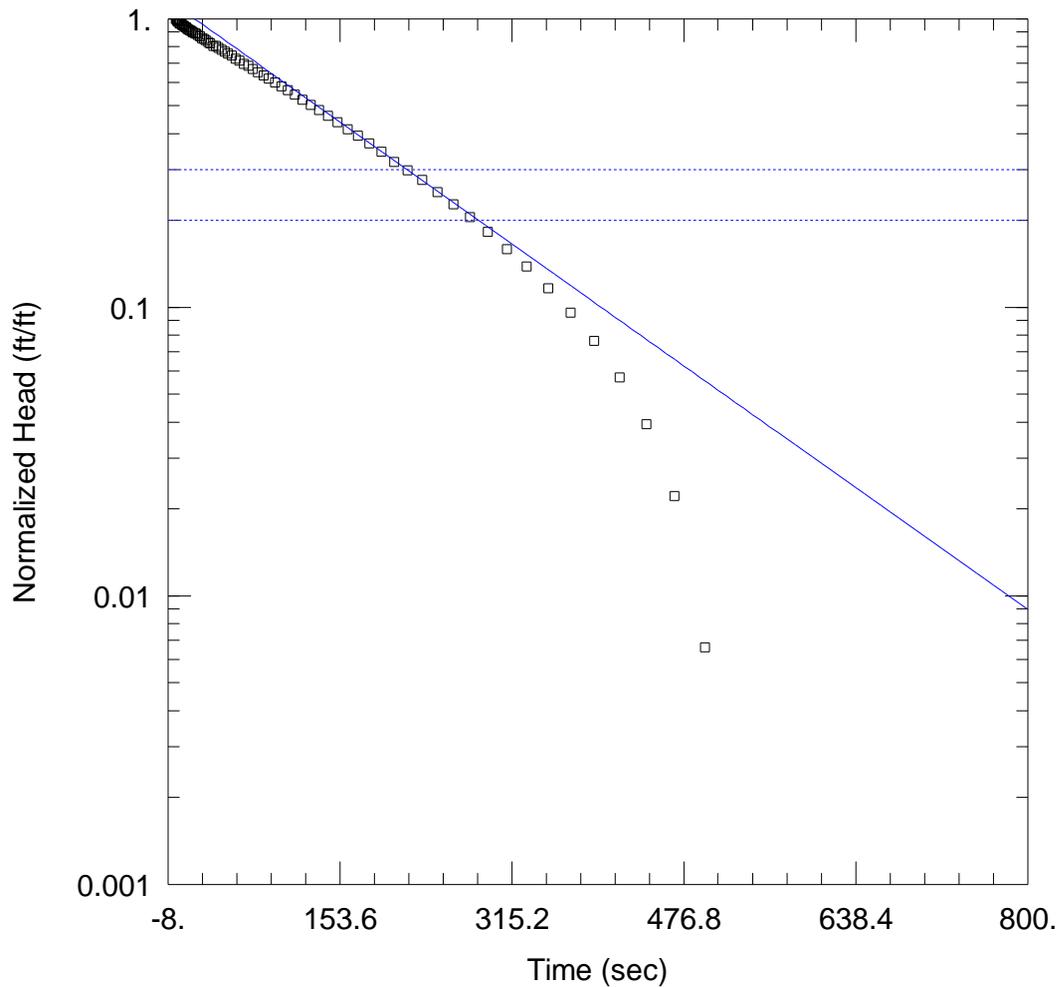
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.4469 ft/day

y0 = 2.584 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-5I_Rising.aqt

Date: 01/10/18

Time: 09:54:27

PROJECT INFORMATION

Company: AECOM

Client: Shakespeare Composite Structur

Project: 60534283

Location: Newberry, SC

Test Well: MW-5I

Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 38.56 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-5I_rising)

Initial Displacement: -2.569 ft

Static Water Column Height: 38.66 ft

Total Well Penetration Depth: 38.66 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.25 ft

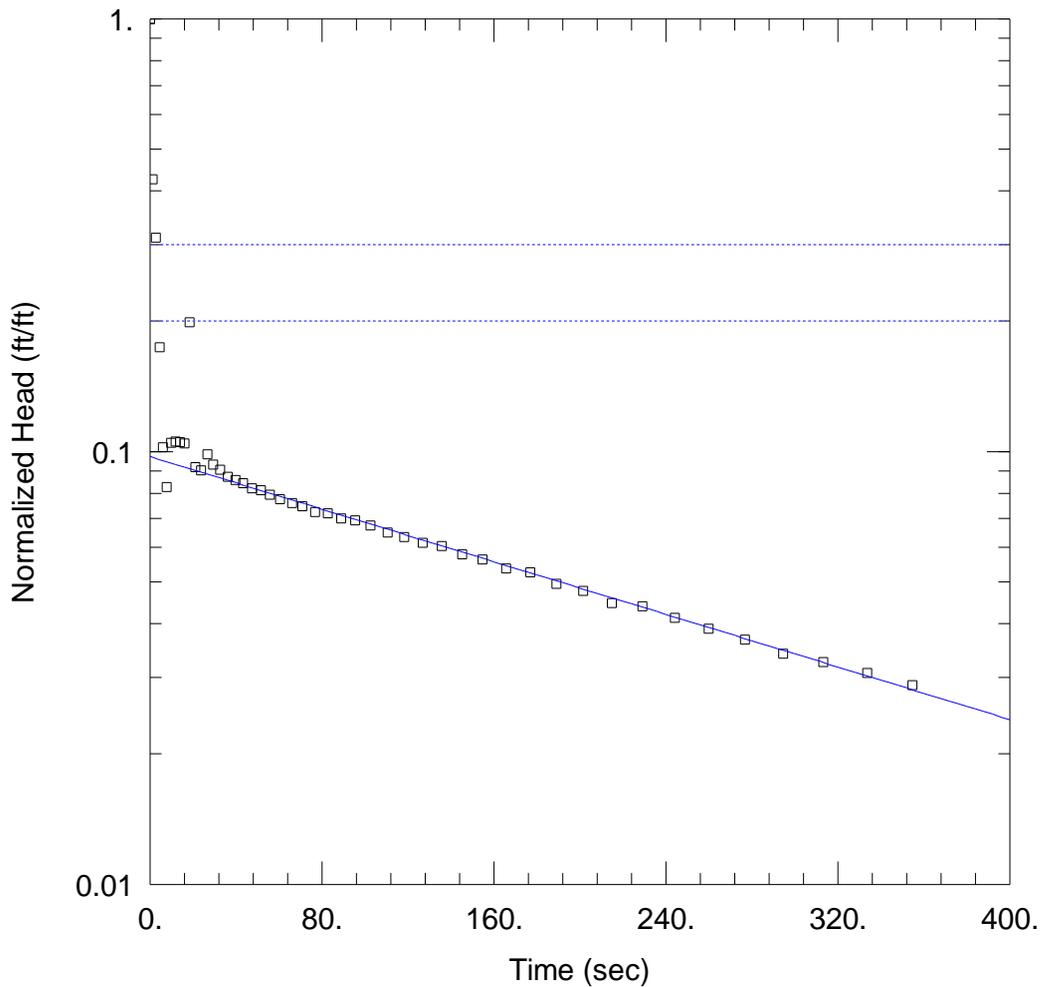
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.6405 ft/day

