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May 18, 2016

MAY 2 0 2016

SITE ASSESSMENT, REMEDIATION & REVITALIZATION

Ms. Addie Walker South Carolina Department of Health and Environmental Control Bureau of Land and Waste Management State Remediation Section 2600 Bull Street Columbia, South Carolina 29201

Re: Summary of Well Installation and Sampling Efforts

Former Shakespeare Composite Structures Site

Newberry County

Voluntary Cleanup Contract 14-6271-RP

Site ID # 51025

Dear Ms. Walker:

Between February 18 and April 18, 2016, AECOM Technical Services, Inc. (AECOM), performed well installation and sampling efforts as part of an ongoing investigation at the Shakespeare Composite Structures Site (the Site). In the August 2015 Site Investigation Work Plan (SIWP) Addendum, AECOM proposed the installation of an additional deep bedrock well on the former Shakespeare manufacturing facility property (the plant) along with intermediate wells on the properties to the north (Dickert Property) and the south (Shealy Property) of the plant. As a follow-up to recommendations in the SIWP Addendum, the SCDHEC requested installation of an additional bedrock well on the Shealy property as part of this investigative effort. The intent of this brief report is to summarize the results of the well installation and sampling efforts.

Well Installation

Four wells were installed during this portion of the investigation. The wells included one shallow well (MW-25), one intermediate well (MW24I) and one bedrock well (SDW-2) on the Shealy property, and one deep bedrock well (MW-9D) on the plant site. Each well was installed using rotosonic drilling techniques in accordance with the procedures referenced in Section 3.2.1 of the SIWP Addendum. Soil boring logs generated during well boring advancement and well construction logs documenting well construction details for each of these new wells are included in **Attachment A** of this letter report.

Shallow Wells

Shallow well MW-25 was installed downgradient from temporary well TMW-114. TMW-114 was installed and sampled in December 2015. As indicated in the March 8, 2016 Quarterly Progress Report, analytical

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results for the confirmatory sample collected from TMW-114 indicated the presence of trichloroethylene (TCE) at 66 micrograms per liter (ug/L), which is above the primary drinking water standard (maximum contaminant level – MCL) of 5 ug/L. As a result, Philips opted to install an additional shallow well (MW-25) downgradient (southwest) of temporary well TMW-114 to attempt to achieve horizontal plume definition in this direction. MW-25 was installed to a depth of approximately 29 feet below land surface (BLS); the groundwater sample collected from this well had a reported TCE concentration of 0.9 ug/L, which is below the 5 ug/L MCL; therefore, delineation in this direction has been completed. The location of MW-25 is depicted on **Figure 1**.

Intermediate Wells

As indicated in the SIWP Addendum, at least one intermediate zone well was planned for the Shealy property. MW-24I was installed to the southeast of MW24 (shallow well) on February 17, 2016. Based on the depths of intermediate wells advanced in other portions of the Site, it was anticipated that the depth of this well would range between 40 and 65 feet BLS. However, MW-24I was installed to a depth of approximately 39 feet BLS. This well is constructed into the top of competent granitic bedrock, which was encountered at approximately 31 feet BLS at this location. The location of MW-24I is depicted on **Figure 2**.

Bedrock Wells

Two bedrock wells were installed at the Site during this portion of the investigation. SDW-2 was installed on the Shealy property, approximately 450 feet northeast of existing well SDW-1. MW-9D was installed on the plant, to the south of well cluster MW9/9I. **Figure 3** depicts the locations of the bedrock wells installed at the Site to date.

Each well was installed as Type III, double-cased well in accordance with SC Well Standards and Regulations R.61-71. This entailed advancement of a pilot-boring through overburden materials and saprolite to the top of competent bedrock. At SDW-2 competent metamorphosed granitic gneiss was encountered at approximately 43 feet BLS. A six-inch diameter polyvinyl chloride (PVC) surface casing was installed in the pilot boring and sealed in place using a cement grout. The well boring was then advanced into the underlying bedrock using a rotosonic coring device. The well boring was advanced to a total depth of approximately 89 feet, which is greater than 40 feet into the bedrock. Due to difficult coring conditions, recovery of reliable bedrock cores was limited in this boring, making it difficult to clearly identify fracture zones that may produce a sufficient quantity of groundwater for sampling. The well was installed to a total depth of 89 feet BLS.

Bedrock well MW-9D was installed south of the main axis of a high concentration groundwater plume area at the plant. The intent of this well was to assess if elevated CVOC concentrations had migrated into deeper bedrock near the area of highest concentrations in shallow groundwater. The pilot boring for MW-9D was advanced to a depth of 130 feet; which is far greater than originally anticipated due to greater thickness of the saprolite and weathered bedrock overlying competent granitic bedrock beneath this portion of the Site.

Soil boring logs and well construction diagrams for SDW-2 and MW-9D detail the lithology encountered at these locations and summarize the construction of these wells. Copies of each are included in **Attachment A**.

Well Development and Sampling

Following installation of the wells, AECOM personnel performed development and sampling in accordance with procedures described in the SIWP Addendum. Development included surging and over-

pumping using a submersible pump while measuring water quality parameters including pH, specific conductivity, temperature and turbidity. Wells MW24I and MW25 were developed the week of February 22, 2016. Wells SDW-2 and MW-9D were developed during the week of April 18, 2016. Development was performed until water quality parameters stabilized in accordance with procedures described in the SIWP Addendum. Development efforts were documented on well development forms generated for each well copies of which are included in **Attachment B**.

Once well development efforts were completed, AECOM personnel implemented groundwater sampling efforts. These efforts were performed in accordance with procedures described in Section 3.2.2 of the SIWP Addendum. Purging efforts were documented on groundwater sampling forms.

Monitoring wells MW24I and MW25 were sampled the week of February 22, 2016; and monitoring wells SDW-2 and MW-9D were sampled during the week of April 25, 2016. Copies of the groundwater sampling forms for each well are also included in **Attachment B**.

Sample Analysis and Results

AECOM contracted Shealy Environmental Services, Inc. (Shealy) to perform analysis on the samples collected from the four monitoring wells (MW24I, MW25, SDW-2, MW-9D) installed during this phase of work. The groundwater samples were analyzed for Target Compound List- Volatile Organic Compounds (TCL-VOCs) using EPA SW-846 Method 8260b. Copies of the analytical reports for these samples are included in **Attachment C**.

Analytical results for the samples collected during this phase of work are summarized on the attached **Table 1**. **Table 2** summarizes qualifiers assigned to data, if necessary, following validation of the laboratory analytical reports by AECOM. Included in **Table 1** are the results for samples collected from temporary wells installed on the Shealy property prior to this phase of work. This data was included to provide additional perspective regarding distribution of impact(s) to groundwater on the Shealy property. **Table 1** includes results for temporary shallow wells TMW111 and TMW114, permanent shallow wells MW23 and MW24, and bedrock well SDW-1. The locations of these wells are depicted on the attached figures.

As shown on **Table 1**, the primary contaminant of concern at the Site, TCE, was detected at elevated concentrations in two groundwater samples, shallow temporary well TMW-114 (66 micrograms per liter – ug/L) and bedrock well sample SDW-1 (16 ug/L), both of which were collected from the Shealy property. TCE was detected at concentrations below the MCL in MW23 (0.34 ug/L), MW-24I (1.8 ug/L), and MW25 (0.9 ug/L), each collected from the Shealy property. The Site related CVOCs were not detected in the sample collected from the new bedrock well installed on the Shealy property (SDW-2). TCE was detected at 3.1 ug/L in the sample from the deep bedrock well installed on the plant – MW-9D.

Other organic compounds (i.e. acetone, chloroform), not related to the site specific CVOCs were detected at low concentrations in several of the samples collected from these locations. Based on their low concentrations, it is suspected that these detections are related to laboratory artifact.

Contaminant Distribution

Review of the analytical results from the recent phase of investigation indicates that the horizontal extent of TCE in shallow groundwater has generally been defined in all directions at the Site. **Figure 1** is a TCE isoconcentration map depicting the most recent CVOC concentrations in TMW and/or permanent shallow wells.

Figure 2 shows the distribution of TCE in the intermediate zone. As shown on this figure, it appears that the extent of elevated TCE concentrations in the intermediate zone has also been defined to the east, and south. Data from the new intermediate well, MW24I, confirms that the extent of impact in this interval has also been defined to the west and southwest.

Data from previous sampling efforts has defined the extent of elevated TCE to the east (MW2D) and to the northwest (RDW-2). **Figure 3** depicts the distribution of TCE in bedrock wells. Based on concentrations detected in the sample from new well SDW-2, the extent of TCE in bedrock wells has also been defined to the west.

Analytical results for the most recent sampling event in SDW-1 indicates TCE is present above the MCL (5 ug/L) at 16 ug/L. This is slightly higher than the concentration detected during its initial sampling in December 2014 (8 ug/L).

Analytical results for the deep on-site bedrock well MW-9D, indicates TCE was not detected above its MCL. This appears to indicate the vertical extent of elevated TCE values in the deeper bedrock has been delineated beneath the plant.

Conclusions

Results of the latest phase of investigative efforts have delineated the extent of elevated TCE impact in multiple depth zones to the west of the Site. The vertical extent of impact beneath the plant has also been delineated. Slightly elevated concentrations of TCE are still evident in bedrock to the southwest of the Site; however, AECOM and Philips do not recommend additional investigative efforts beyond SDW-1 at this time.

Due to difficulties accessing proposed drilling locations on the Dickert property (north of the plant); the intermediate well proposed for this property was not installed during this phase of work. Philips and AECOM are negotiating with the property owner to modify paths to allow future access for drilling and sampling efforts. SCDHEC will be notified of the approval for these developing plans and schedule for future drilling on this property.