y0 = -2.841 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-6_Falling.aqt
 Date: 01/10/18

Time: 09:56:35

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-6
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 75.75 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6_falling)

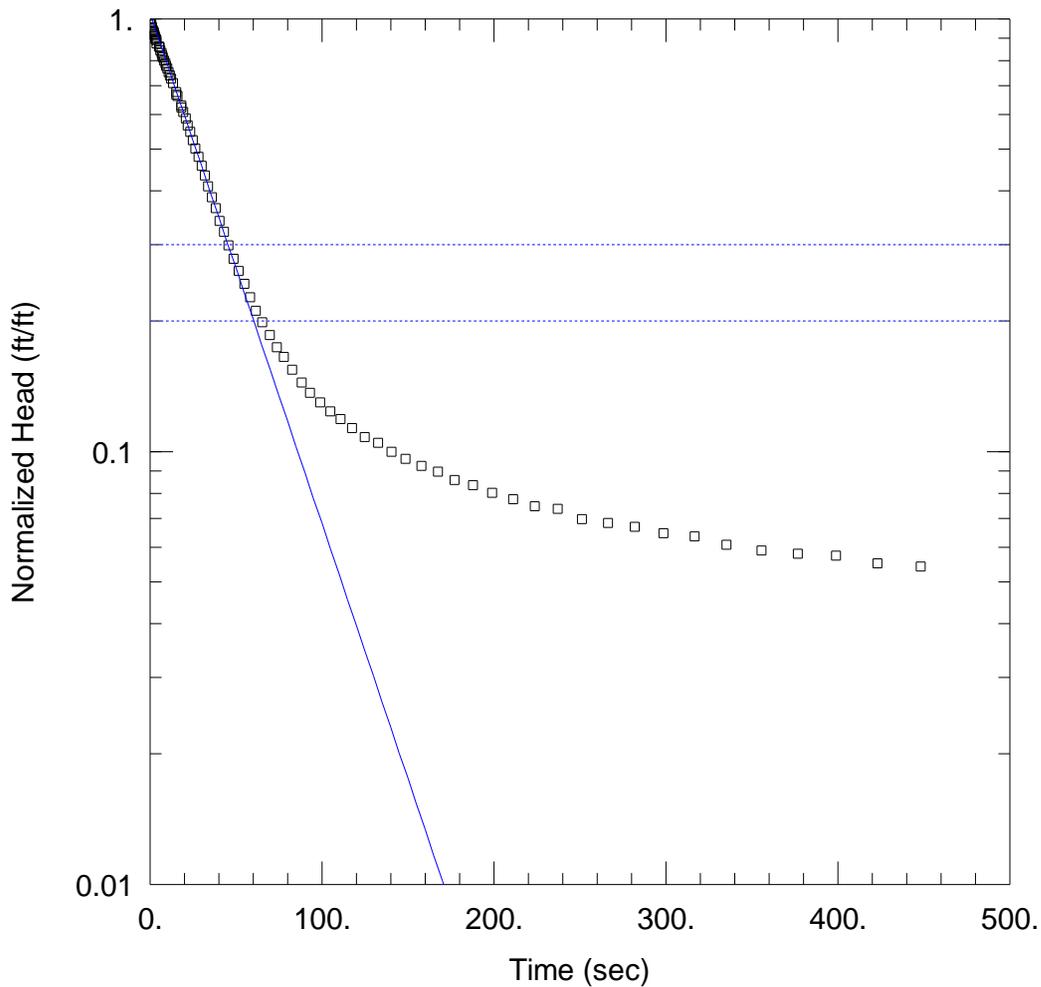
Initial Displacement: 2.667 ft
 Total Well Penetration Depth: 10. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 6.45 ft
 Screen Length: 10. ft
 Well Radius: 0.146 ft

SOLUTION

Aquifer Model: Unconfined
 K = 0.2821 ft/day

Solution Method: Bouwer-Rice
 y0 = 0.2596 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-6_Rising.aqt
 Date: 01/10/18

Time: 12:28:33

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-6
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 75.75 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6_rising)

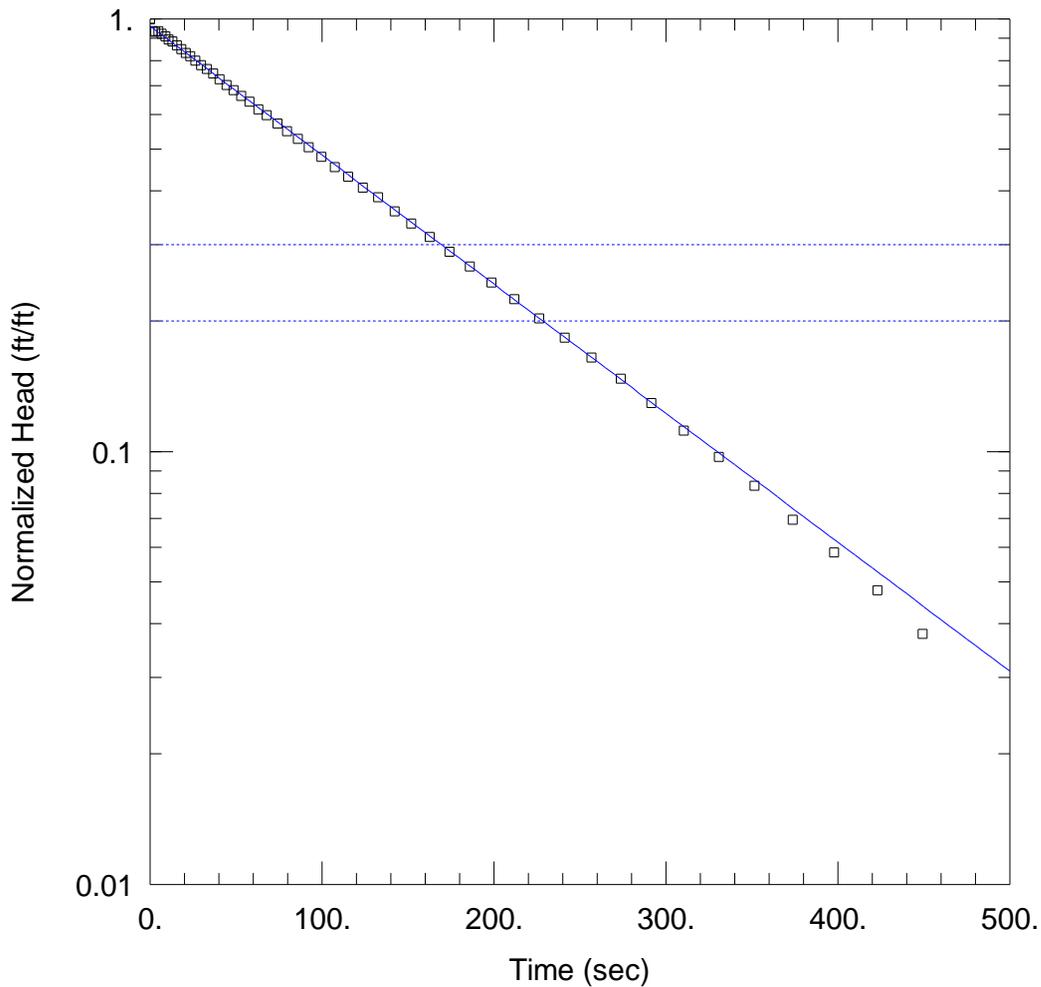
Initial Displacement: -2.104 ft
 Total Well Penetration Depth: 10. ft
 Casing Radius: 0.083 ft

Static Water Column Height: 6.45 ft
 Screen Length: 10. ft
 Well Radius: 0.146 ft

SOLUTION

Aquifer Model: Unconfined
 K = 2.19 ft/day

Solution Method: Bouwer-Rice
 y0 = -2.17 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-6I_Falling.aqt

Date: 01/10/18

Time: 10:08:56

PROJECT INFORMATION

Company: AECOM

Client: Shakespeare Composite Structur

Project: 60534283

Location: Newberry, SC

Test Well: MW-6I

Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 76.19 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6I_Falling)

Initial Displacement: 2.533 ft

Static Water Column Height: 31.33 ft

Total Well Penetration Depth: 31.33 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.25 ft

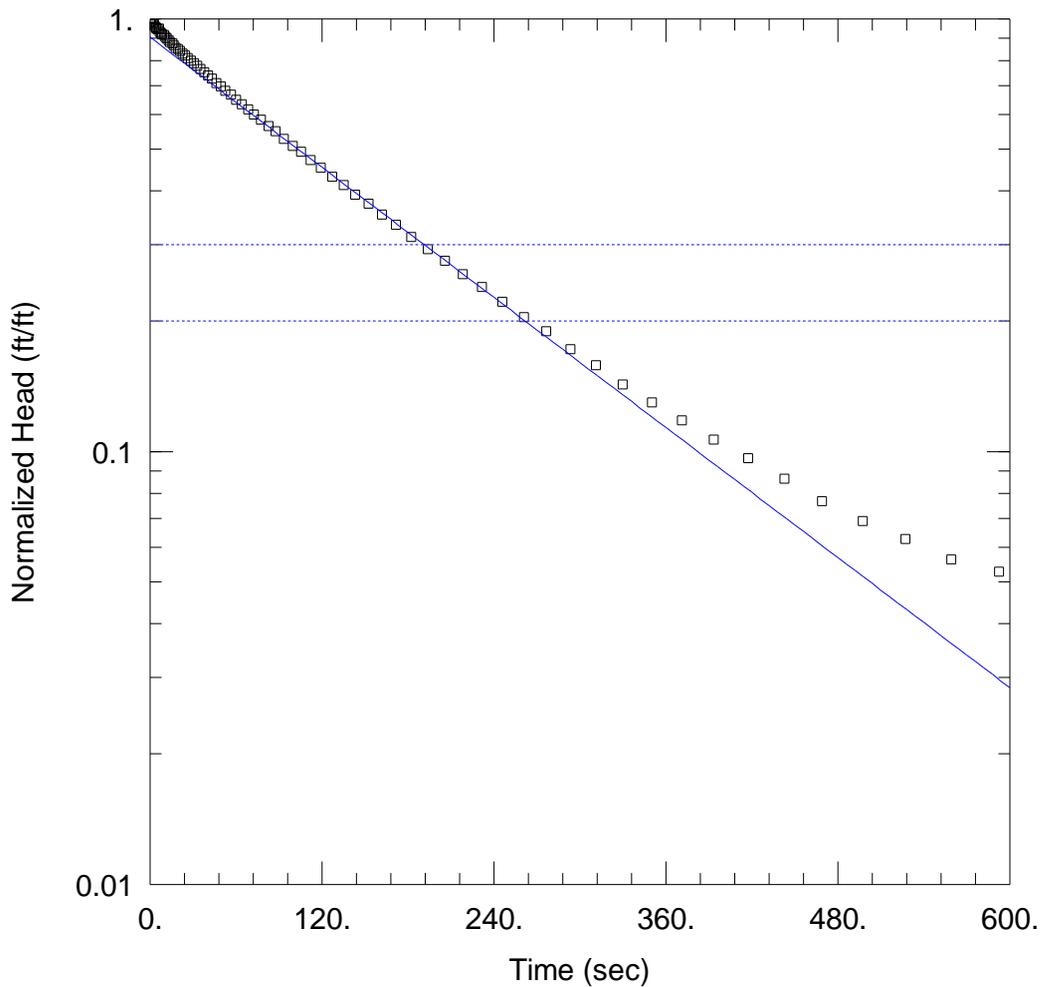
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.5674 ft/day

y0 = 2.435 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-6I_Rising.aqt

Date: 01/10/18

Time: 10:11:32

PROJECT INFORMATION

Company: AECOM

Client: Shakespeare Composite Structur

Project: 60534283

Location: Newberry, SC

Test Well: MW-6I

Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 76.19 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-6I-rising)