Should you have any questions regarding the information included in this letter report, please contact me at (803) 254-4400 at your convenience.

Sincerely,

Scott E. Ross, P.G.

Senior Project Manager

cc: Ms. Dianne Murphy - Philips

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TABLES

Table 1 Summary of Volatile Organic Compounds in Groundwater Shakespeare Composite Structures Facility Newberry, South Carolina

Sample ID		TMW-111	TMW-114	MW 9D	MW 9D - DUP	MW-23	MW-23	MW-24	MW24I	MW-25	SDW-1	SDW 2
Laboratory ID		QL17089-001	QL17089-002	RD26033-001	RD26033-002	RA13091-003	RB24001-001	RA13091-002	RC03069-001	RB26034-001	RA13091-001	RD26033-003
Date Collected		12/14/15	12/15/15	04/25/16	04/25/16	01/13/16	2/23/2016	01/13/16	3/3/2016	2/26/2016	01/13/16	04/26/16
Volatile Organic Compounds by USI			12/13/13	04/23/10	04/23/10	01/13/10	2/23/2010	01/13/10	3/3/2010	2/20/2010	01/13/10	04/20/10
1,1,1-Trichloroethane	200	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
1,1,2,2-Tetrachloroethane	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
1,1,2-Trichloro-1,2,2-Trifluoroethane	NS NS	< 5	< 5	< 5	< 5	< 5		< 5	< 5	< 5	< 5	
												_
1,1,2-Trichloroethane	5											
1,1-Dichloroethane 1,1-Dichloroethene	NS 7	< 5 < 5		< 5				-				
	70			< 5				< 5 < 5				< 5 < 5
1,2,4-Trichlorobenzene				< 5								< 5
1,2-Dibromo-3-chloropropane (DBCP	0.2	< 5	, ,	< 5				< 5				
1,2-Dibromoethane (EDB)	0.05	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
1,2-Dichlorobenzene	600	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
1,2-Dichloroethane	5	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
1,2-Dichloropropane	5	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
1,3-Dichlorobenzene	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
1,4-Dichlorobenzene	75	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
2-Butanone (MEK)	NS	< 10	< 10	< 10	< 10	< 10	< 10 //y	< 10	< 10	< 10	< 10	2.3 J//
2-Hexanone	NS	< 10	< 10	< 10	< 10	< 10	< 10 //y	< 10	< 10	< 10	< 10	0.59 J//
4-Methyl-2-pentanone	NS	< 10	< 10	< 10	< 10	< 10	< 10 //y	< 10	< 10	< 10	< 10	0.92 J//
Acetone	NS	< 20	< 20	2.4 J//	1.9 J//	< 20	< 20 //y	< 20	< 20	< 20	< 20	11 J//
Benzene	5	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Bromodichloromethane	80 1	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Bromoform	80 ¹	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Bromomethane (Methyl bromide)	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Carbon disulfide	NS	< 5	< 5	< 5	< 5	1.1 J//	< 5 //y	< 5	< 5	< 5	< 5	< 5
Carbon tetrachloride	5	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Chlorobenzene	100	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Chloroethane	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Chloroform	80 1	< 5	< 5	2 J//	1.9 J//	< 5	< 5 //y	< 5	2.1 J//	4 J//	< 5	5.7
Chloromethane (Methyl chloride)	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	0.37 J//
cis-1,2-Dichloroethene	70	< 5	3.2 J//	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	0.96 J//	< 5
cis-1,3-Dichloropropene	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5		< 5
Cyclohexane	NS NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5 < 5	< 5
					-							
Dibromochloromethane	80 1	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Dichlorodifluoromethane	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Ethylbenzene	700	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Isopropylbenzene	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Methyl acetate	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Methyl tertiary butyl ether (MTBE)	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Methylcyclohexane	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Methylene chloride	5	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	1.8 J//
Styrene	100	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Tetrachloroethene	5	< 5	0.4 J//	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Toluene	1000	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	27
trans-1,2-Dichloroethene	100	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
trans-1,3-Dichloropropene	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Trichloroethene	5	< 5	66	3.1 J//	3.1 J//	0.95 J//	0.34 J//y	< 5	1.8 J//	0.9 J//	16	< 5
Trichlorofluoromethane	NS	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5
Vinyl chloride	2	< 2	< 2	< 2	< 2	< 2	< 2 //y	< 2	< 2	< 2	< 2	< 2
Xylenes (total)	10000	< 5	< 5	< 5	< 5	< 5	< 5 //y	< 5	< 5	< 5	< 5	< 5

Notes:

Page 1 of 1 5/18/2016

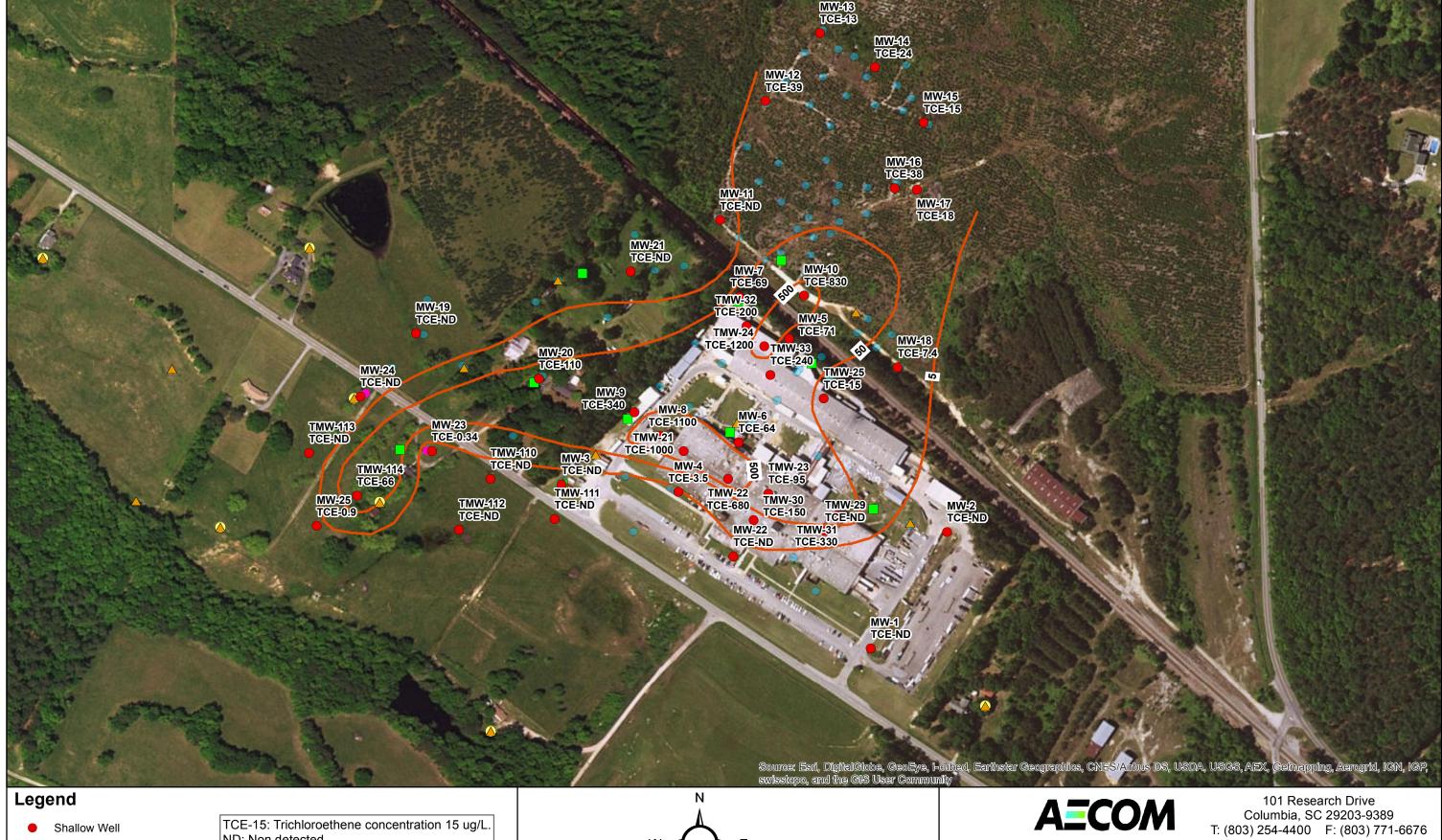
^{1 - 1998} Final Rule for Disinfectants and Disinfection By-Products: The total for trihalomethanes is 80 μg/L. MCL - Maximum Contaminant Level (USEPA, April 2012)

NCL - Maximum contaminant Level (USEPA, April 2012, NS - No Standard USEPA - United States Environmental Protection Agency Bold font and shading indicates the analyte was detected. Bold outline indicates an exceedance of the USEPA MCL.

Table 2 Added Data Qualifiers Shakespeare Newberry, South Carolina

<u>Modifier</u>	<u>Description</u>
<	Indicates not detected at the reporting limit indicated.
יקיי	Separates the laboratory added data qualifiers from the validation data qualifiers. The laboratory added data qualifiers precede the first "/". The result qualifiers follow the first "/", and the analysis qualifiers follow the second "/". The result qualifiers are a product of the data validation process, and the analysis qualifier defines the type of QC excursion.
	Laboratory Data Qualifiers
<u>Qualifier</u>	Description
J	Estimated result less than the practical quantitation limit and greater than or equal to the method detection limit.
	Result Data Qualifiers
<u>Qualifier</u>	<u>Description</u>
No Result Data	Qualifiers were added as a result of the validation process.
	Analysis Data Qualifiers
<u>Qualifier</u>	<u>Description</u>
у	Cooler temperature greater than 4 degrees Celsius but less than 10 degrees Celsius.