Initial Displacement: -2.805 ft

Static Water Column Height: 31.33 ft

Total Well Penetration Depth: 31.33 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.25 ft

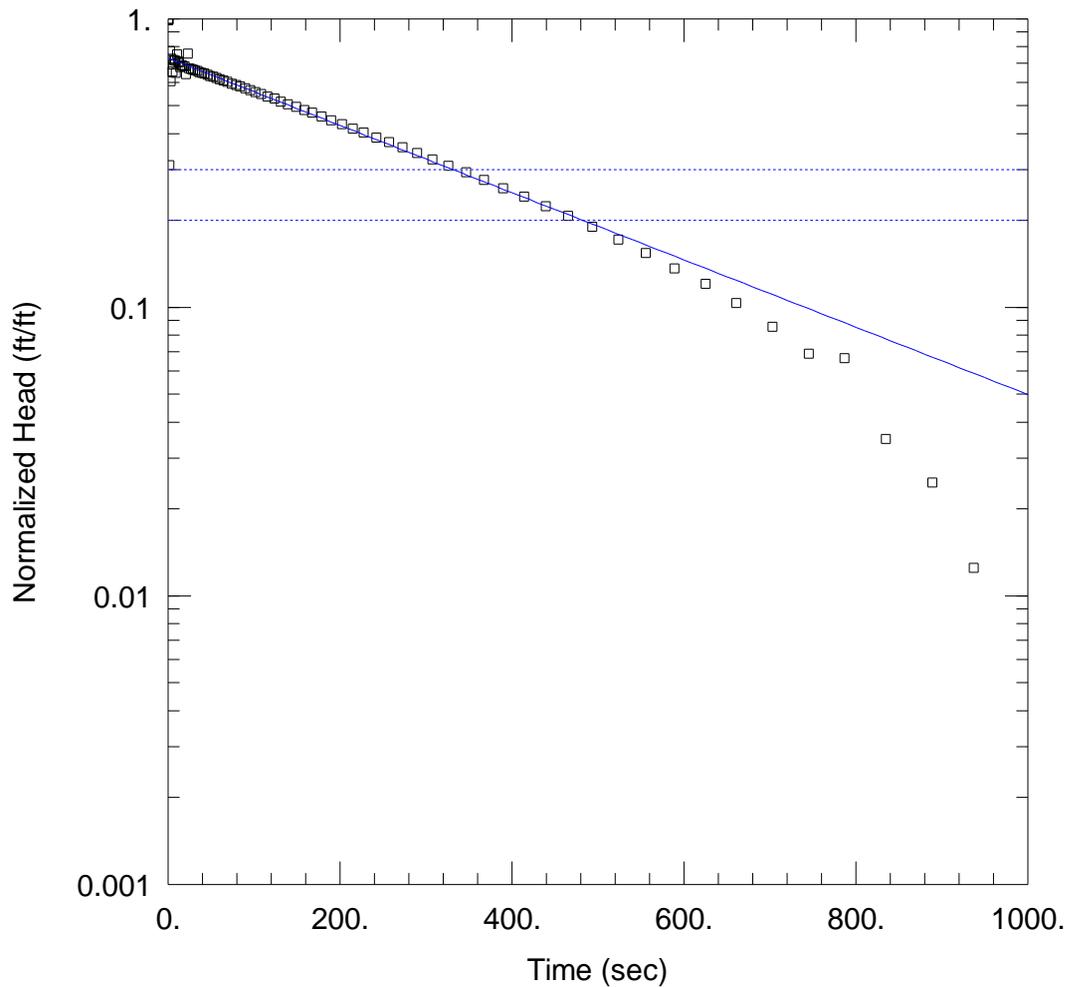
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 0.4767 ft/day

y0 = -2.542 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-10_Falling.aqt
 Date: 01/10/18

Time: 10:19:47

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-10
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 30.2 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10_falling)

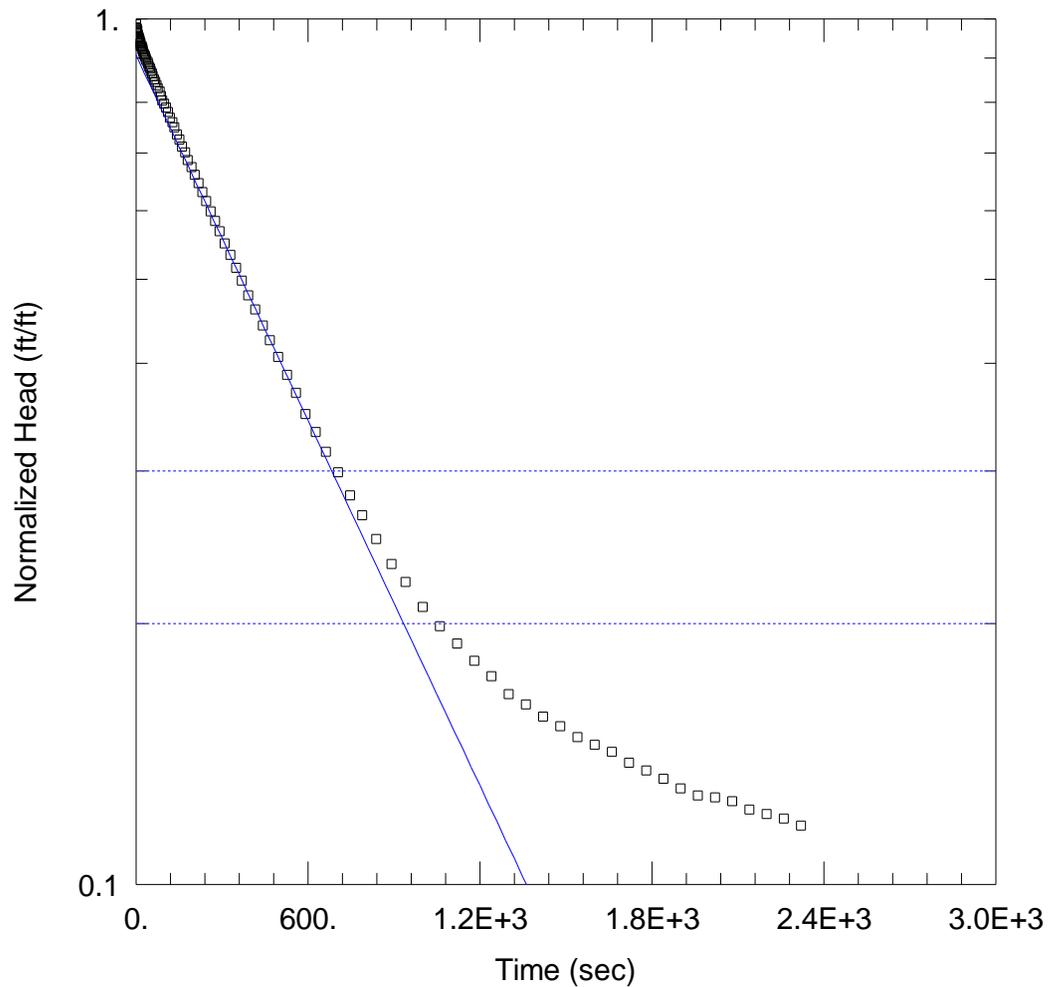
Initial Displacement: 3.287 ft
 Total Well Penetration Depth: 17.32 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 17.32 ft
 Screen Length: 10. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 K = 0.2113 ft/day