FIGURES



Shallow Well

Intermediate Well

Bedrock Well

- Water Supply Well
- Existing Shallow Zone Monitoring Well

ND: Non detected.

NS: Not sampled.

Abandoned Temporary Wells

TCE Isoconcentration Contour (ug/L)

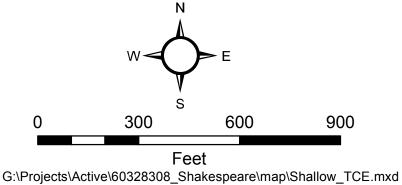
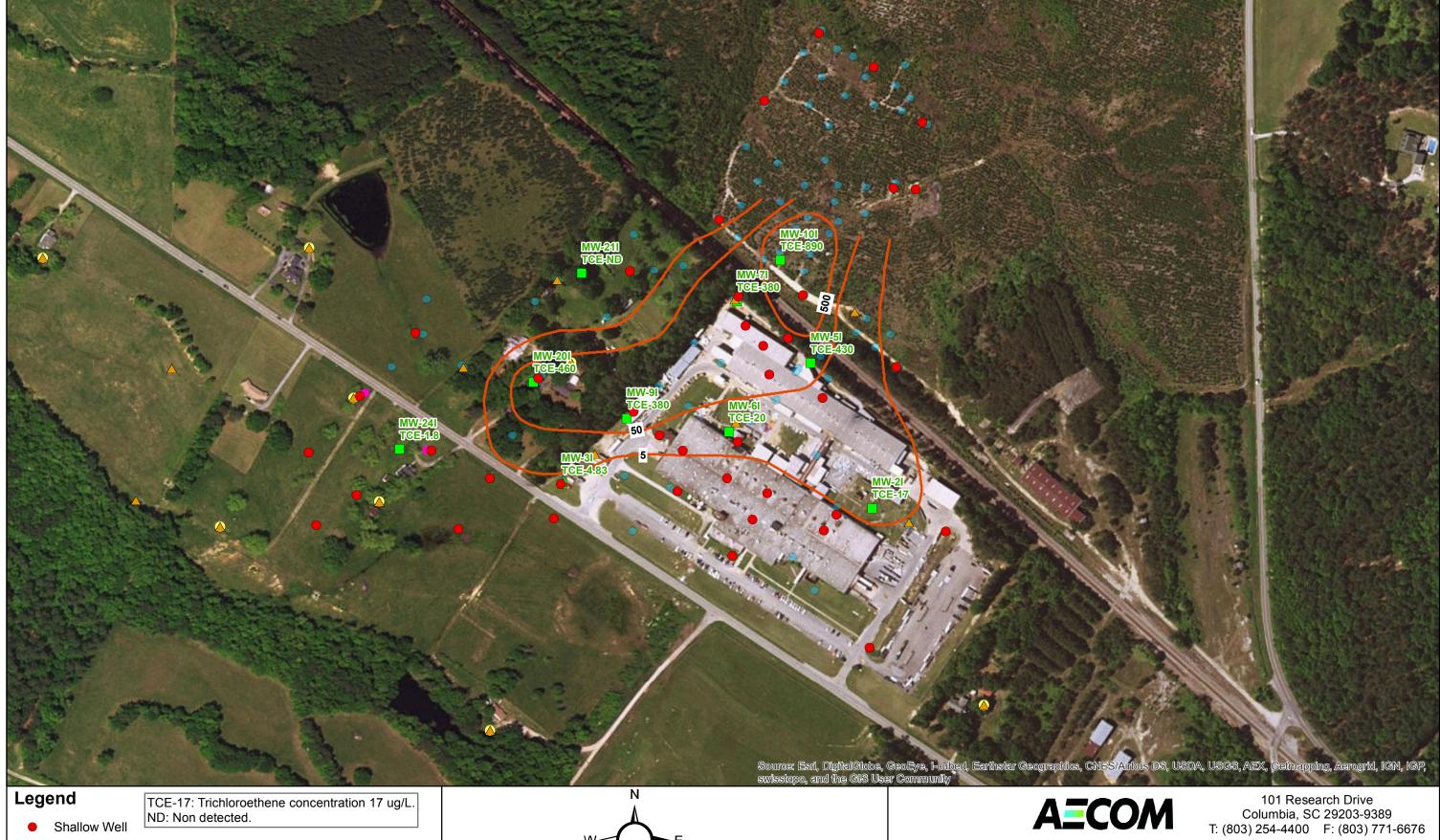




Figure 1: TCE Isoconcentration in Shallow Zone

Shakespeare Composition Structures Newberry, South Carolina

Project No.: 60328308; Prepared by: JC; Date: 5/17/2016.



- Intermediate Well
- Bedrock Well
- Water Supply Well
- Existing Shallow Zone Monitoring Well
- Abandoned Temporary Wells

TCE Isoconcentration Contour (ug/L)

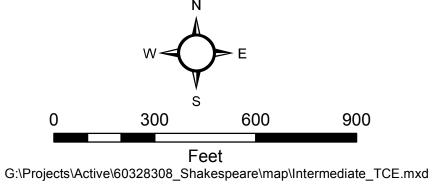
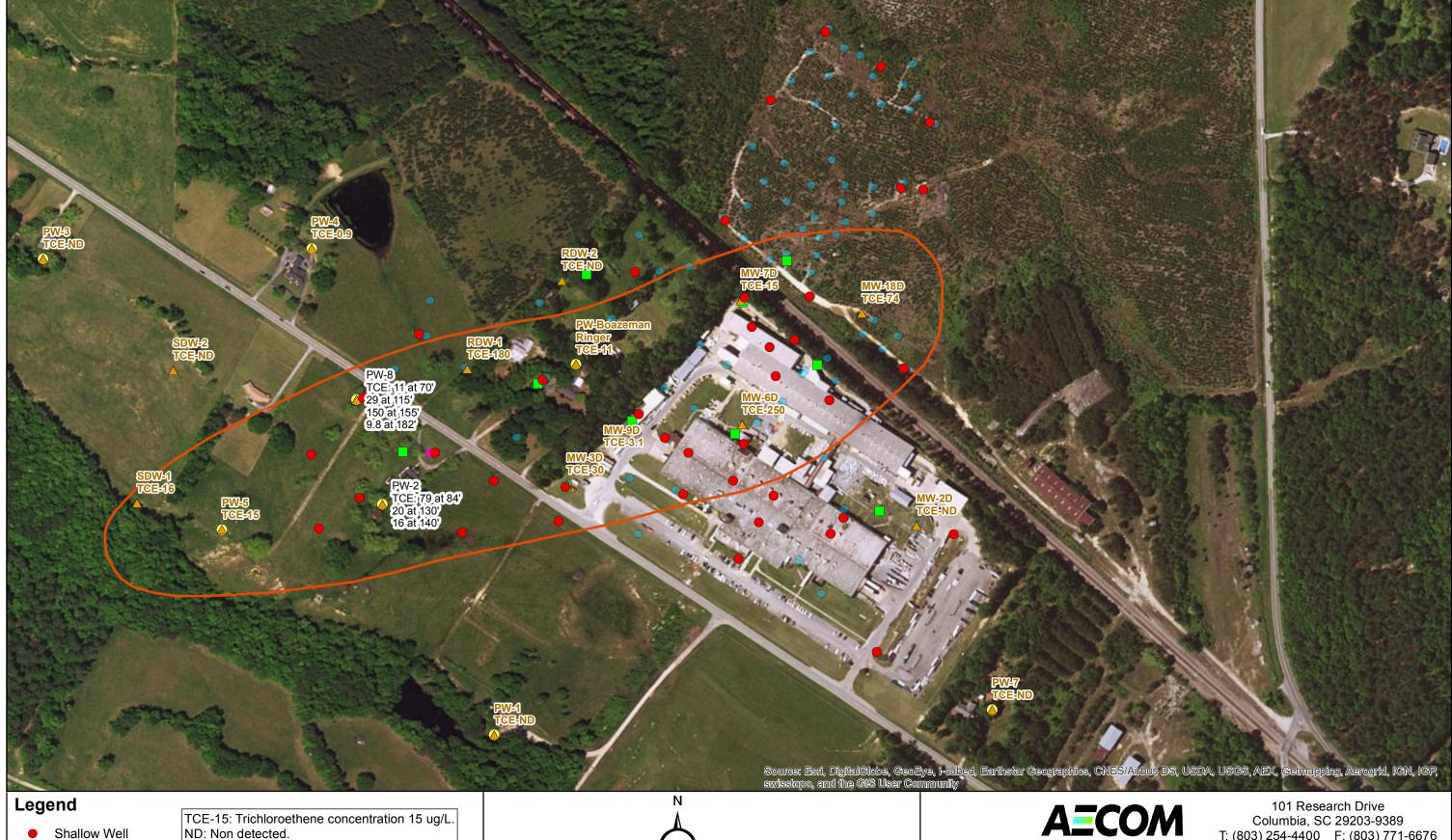


Figure 2: TCE Isoconcentration in Intermediate Zone

Shakespeare Composition Structures Newberry, South Carolina

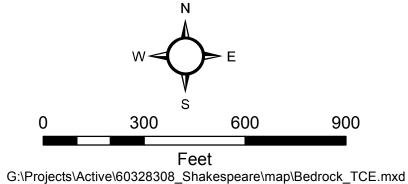
Project No.: 60328308; Prepared by: JC; Date: 5/17/2016.