Solution Method: Bowser-Rice
 y0 = 2.401 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-10_Rising.aqt
 Date: 01/10/18

Time: 10:24:29

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-10
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 30.2 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10_rising)

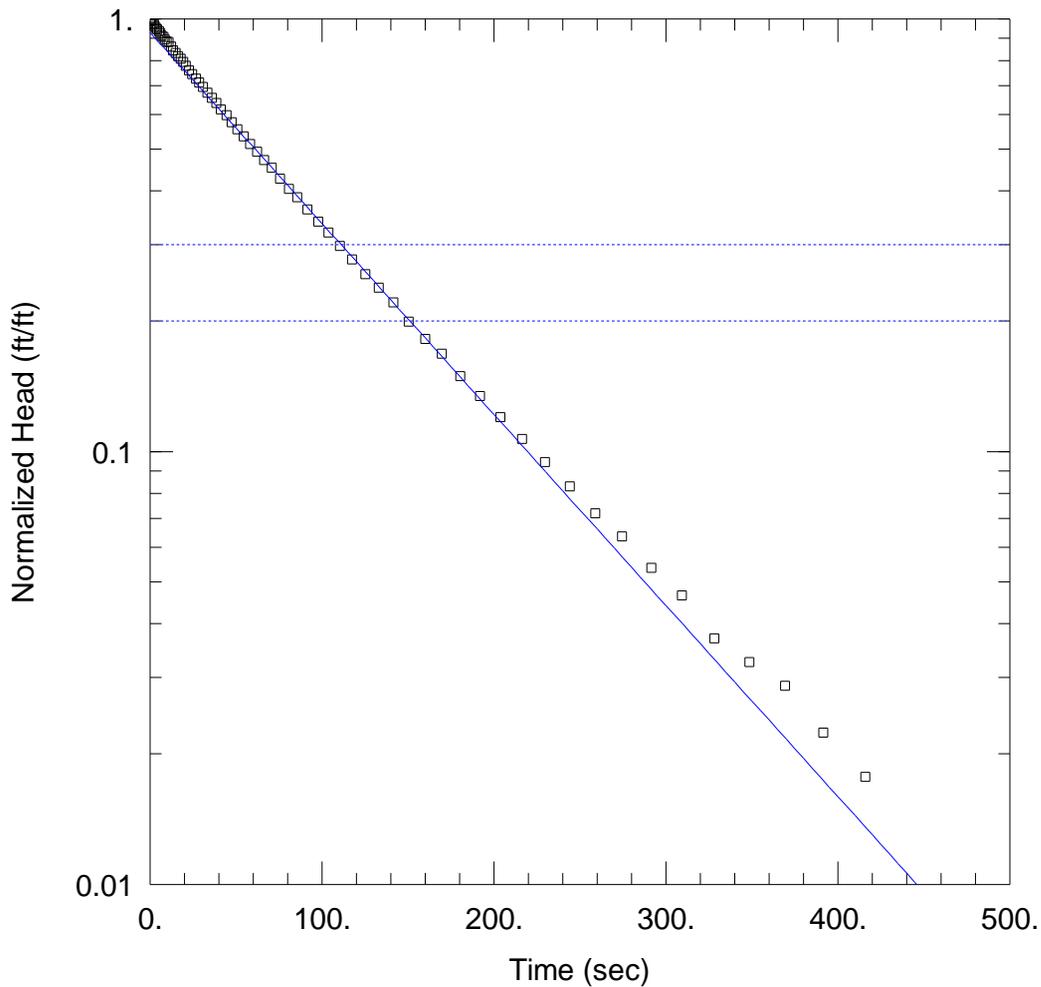
Initial Displacement: -2.772 ft
 Total Well Penetration Depth: 17.32 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 17.32 ft
 Screen Length: 10. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 K = 0.1274 ft/day

Solution Method: Bouwer-Rice
 y0 = -2.516 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-10I_Falling.aqt

Date: 01/10/18

Time: 10:35:12

PROJECT INFORMATION

Company: AECOM

Client: Shakespeare Composite Structur

Project: 60534283

Location: Newberry, SC

Test Well: MW-10I

Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 31.05 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10I_falling)

Initial Displacement: 2.542 ft

Static Water Column Height: 28.95 ft

Total Well Penetration Depth: 28.95 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.25 ft

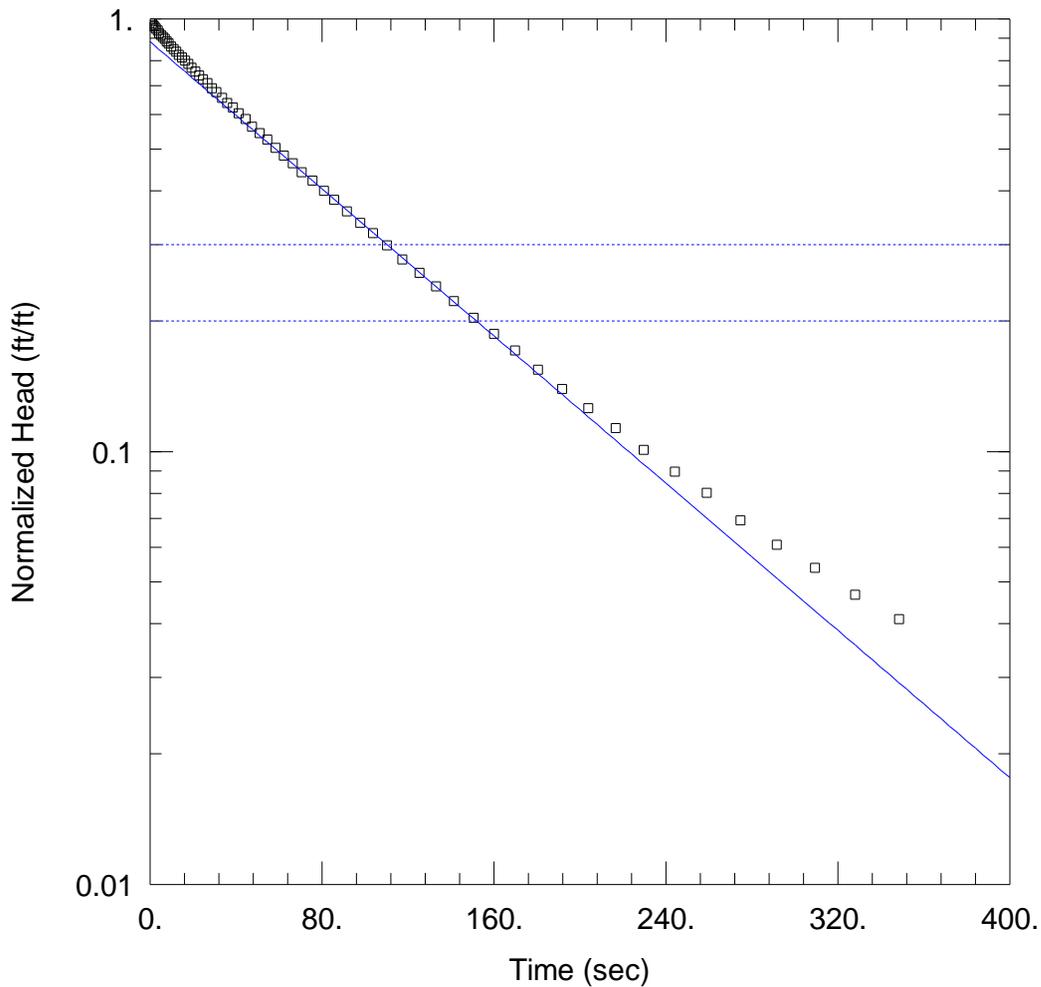
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bowser-Rice

K = 0.9193 ft/day

y0 = 2.365 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-10I_Rising.aqt
 Date: 01/10/18

Time: 10:41:02

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-10I
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 31.05 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-10I_rising)

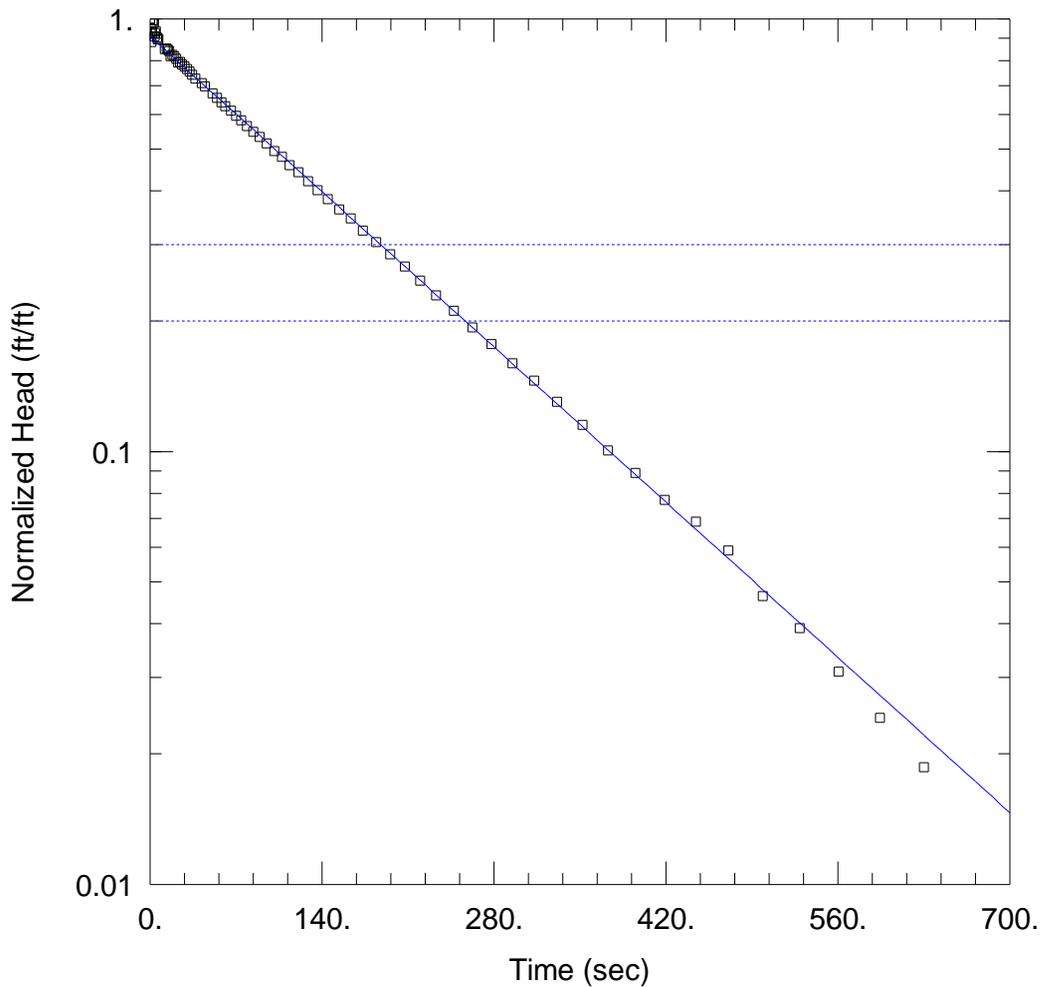
Initial Displacement: -2.827 ft
 Total Well Penetration Depth: 28.95 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 28.95 ft
 Screen Length: 10. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 K = 0.8851 ft/day