ND: Non detected.

- Intermediate Well
- Bedrock Well
- Water Supply Well
- Existing Shallow Zone Monitoring Well
- **Abandoned Temporary Wells**

TCE Isoconcentration contour (ug/L)



AECOM

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Figure 3: TCE Isoconcentration in Bedrock Wells

Shakespeare Composition Structures Newberry, South Carolina

Project No.: 60328308; Prepared by: JC; Date: 5/17/2016.

ATTACHMENT A

SOIL BORING LOGS AND WELL CONSTRUCTION DIAGRAMS

A	ECO	M	Soil Boring Log								MW24I OF Z	
PRO	JECT:	Shake	speare						PROJE	CT NO:	60328307	
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5-10	LOOSE	COL	3-4	SOFT		ST SHELBY		SOME	30-45%		NOT ENCOUNTERED	
11-30	MEDIUM	DENSE	5-8	MEDIUM	STIFF	G GRAB SA	100 C.	LITTLE	15-25%		NOT READ	
31-50 50+	DENSE VERY DE	NSE	9-15 16-30	STIFF VERY ST	IFF	MC MACRO-0	OKE	FEW TRACE	5-10% <5%	NR N	NO RECOVERY	
		700 TOTAL	31+									

M	ALC: UNKNOWN		A	4
A	-			7

DEPTH IN FEET	ORGANIC VAPOR SCREENING (PPM)	SAMPLER BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	H							
—20.0 —					form Me Some s	ilt, trace clay						
							yellow, mostly	med, land, few silt,				
— 25.0					75.00 (5)	arto above ato above exc	est trace med	to is grave (
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– 45.0												
				<u> </u>			DEC 22-12-11-					
BLOWS/FT. DENSITY BLOWS/F 0-4 VERY LOOSE 0-2		T. CONS	OFT OFT	SAMPLER ID. SS SPLIT SPOON	DESCRIPTIONS MOSTLY 50-100%	NOTES WD WHILE DRILLING						
5-10 11-30 31-50 50+	LOOSE	/I DENSE	3-4 5-8 9-15 16-30 31+	4 SOFT ST SHELBY TUBE SOME 30-45% NE NOT ENCOUNT 8 MEDIUM STIFF G GRAB SAMPLE LITTLE 15-25% UR NOT READ 15 STIFF MC MACRO-CORE FEW 5-10% NR NO RECOVERY 3-30 VERY STIFF TRACE <5%								

A	ECO	M			Soil Boring Log							MU325
PRO.	JECT:	Shalers	peare -	Nonta	554					PROJE	CT NO:	60523308
CLIE	NT:	Philips								LOCAT	ION:	
CON	TRACTOR	Co	Kode		i					ELEVA [*]	TION:	
EQU	IPMENT:		4,01-	5001	ie.					NORTH	IING:	
	UNDWATE	1000	1,7-1,7		AND THE RESERVE AND THE PARTY OF THE PARTY O	NG INFORMAT	ΓΙΟΝ			EASTIN	IG:	
DATE	HRS	WATER	METHOD		CAS	SING	TEM	/IP / PERM		DATE S	START:	2/20/16
			HOLE DIA.		CAS	SING DIA.	CAS	SING TYPE		DATE F	INISH:	2/26/16
			DEPTH		CAS	SING DEPTH	GRO	OUT TYPE		DRILLE	R:	
			SAMPLING			MMER WT	HAN	MMER FALL		OVERS	IGHT:	9.0655
DEPTH	ORGANIC	SAMPLER		SAMPLE								
IN FEET	VAPOR SCREENING (PPM)	BLOWS PER 6 INCHES	SAMPLE NUMBER	DEPTH RANGE		FIELD CL	ASSIFIC	ATION AI	ND REI		CLASSIFICA	ATION: USCS
	(* 1.27)				5117434	ND (sm)						
					Mad der	un insiste	Mostle	y 3.14.	30:00	ne	11.5	ine sand,
					trace e	100	/					
					HARE E			1	11		Lerons	1
					5,741	arto a6	DUE C	ves	y all	0,000		~
					Simil	In to als	e ue					
5.0												
- 5.0					a J 1	rtoibu	10					
					3.00/10	, ,						
							-				-	T-Management Temporary
					Approximation and the second s	Saun (st						
					Med da	se, mo.	_d Pa	/2 bou	(~~ ?	60	1	1
					114.		27//	1 Fm.		1	1	19(0)//4
			_	1	51171 3	The Time	200	-rv, iec	- 6 140	11-	Fr.	atsolut
– 10.0				1	-	he tabri	-			**************************************	-	
					Management	SAND (toning and a second					
					Med o	louse, me	15 + #c	ivert,	nost!	y 311	f, 30	ine esto
			1			soud,		/		1	,	
			1			soull',						
	A											
					51m,1	lar to al	ou ve					
– 15.0		-	-									
			1									
			1									
			1		con il	ardo al	40 12					
]		21	ar jo						
			-		Swil	15 +3 0	bout	9				
			-		, "	., , , - ,						
- 20.0			1									
BLOW	S/FT.	DENSITY	BLOWS/F	r. con	SISTENCY	SAMPLEI	R ID.	DES	SCRIPTION	IS		NOTES
0-4	VERY LO	OSE	0-2	VERY SC	FT	SS SPLIT SPO		MOSTLY		0-100%		WHILE DRILLING
5-10 11-30	LOOSE MEDIUM	DENSE	3-4 5-8	SOFT MEDIUM	STIFF	ST SHELBY T G GRAB SAI		SOME LITTLE		0-45% 5-25%		NOT ENCOUNTERED NOT READ
31-50	DENSE	DENOL	9-15	STIFF	57111	MC MACRO-C		FEW		5-10%	7.00	NO RECOVERY
50+	VERY DE	ENSE	16-30 31+	VERY ST HARD	TFF			TRACE		<5%		

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BORING NO. 01 N - 25

DEPTH IN FEET	ORGANIC SAMPL VAPOR BLOV SCREENING PEF (PPM) 6 INCH	VS SAMPLE R NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS						
-20.0 -	2.110			51274	54ND (5M)	30.00	u/			
				v. 1	land wet h	1154+ Lv	our, wistly			
				10 1	to Fine som	d, some silti	trace clay,			
						/				
			v	finee	MICO					
- 25.0		_		511	milas to als	eve				
				_	4					
				(3	oring termin	nted @ 28				
- 30.0										
		_								
		_								
– 35.0				760	28					
				E.14	- 28-15					
				2111	+ 28 = - 28-15' tunte - 15-12					
				ben	lunite - 17					
- 40.0		\dashv								
		_								
		\neg								
- 45.0										
BLOW	S/FT. DENSIT	Y BLOWS/	FT CONS	SISTENCY	SAMPLER ID.	DESCRIPTIONS	NOTES			
0-4	VERY LOOSE	0-2	VERY S		SS SPLIT SPOON	MOSTLY 50-100%	WD WHILE DRILLING			
5-10 11-30	LOOSE MEDIUM DENS	3-4 SE 5-8	SOFT MEDIUN	M STIFF	ST SHELBY TUBE G GRAB SAMPLE	SOME 30-45% LITTLE 15-25%	NE NOT ENCOUNTERED UR NOT READ			
31-50 50+	DENSE VERY DENSE	9-15 16-30	STIFF VERY S		MC MACRO-CORE	FEW 5-10% TRACE <5%	NR NO RECOVERY			
50+	AEVI DEM9E	31+	HARD	,		110101				

A	PROJECT: Shakespeak - Newbory										NG NO
PRO	JECT:	Shak	espear	- No	whary	,			F	PROJE	CT NO: 60328308
CLIE	NT:	Philip			/				L	OCATI	ION:
CON	TRACTOR		cade							ELEVAT	TION:
EQU	IPMENT:	R	otoson	ne					N	NORTH	IING:
GRO	UNDWATE	ER			DRILLIN	IG INFORM	ATION		E	EASTIN	IG:
DATE	HRS	WATER	METHOD		CAS	SING	Brc	TEMP / PERM	Por-	DATE S	START: 34/18/2016
			HOLE DIA.		CAS	SING DIA.	6"	CASING TYPE		DATE F	INISH: 4/14/2016
			DEPTH		CAS	SING DEPTH	130	GROUT TYPE		DRILLE	
			SAMPLING		HAI	MMER WT		HAMMER FALL		OVERS	SIGHT: 9.0059
DEPTH IN FEET	ORGANIC VAPOR SCREENING (PPM)	SAMPLER BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE		FIELD C	LASSIF	ICATION A	ND REMA		CLASSIFICATION: USCS
	(* 1 11)			11 1	TOPSO	11					
				Hund				_			
				Augus						`	
					F:11	- Cl	AYEY	SAND	50)		6 16
					M. 1	dance	dry.	A 4 1	# g 21	1001	Lesed, mostly
					_	f	0	1 5	. 1.1		1
					time s	eand, t	PW C	lay, fre	11/1/1		1
- 5.0											
	0.4										
					SHIT	10110 5	1000	5016	THE INTERIOR	54 = a	NO (sm/sc)
					med a	longe, our	15.7 h	that become	Joen's	4750	to reddish brown
					tate tight	of bioan		1000000	P TO PLI	ow -	to riddish brown
					mostly	fine son	1,50	me silt,	For e	lag	
	0.1				Surilar	Land	5040	4AND	(cm)		1
					med do	- / /			to elas	e boo	nics nostly med
– 10.0	- 16		-		1 2	rse, mo	50 000	ive Sorry	40	r= 41	2164
	0-4				ta sec	saul /	200	2111	14016 0	.)	
					MAGE	YSAND	100				
	150				CIN JE	22208	CSC		(3)		1 Lange Mostly
	2.6				Med de	ense, no	esot e	live broc	on to	509	sh brown, mostly
	1.9	-	1	ì	fine	sand, s	one	clay,	tow si	14	
	117		1	١,٠ -	100						
	1.9]		71119	LAY (00)	(1)	r (, ,	
– 15.0					med st	iff mois	t, 1:54.	- brown	To reddi	sh b	(bull or mos
	1.3		1	, A.	Modled) mostly	1 511+	teu chy	1500	+.1	e sand
			1		5444	s and fel	n1				
]		Mad dess	C4 -016		dish boo	un, to	4011	louish brown wost
	1.9				Frue E	and, 50	ne s	11+	*	9	
		-	-		1	8		+	00 lu . 1 . ((a)	to light good to coddist
			1		5,001/0	- FO 950	50-E	checep	Pare yet	1000	9.0 3.3
			1		prown	, increas	s mg	ciny			
- 20.0]					7			
			BI CITIC		l lotter and	0.11	ED ID	5.5	CODIDTIONS	- 1	NOTES
BLOW:	VERY LO	DENSITY	BLOWS/F	r. CON: VERY SC	SISTENCY	SAMPL SS SPLITS		MOSTLY	SCRIPTIONS 50-1	00%	NOTES WD WHILE DRILLING
5-10	LOOSE		3-4	SOFT		ST SHELB	Y TUBE	SOME	30-4		NE NOT ENCOUNTERED
11-30 31-50	MEDIUM DENSE	DENSE	5-8 9-15	MEDIUM STIFF	STIFF	G GRABS	SAMPLE D-CORE	FEW	15-2 5-1	25% 10%	UR NOT READ NR NO RECOVERY
50+	VERY DE	ENSE	16-30 31+	VERY ST	TFF			TRACE	<5	5%	

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BORING NO. 18 PAGE 2 OF 4

DEPTH IN FEET	VAPOR SCREENING	BLOWS PER BINCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE		FIELD CLA	SSIFICATION AN	ID REMAF	RKS
− 20.0 −	Z, 3	J MOI IEO			Dense, "	and (SM) worst, afternating Fine sand, so ss from Inn to	loyers of his	ht sing	to pale brown
	2.9					to alove			
– 25.0	0.1								
25.0	016					- to alove			
	4.1				Mes des	send, fow sil	reddish bea	58-5m	nostly med to
– 30.0					Simil	or to also ve			
	-								
	cj. 10				Simi	lor to above			
– 35.0	3.9				SILTY S	SAND (SM)			
	1.4			×	Donse, di	y, pale brown to silt, (very hard do	pado yellow,	wostly	most sand
	7.9				A solution of the		3.		
– 40.0	14.7		8		Dense, to fi	moist, graygot e sand, some	ograpish bo	lay	nostly ned
	1,1				Simila yellovia	of above	except of	eddish	yellow to
– 45.0	7.7				511745 Danse, 6	frace thay	brown, word	thy fine	soud, 50 me
0-4 5-10 11-30 31-50 50+	S/FT. DEN VERY LOC LOOSE MEDIUM D DENSE VERY DEN	ENSE	BLOWS/F ⁻ 0-2 3-4 5-8 9-15 16-30 31+	T. CONS VERY S SOFT MEDIUM STIFF VERY S HARD	1 STIFF	SAMPLER ID. SS SPLIT SPOON ST SHELBY TUBE G GRAB SAMPLE MC MACRO-CORE	SOME 30 LITTLE 15 FEW 5	S WI 100% WI 45% NE 25% UF 10% NF	NOT ENCOUNTERED NOT READ

AECOM

Soil Boring Log

DEPTH IN FEET	ORGANIC VAPOR SCREENING (PPM)	SAMPLER BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS							
45.0	0.1	VIIIONIES	,	-,	Derisi,	nod some sitt.	on to yellows be tonce () & core baccel)	notion framelles				
– 50.0	0.4				Moist,	sawo (sm) med donse, eliv one sitt, fittle	clay,	1, mostly fixa-f				
	1.9		. ~		Poorly Dongs, A	CRADED SAND	with SILT (SP.S	own, mostly a - F				
— 55.0	2.9				SILTY Moist, of	sand (sa) ned dense, olive silf, little clay	brown, mostly me	ed to Fine sand,				
	0.1				Propriet Sity fire they Propriet Sity former of pole brown, mostly med to fine sound Dense, day, gulowish brown yo to pole brown, mostly med to fine sound Pittle sitt tome clay, trace mira (Relict granite structure w) walkered ofte, falls got and mira (Relict granite structure w) walkered ofte, falls got and mira in bottom That of core							
— 60.0	[-]			~ ~	Moist,	med stiff, olive	born to cho, m	westly used to time				
	1.y 3.2 0.4				POORLY O DONSE, d to fine granitie	PRADED SAND IN 17th legg pale brown to y sand, so we silt; structure)	ellowish bounts trace elagatence in	white mostly ned need, (mostly weathered				
— 65.0	0.7				simila	rto above						
	1.4				Smila	rto above						
- 70.0	1.7				S/wil.	or to avove						
BLOW	S/FT. D	ENSITY	BLOWS/F	T. CONS	SISTENCY	SAMPLER ID.	DESCRIPTIONS	NOTES				
0-4 5-10 11-30 31-50 50+	VERY L LOOSE	/I DENSE	0-2 3-4 5-8 9-15 16-30 31+	VERY S SOFT MEDIUM STIFF VERY S HARD	1 STIFF	SS SPLIT SPOON ST SHELBY TUBE G GRAB SAMPLE MC MACRO-CORE	MOSTLY 50-100% SOME 30-45% LITTLE 15-25% FEW 5-10% TRACE <5%	WD WHILE DRILLING NE NOT ENCOUNTERED UR NOT READ NR NO RECOVERY				

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Soil Boring Log

BORING NO. MAGE MW90
PAGE Y OF C

DEPTH IN FEET	ORGANIC VAPOR SCREENING (PPM)	SAMPLER BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE		FIELD CLA	ASSIFICATION AND R	EMARKS
70.0	1.7	0 111011120			9 imila	, to More		
	5.2				3 mila	r to alouse		
- 75.0		8			"rig cl	notter"		
					3,W1	into Apove 1	(soprolik)	T (2,000)
- 80.0			¥		Dense, mostly	dry, pake brown ;	to gellowish brown sound, the sound, the sound, the sound that the others of the fill	is its white,
						lar to above		
85.0					Donse,	y GRADED & moist, polered to ostly is to m (14 to 1") th		(oxidized) layer It of with intermit
90.0				æ		sular to abo	we except this	cleer layers (2-3")
30.0					Conste 2004le, 8	Concery west ored by west brown, we carry weathered from	ared) and grained, occurred, occurre	assional thin loyers
- 95.0								
0-4 5-10 11-30 31-50 50+	VERY LO	1 DENSE	BLOWS/F ⁻ 0-2 3-4 5-8 9-15 16-30	VERY SOFT MEDIUM STIFF VERY S	1 STIFF	SAMPLER ID. SS SPLIT SPOON ST SHELBY TUBE G GRAB SAMPLE MC MACRO-CORE	DESCRIPTIONS MOSTLY 50-100% SOME 30-45% LITTLE 15-25% FEW 5-10% TRACE <5%	NOTES WD WHILE DRILLING NE NOT ENCOUNTERED UR NOT READ NR NO RECOVERY

A	10 5	0	
A			

BORING NO. $M \log 90$ PAGE \longrightarrow OF \mathscr{Q}

DEPTH IN FEET	ORGANIC VAPOR SCREENING (PPM)	SAMPLER BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS					
190-95					BWR -	- Severely Wenther	cd Comite			
			1		7.16	+ white hard	silt al 1. He some	(pulverized to gover		
		\vdash			No 1.	L Wells	brown weathered	gonarte		
					- layer	July July	6			
							y			
1		\vdash			simila.	ir to above e	recept intermit	yent intervals		
					of ha	ind gellowish brow	un werthered	granite.		
- 10 5 7			1			,	×	5) - 8'' 0		
,00										
		\vdash								
		\vdash								
1					Simil	lar to show	e.			
- 11005	<u> </u>									
		\vdash								
			1							
					Į.					
					8					
- 116			1		Simi	var to abov	<			
						n 90 (50				
			1							
]		1					
		-			1					
- 129			1							
18.9			.							
		+	1 1		3/101	lar to above				
			1		1000					
			.							
		+	1							
			1							
- 125	-	+								
BLOW	'S/FT.	I DENSITY	BLOWS/F		SISTENCY	SAMPLER ID.	DESCRIPTIONS	NOTES		
0-4 5-10	VERY L		0-2 3-4	VERY S SOFT	OFT	SS SPLIT SPOON ST SHELBY TUBE	MOSTLY 50-100% SOME 30-45%	WD WHILE DRILLING NE NOT ENCOUNTERED		
11-30	MEDIU	M DENSE	5-8	MEDIUN	/I STIFF	G GRAB SAMPLE	LITTLE 15-25%	UR NOT READ		
31-50 50+	DENSE VERY D		9-15 16-30	STIFF VERY S	TIFF	MC MACRO-CORE	FEW 5-10% TRACE <5%	NR NO RECOVERY		
307	VERT	LITUL	31+	HARD						