Solution Method: Bouwer-Rice
 y0 = -2.502 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-20_Falling.aqt
 Date: 01/10/18

Time: 10:42:20

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-20
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 65.02 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20_falling)

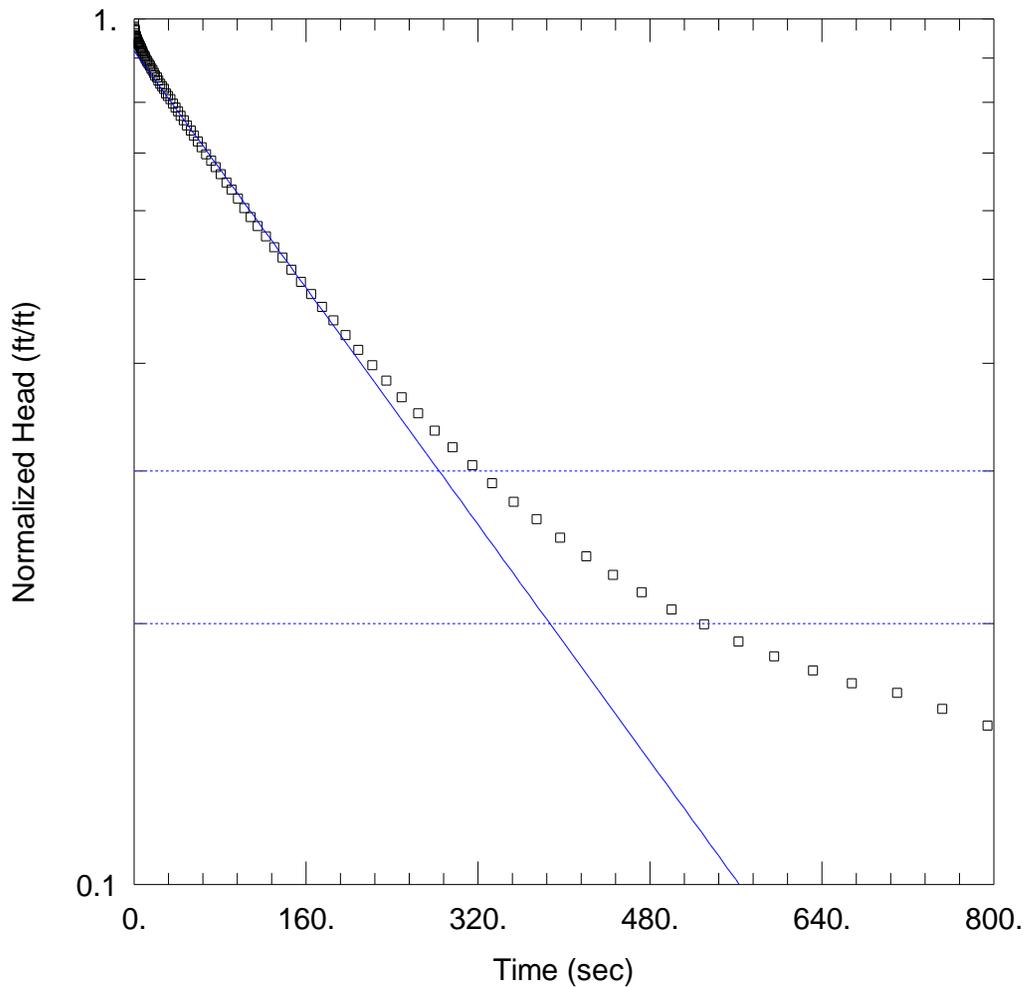
Initial Displacement: 2.845 ft
 Total Well Penetration Depth: 26.08 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 26.08 ft
 Screen Length: 10. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 K = 0.4777 ft/day

Solution Method: Bouwer-Rice
 y0 = 2.589 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-20_Rising.aqt
 Date: 01/10/18

Time: 10:44:34

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-20
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 65.02 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20_rising)

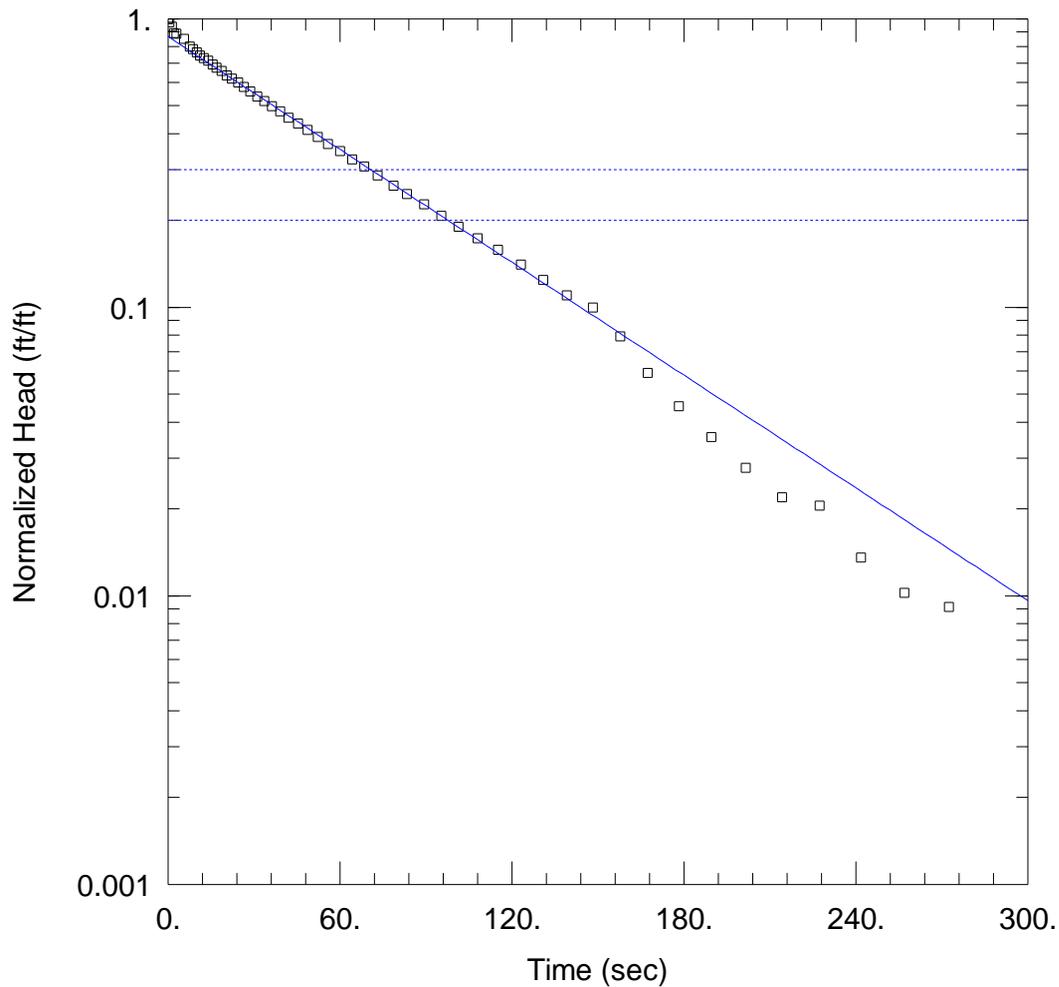
Initial Displacement: -3.292 ft
 Total Well Penetration Depth: 26.08 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 26.08 ft
 Screen Length: 10. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 K = 0.3187 ft/day

Solution Method: Bouwer-Rice
 y0 = -3.021 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-20I_Falling.aqt

Date: 01/10/18

Time: 10:47:29

PROJECT INFORMATION

Company: AECOM

Client: Shakespeare Composite Structur

Project: 60534283

Location: Newberry, SC

Test Well: MW-20I

Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 65.1 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20I_falling)

Initial Displacement: 2.733 ft

Static Water Column Height: 43.81 ft

Total Well Penetration Depth: 43.81 ft

Screen Length: 10. ft

Casing Radius: 0.083 ft

Well Radius: 0.25 ft

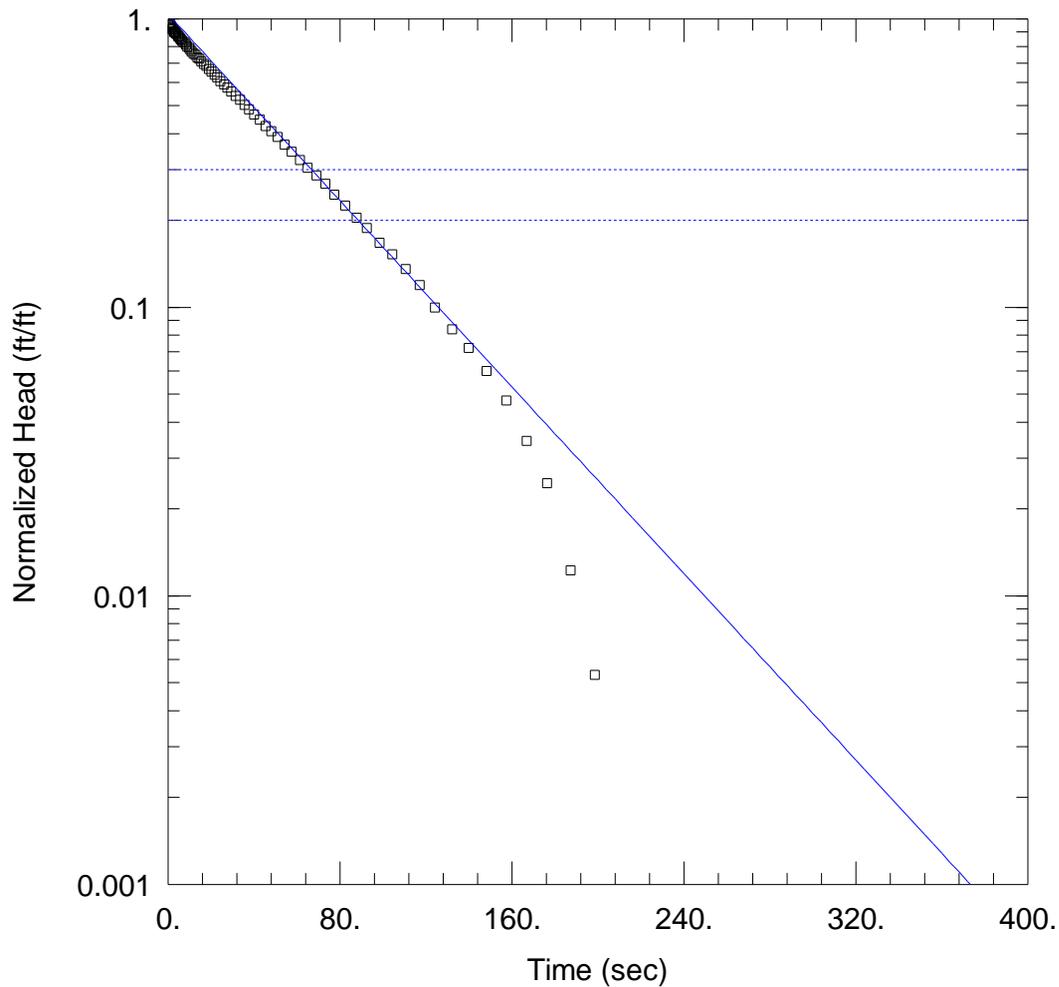
SOLUTION

Aquifer Model: Unconfined

Solution Method: Bouwer-Rice

K = 1.327 ft/day

y0 = 2.368 ft



WELL TEST ANALYSIS

Data Set: L:\...\MW-20I_Rising.aqt
 Date: 01/10/18

Time: 10:49:09

PROJECT INFORMATION

Company: AECOM
 Client: Shakespeare Composite Structur
 Project: 60534283
 Location: Newberry, SC
 Test Well: MW-20I
 Test Date: 8/3/2017

AQUIFER DATA

Saturated Thickness: 65.1 ft

Anisotropy Ratio (Kz/Kr): 1.

WELL DATA (MW-20I_rising)

Initial Displacement: -2.445 ft
 Total Well Penetration Depth: 43.81 ft
 Casing Radius: 0.083 ft

Static Water Column Height: 43.81 ft
 Screen Length: 10. ft
 Well Radius: 0.25 ft

SOLUTION

Aquifer Model: Unconfined
 K = 1.645 ft/day

Solution Method: Bouwer-Rice
 y0 = -2.537 ft