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BORING NO. MW 20
PAGE OF 6

DEPTH IN FEET	ORGANIC VAPOR SCREENING	SAMPLER BLOWS PER	SAMPLE NUMBER	SAMPLE DEPTH RANGE		FIELD CLA	ASSIFICATION	ON AND RE	MARK	S
20130	(PPM)	6 INCHES			P. 10 -	6 5	el -	1	4	
					+ W 112	Soverely ne	0 1	2,410	1	11-11
					Zone;	of jan to	ahite	BATA.	5117	ref Intie
					sone	landverized to	o powd	e) to	laye	ers of
					yellovis	h brown we	a thread	g mi	te	
				-		<u> </u>	1 1	-		
- 1 8 5					089011	- progrations	pak bo	som 1 81	ho ne	ntie
					(gnor	tz, teldspor w	1 bister	te & ho	oub le	ende & accessory
					MI.	necals)				
- 140					,	1 1				
140						or to above				
					tern	attent ofmost	· votec.	1, very	Hhin	fractures
					rajes					
								-		
- 145					C					
					Cranite	- (1.1.1	1		H I E I
					gray +	to brown to re	enaish i	boom 1	wer	Abered, Frathered
			22		(evider	ice of Freie	fores ?	through	out	this
					1950	teval				
						,				
– 150									, .	
					Similar	to above exe	cest rec	I, wealt	rered	form by possible
					uncur ho	/	ace lale	·		Hotsely Gossible
					1 5	uiu minerai	1950001	50 - 7/10	100	1-10/1/2/2017
					dark	access oning	*			
					,	, ,	L	/		the
					Sivellar	to above ore	est gri	14/ 1255	very	1917
– 155						Terminatel a				
	C/ET 5	ENCITY	DI OMOTE	CON10				IPTIONS		NOTES
0-4	VERY L	OOSE OOSE	BLOWS/F1 0-2	VERY S	OFT OFT	SAMPLER ID. SS SPLIT SPOON	MOSTLY	50-100%	WD	WHILE DRILLING
5-10 11-30	LOOSE MEDIUN	/ DENSE	3-4 5-8	SOFT MEDIUM	1 STIFF	ST SHELBY TUBE G GRAB SAMPLE	SOME LITTLE	30-45% 15-25%	NE UR	NOT ENCOUNTERED NOT READ
31-50	DENSE		9-15	STIFF		MC MACRO-CORE	FEW	5-10%	NR	NO RECOVERY
50+	VERY D	ENSE	16-30 31+	VERY S	HICE		TRACE	<5%		

A	AECOM Soil Boring Log										NG NO.		50W-2
PRC	JECT:	Shale	gar are	· Nou	large					PROJE	CT NO:	60%	27307
CLIE		Philip	16	//	1					LOCAT			
	TRACTOR		reade	,	16%					ELEVA			
	IIPMENT:		togon							NORTH	_		
	UNDWAT		10 SOM	<u></u>	DRILLII	NG INFORMA	TION			EASTIN			
	HRS	I	METHOD					MP / PERM			START:	2/25	12016
DATE	пко	WATER	HOLE DIA.			CASING TEMP / PERM CASING DIA. CASING TYPE							12016
			DEPTH					ROUT TYPE		DRILLE	_	- 1/	Marshall
			SAMPLING			ASING DEPTH AMMER WT		MMER FALL		0.000	SIGHT: 5		
DEDTIL	ORGANIC	SAMPLER	OAWII EIIVO	CAMPLE	1174	NOTIVIET VVI	l liv	IIVIIVILIY I ALL		OVERC	JIOI11. 2	0 0	/ />
DEPTH IN FEET	VAPOR SCREENING (PPM)	BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE	FIELD CLASSIFICATION AND REMARKS SOIL CLASSIFICATION: USCS								
	,				Pane L	of Crawe	5 8 ANO	Wy Sil	T /s/	25141			
	3.1				loose, moist, brown to gellowish brown , mustly and to						med to		
					Love,	~0.57 B	JUN TO	genou	1154 1	i.	. 1	- 4	CA M
					Time	soud, &	Me 51	IF, Tre	nee el	ay			
6.2													
			1		Simila	r to as	006	with in	1 tero	uitte.	-t 10	yer>	10.5" to
			1 1		1011	M. 6\ 2	. Li			SMAS	/	/	•
	21]		1.5" there or vented yellow is sand								
- 5.0	3.8]										
					Sunton to above we at but I flight								
	3. Z		-		similar to above except intermettent layers of black to dark green sitticing								
	1. 6		-		to dark	green	117 614	7					
	2.2						/						
	h . i		1		×								
	16						1						
						34ND (B)							
– 10.0					Myd st	4. ff, mois	t, brow	in to e	dive	brown	in the e	dive	55 con,
	0.0		-		Most	y silt, =	Fru F	=, we 5	and,	trac	e chi	1,10	nec
			1		MILG				/				
	0.10		1	72									
			1		Sim	ilacto ,	Boue	_					
	2.2]										
	1 12				simila	w to to	doove	- (selict	ruck	706.	ic evil	lent	bosed
1	1.3				00	colur Ac	variatis	a w/in	39451	(e)			
1	1.)		-										
- 15.0		-	-		44 1	lar to a	bour.	Cretiet	10	ck f	- 6 ric	ي ساد	or e
	2.1		1		3/100/	ent of hered accommend on rayonh be	,		F 1	.4 1	0.7:- (0	ARVES	-1-9
1	3.6		1		eurd	ent v	in revi	0115	1 /3	in the second	1	hi - 1	(,'5)
1	2.0				weath	rered acc	15507	L	16 (OFIFE	1- 00	In lair	(-)
	2 .				in te	- mixed w	-/ layer	55 85 6	3/1-6 5	prown	2 /34	, ,	
	2.0		-		10 4	ray ich bo	>50 mm	511					
	4.6		-		,	arto q	lance 1	,					
		 	1		5,000	47 10 9	200						
			1										
- 20.0			1										
BLOW	S/FT.	DENSITY	BLOWS/F1	r. CON	SISTENCY	SAMPLE			CRIPTION			NOTE	
0-4 5-10	VERY LO	OSE	0-2 3-4	VERY SO	OFT	SS SPLIT SF ST SHELBY		MOSTLY SOME)-100%)-45%		HILE DRI	LLING UNTERED
11-30	MEDIUM	DENSE	5-8	MEDIUM	STIFF	G GRAB SA		LITTLE		5-25%	UR N	OT READ	
31-50	DENSE		9-15	STIFF		MC MACRO-	CORE	FEW		5-10%	NR N	O RECOV	ERY
50+	VERY DE	:NSE	16-30	VERY ST	IFF	1		TRACE		<5%			

A =	-	0	M

BORING NO. SDW-Z
PAGE Z OF 4

A. A. D. C. L. C.	ORGANIC	SAMPLER		200,000,000,000							
DEPTH IN FEET	VAPOR SCREENING	BLOWS PER	SAMPLE NUMBER	SAMPLE DEPTH RANGE		FIELD CLA	SSIFICATION AND RE	MARKS			
-20.0 -	(PPM)	6 INCHES			4	()					
					SILTE	- H)		111.1			
					SOFT, A	wist, gray who loss	en to broad wy	1 1 - Layers of			
					white	gud green, nos	Hy wilt, to voe	I thin layers of d to fine soud,			
					trace o	las trace will	(selve granitie	ナッカット			
				8	2000	nite)	- "				
				7	2019						
				1		who to abou	· .e				
- 25.0							March March	and the same of th			
20.0					SITTY S	sand (sm)		, , , , , , , , ,			
	- J	2.22			1	Moist roldi pa	le soddish brown	ponto pole sed,			
					MCDIES 41	1 11 1 2 2 2 2 2	re to med som	-d. tonce clay			
					mostly silt, some is to med sound, tonce it my						
				~							
					5117 (M+1)						
					SOFT, MOIST, 5 ray to dark gray to grayed brown, westly						
			1		Silt, little time sound, trace clay, frace inter letter						
- 30.0			1		grante fabrie)						
			1			/					
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					smalarto above lowk unced assemblages;						
			1		are down mit						
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- 35.0											
					Simil	avto doce					
		-	1								
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			1								
]	1	Smuite	70.4		, , , ,			
				1	Doch F	surgrained w/	thin cargular 9	サマ かたとう			
				\sim	29.7-1						
			1								
- 40.0			1		6 119	(aud)	2 6	11.			
]		2) B) (A soft Most	by sift, few 5 12	e cand some relat			
			1		UR STAY	1	, ,				
			30 m. p.	-7	toprice)					
			-	` \		to chave					
			1		2121100	, comment					
			1		Granite	E smille	I w/ thin mis	y has gte dilers			
]		Sist (MH) Dissay, Theosty worthy with, four fine conditione relate fabric) Similar to above Granite DR groy, Fine grained of thin angular gto diler;						
- 45.0		-	-			^a g					
BLOW	S/FT F	DENSITY	BLOWS/F	T CONS	SISTENCY	SAMPLER ID.	DESCRIPTIONS	NOTES			
0-4	VERY L		0-2	VERY S		SS SPLIT SPOON	MOSTLY 50-100%	WD WHILE DRILLING			
5-10	LOOSE		3-4	SOFT	A CTIFF	ST SHELBY TUBE	SOME 30-45% LITTLE 15-25%	NE NOT ENCOUNTERED UR NOT READ			
11-30 31-50	DENSE	M DENSE	5-8 9-15	STIFF	VI STIFF	G GRAB SAMPLE MC MACRO-CORE	LITTLE 15-25% FEW 5-10%	NR NO RECOVERY			
50+	VERY D		16-30	VERY S	STIFF		TRACE <5%				
1			31+	HARD							

A	District of the last	-	0	M
M	AND DESCRIPTION OF THE PERSON NAMED IN COLUMN TWO IS NOT THE PERSON NAMED IN COLUMN TWO IS NAMED IN COLUMN TWINCE IN COLUMN TWO IS NAMED IN COLUMN TWO IS NAMED IN COLUMN TWO			

BORING NO.	SDIJ			
PAGE 3	OF	4		

DEPTH IN FEET	ORGANIC VAPOR SCREENING (PPM)	SAMPLER BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE		FIELD	CLASSIFICA	ATION AND RE	MARKS
- 2⁄0.0	(rem)	UNIVERS			Phanes gtz e-	itie dock	gray to	horablad	ic, biotite) u) small
- ¥5.0					simile	ir to above	-		
				a	sivilar	to above			
−\$ 0.0					5.7750	to above		feldspar	(1,5/1+ sony 1 pink)
- \$5.0					94 - 150	lar to abou			
-4 0.0						ar to appoint			
				,	OTAR				
- ∮ 5.0		DENSITY	BLOWS/F1		SISTENCY	SAMPLER ID.		SCRIPTIONS	NOTES
0-4 5-10 11-30 31-50 50+	VERY L LOOSE MEDIUN DENSE VERY D	DENSE	0-2 3-4 5-8 9-15 16-30 31+	VERY S SOFT MEDIUM STIFF VERY S HARD	1 STIFF	SS SPLIT SPOON ST SHELBY TUB G GRAB SAMPL MC MACRO-COR	E SOME LITTLE	50-100% 30-45% 15-25% 5-10% <5%	WD WHILE DRILLING NE NOT ENCOUNTERED UR NOT READ NR NO RECOVERY

	C	0	M
Section 1	1		

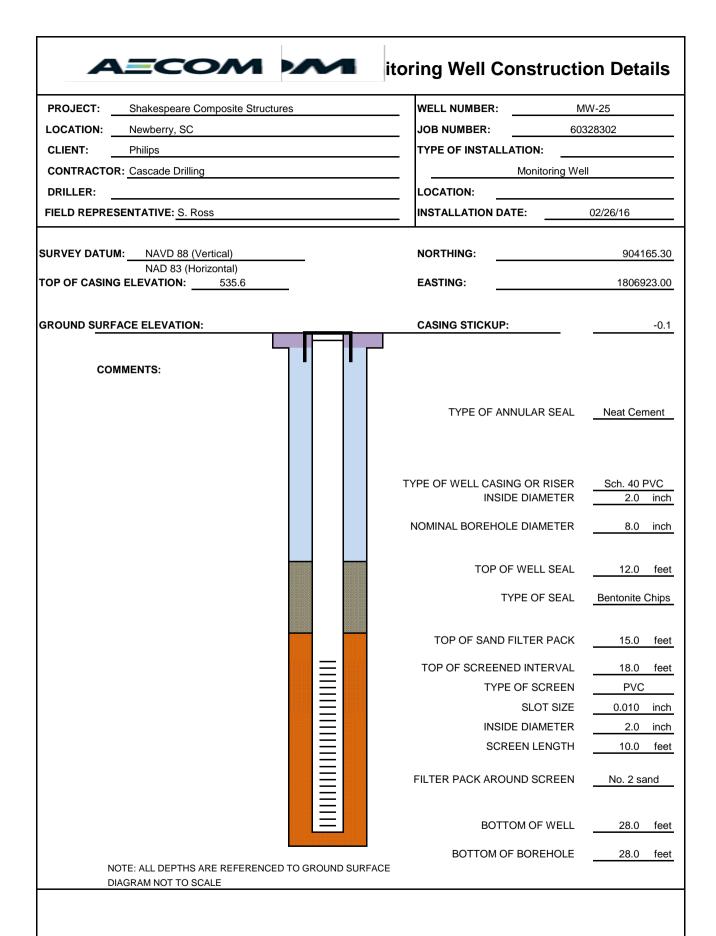
BORING NO. #

							3200		PAG		
DEPTH IN FEET	ORGANIC VAPOR SCREENING (PPM)	SAMPLER BLOWS PER 6 INCHES	SAMPLE NUMBER	SAMPLE DEPTH RANGE			FIELD CL	ASSIFICATIO	ON AND RE	MARKS	6
70.0					Phones Phones light	ritio	, dock gray	to black	, Fine	gra	ined, with
— 75.0					Fine muse acro	95.	ar to ined lighter actions the deliver	orbove ttderk arg miner	els, 1	gran	litic gneiss r bending
– 80.0											
— 85.0			No. of the Control of								
- 90.0											
- 95.0											
0-4 5-10 11-30 31-50 50+	S/FT. D VERY LC LOOSE MEDIUM DENSE VERY D	DENSE	BLOWS/F 0-2 3-4 5-8 9-15 16-30 31+	T. CONS VERY SOFT MEDIUM STIFF VERY ST HARD	STIFF	SS ST G MC	SAMPLER ID. SPLIT SPOON SHELBY TUBE GRAB SAMPLE MACRO-CORE	DESCRII MOSTLY SOME LITTLE FEW TRACE	50-100% 50-100% 30-45% 15-25% 5-10% <5%	NE UR	NOTES WHILE DRILLING NOT ENCOUNTERED NOT READ NO RECOVERY



Shallow Monitoring Well Construction Details

	3	
PROJECT: Shakespeare Composite Structures	WELL NUMBER: M	W-24I
LOCATION: Newberry, SC	JOB NUMBER: 603	328302
CLIENT: Philips	TYPE OF INSTALLATION:	
CONTRACTOR: Cascade Drilling	Monitoring We	II
DRILLER:	LOCATION:	
FIELD REPRESENTATIVE: S. Ross	INSTALLATION DATE:	02/18/16
SURVEY DATUM: NAVD 88 (Vertical)	NORTHING:	904402.50
NAD 83 (Horizontal) TOP OF CASING ELEVATION: 544.993	EASTING:	1807181.00
GROUND SURFACE ELEVATION:	CASING STICKUP:	0.069
COMMENTS:		
	TYPE OF ANNULAR SEAL	Neat Cement
	TYPE OF WELL CASING OR RISER INSIDE DIAMETER	Sch. 40 PVC 2.0 inch
	NOMINAL BOREHOLE DIAMETER	8.0 inch
	TOP OF WELL SEAL	2.0 feet
	TYPE OF SEAL	Bentonite Chips
	TOP OF SAND FILTER PACK	31.8 feet
	TOP OF SCREENED INTERVAL	32.7 feet
	TYPE OF SCREEN	PVC
	SLOT SIZE	0.010 inch
	INSIDE DIAMETER	2.0 inch
	SCREEN LENGTH	5.0 feet
	FILTER PACK AROUND SCREEN	No. 2 sand
	BOTTOM OF WELL	37.9 feet
	BOTTOM OF BOREHOLE	39.0 feet
NOTE: ALL DEPTHS ARE REFERENCED TO GROUND SUF DIAGRAM NOT TO SCALE	RFACE	
Distriction 10 dante		



LOCATION: Newberry, SC CLIENT: Philips	IOD NUMBER	
CLIENT: Philips	JOB NUMBER:	60328308
	TYPE OF INSTALLATION:	
CONTRACTOR: Cascade Drilling	Monitoring	y Well
DRILLER: Ray	LOCATION: Shall	kespeare Plant
FIELD REPRESENTATIVE: S. Ross	INSTALLATION DATE:	04/14/16
SURVEY DATUM: NAVD 88 (Vertical)	NORTHING:	904387.90
NAD 83 (Horizontal) TOP OF CASING ELEVATION: 552.91	EASTING:	1807788.00
GROUND ELEVATION: feet	CASING STICKUP:	0.2 feet
TYPE OF SURFACE CASING Sch. 40 PVC INSIDE DIAMETER 6.0 inch TYPE OF ANNULAR SEAL Portland Cement TOP OF BEDROCK 124.0 feet 127.0 feet CASING TYPE OF WELL CASING OR RISER Sch. 40 PVC INSIDE DIAMETER 4.0 inch	NOMINAL SURFACE CASIN BOREHOLE DIAMETER	ER <u>5.0 inch</u>
TYPE OF SEAL Bentonite Pellots	HQ NOMINAL BOREHOLE DIAME	ETER 5.0 inch
	TOP OF SAND PACK	140.0 feet
	TOP OF SCREEN	144.6 feet
TYPE OF SAND PACK #2 Well Gravel	SLOT SIZE	sch 40 inch
TYPE OF SCREEN	INSIDE DIAMETER	21.0 inch
Sch 40 PVC	SCREEN LENGTH	10.0 feet
	BOTTOM OF WELL	154.1 feet
	BOTTOM OF BOREHOLE	155.0 feet

PROJECT: Shakespeare Composite Structures	WELL NUMBER:	SDW-2		
LOCATION: Newberry, SC	JOB NUMBER:	60328308	28308	
CLIENT: Philips	TYPE OF INSTALLATION:			
CONTRACTOR: Cascade Drilling	Monito	oring Well		
DRILLER: Ray	LOCATION:	Shealy Property		
FIELD REPRESENTATIVE: S. Ross	INSTALLATION DATE:	04/13/16		
SURVEY DATUM: NAVD 88 (Vertical)	NORTHING:	9046	652.90	
NAD 83 (Horizontal) TOP OF CASING ELEVATION: 527.403	EASTING:	18064	474.00	
GROUND ELEVATION: feet	CASING STICKUP:	0.1	feet	
TYPE OF SURFACE CASING Sch. 40 PVC INSIDE DIAMETER 6.0 inch TYPE OF ANNULAR SEAL Portland Cement TOP OF BEDROCK 43.0 feet BOTTOM OF SURFACE 45.0 feet CASING TYPE OF WELL CASING OR RISER Sch. 40 PVC INSIDE DIAMETER inch	NOMINAL SURFACE CA BOREHOLE DIAMETER NOMINAL BOREHOLE DIAM		inch	
TYPE OF SEAL Benenite Pellots	HQ NOMINAL BOREHOLE DIA	AMETER	inch	
	TOP OF SAND PACK	31.0	feet	
	TOP OF SCREEN	83.7	feet	
TYPE OF SAND PACK				
# 2 well gravel	SLOT SIZE INSIDE DIAMETER	0.010	inch	
TYPE OF SCREEN sch 40 Pvc	SCREEN LENGTH	<u>2.0</u> 5.0	inch	
			.500	
	BOTTOM OF WELL	88.7	feet	
	BOTTOM OF BOREHOLE	89.0	feet	

ATTACHMENT B

WELL DEVELOPMENT LOGS AND GROUNDWATER SAMPLING FORMS

A_COM

WELL DEVELOPMENT

Well ID: New Z4;

Low Flow Ground Water Sample Collection Record

Client:	SHAK	وتحريح	RÉ		Da	ate: 2 -	23-16	Tim	e: Start	am/pm
Project N	lo:	328	308						Finish	am/pm
Site Loca	ation:	الحلية	ERRICA	,50			1	1	_1_	
Weather	Conds: 1	Cras	py i	105-65	<u> </u>	ollector(s):	James	يد التميكاء	MEN/EL	
1. WATI	ER LEVEL	DATA:	(measu	red from Top	of Casing)			•	
			•	c. Length of			(a-b)		Casing Diam	
b Wa	ater Table [Depth 1	334	d. Calculated	l Svstem Vo	olume (see	back) 🕰	5 Cm	2"	Puc
	_ PURGE D		1.18		,	,	× 5	= = 2	3 Gal	
	rge Method		Lina	ue Auni	<u> </u>					
- Tem - pH	ceptance C nperature Cond.	3%	.0 unit	see workplan) -D.O. - ORP - Drawdown	10% <u>+</u> 10m\	/				
c. Fie	eld Testing l	Equipm	ent used	d: Ma	ake		Model		Serial	Number
			-							
	Volume									
Time	Removed	Temp.	<u>рН</u>	Spec. Cond.	DO	ORP	Turbidity	Flow Rate	Drawdown	Color/Odor
(24hr)	(titers)	(°C)		(μS/cm)	(mg/L)	(mV)	(NTU)	(ml/min)	(feet)	17. 7.7.1
10:45	025		8.28	0.181	0.29	-88.8	102/			6 miles -
10:22	4.00		8.36	0.163	0.80	-108.4	71100			(1)
llior	7.5		2.80	0.155	4.20	-24.3	71100			" 11 Fichere
(1:2)	10.00			0.141	56.9	93.2	906.1			81 V)
11:51		12.62		0.173	11.7	51.2	21100			Cloudes
12:59		-	6.55		5.46	70.4	206.3 65.24			Clear
14:14	cceptance of			0.00	<u> </u>					(continued on back)
	as required						`			(continued on Easily
	as required as required					H				
	ave parame			caonoa	H H	H				
, ,	If no or N			ow.		L1				
	-									
3. SAMI	PLE COLL	ECTION	1 :	Viethod:						
0	ID 0.		Tuna	No. of Contr	nin o co	Droco	rvation	Analysi	s Pea	Time
Sample		ontainer	туре	No. of Conta	amers	riese	Ivation	Allalysi	s 11cq.	Tillie
		2	,	- (1	·		3		0	
Commer	nts	STICK	2 07	2.5	lot	4 27	gellons	Kmost	0	
			42						2	
		1	/./	1				-		
Signatur	e	AL	Day	hart				Date	2-23-	-16
		O								

ACOM

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

	EO	N FIOW	71-U-U-1-U-W	ACITO!	Jampie	JOHIC	CHORIT	00010		
Client: Project No		28368.10		Da	ate: 2/	20/16	Time	: Start / Finish_		am/pm am/pm
Site Locat Weather	tion: <u>//</u> Conds: <u>/</u> /	Cloudy 10	-50',	с	ollector(s):	564	2055/2	teapl	end	
a. Tota b. Wa	al Well Leng ter Table De	th 30' epth 8-72	red from Top c. Length of V d. Calculated	of Casing Vater Colu	n) mn <u>//、Z</u>	8 _(a-b)		asing Diar کی ک	neter/Ma	
	. PURGE DA ge Method:_		in the gran	12						
- Tem - pH	ceptance Cri perature Cond.	3% <u>+</u> 1.0 unit	see workplan) -D.O. - ORP - Drawdown	10% <u>+</u> 10m\ < 0.3'	V					
c. Fiel	ld Testing Ed	quipment used	I: Ma	ike		Model		Seria	al Numbe	er.
Ha Ha Ha	11.0 16.0 20.0 20.0 30.0 30.0 ceptance criss required vas required to ave parameters		emoved eached	DO (mg/L) // // // 3 &		(NTU) >1000 778 >1100 183.4 288.4 100.3	Flow Rate (mi/min)	Drawdowr (feet)	Pight	r/Odor
3. SAMF Sample I		CTION: 「 ntainer Type イル ヘノ いき	No. of Conta	iners		rvation	Perista Analysis Too	. 0	Tir	me 1330
Commen	nts									
		2-1	9	>			Date	2/,	1/16	
Signature		-					Dale	10	116	

Well/Piez. ID:	
5DW.	2_

A=COM Well/Piezometer Development Record

Client:	Chilies		S	Site Location:	Shakesge	ease -	Noube	50,5	C	
Project N	Philips 0: 6032630	C. //_ [Date:	4/11/201	6	Developer:_	say	Er		
WELL/PI	EZOMETER DATA								e e va	P.1.6
Well 🔀	F	Piezometer		Γ	Diameter2		I	1	LG 40 8	
Measurin	g Point Description	ı . <u>-</u>				Geology at (if known)	Screen Inte	rval <u>2</u>	Bedrock gantie	100188
Depth to	Top of Screen (ft.)		33	3.68				-	-	
Depth to	Bottom of Screen	(ft.)	38.	67		Time of Wa	iter Level M	easuremen	t	1145
Total We	ell Depth (ft.)	-	86.	4B		Calculate F	Purge Volum	ne (gal.)		7915/0
Depth to	Static Water Level	l (ft.)	34.	02		Disposal M	ethod			
		-	5	7.46		Wellhead F	PID/FID	NIA	<u> </u>	
Original	Well Development	(R)		Redevelopme	ent 🗆	Date of Ori	ginal Devel	opment	4/18/20	16
	OPMENT METHOD		Comp/	mrae		PURGE M		11	1	
	sting Equipment U		//		Make		odel	Serial	Number	
			,	MACH		55	00 Q			_
Field Te	esting Calibration D	ocumentati	on Found	d in Field Note	N.		Page #			٦
Time			pН	(umhos)	Turbidity (NTUs)	DO	Color	Odor	Other	
134	,	22.00	11.24	0.430	7/400	=	milky	none	~	clay
133	7 8.00			. 195	21100		gray	nane	حسر	de
141	9.5	23.43	10.16	1432	>1100	_	grey	none		dial
132					71100	_	900	hone		del
1600		24.97			71000		1,1	-	and the same of th	def
163	0 10.89	21.78	10.10	7,62	7,700					
						-	-			-
Min. P Maxim	PTANCE CRITERIA urge Volume (um Turbidity Allowe zation of parameter	_well volumedN	nes)	_gallons	Has required vo Has required tur Have parameter If no or N/A e	bidity been s stabilized xplain belov	reached w:		No N/A	
	0	/	/				, ,	0		
		4/2	L	1			Date:	4/17	1/2016	
ignat	ure	~ (/				_		-1-1		

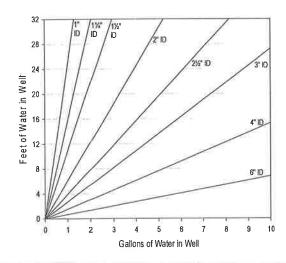
A=COM Well/Piezometer Development Record

Well/Piez. ID:

Project No.	Client:	Philips		S	ite Location:	Shalesp	vere -1	Versbern	1		
Material Diameter	_	6037630	∜ D								
Measuring Point Description Depth to Top of Screen (ft.) Depth to Bottom of Screen (ft.) Depth to Bottom of Screen (ft.) Total Well Depth (ft.) Depth to Static Water Level Measurement Development Development Date of Original Development Water Date of Original Development Water Development Used: Make Model Serial Number Table Se	WELL/PIEZ	OMETER DATA								liana	
Measuring Point Description Tot Depth to Top of Screen (ft.) Depth to Bottom of Screen (ft.) Depth to Bottom of Screen (ft.) ISY. ov Time of Water Level Measurement Of, IT Total Well Depth (ft.) Depth to Static Water Level (ft.) Date of Original Development Water Level Measurement Of, IT Depth to Static Water Level Measurement Of, IT Water Level Measurement Of, IT Depth to Static Water Level (ft.) Date of Original Development Water Level Measurement Of, IT Depth to Static Water Level (ft.) Date of Original Development Water Level Measurement Of, IT Depth to Static Water Level (ft.) Date of Original Development Water Level Measurement Of, IT Depth to Static Water Level (ft.) Date of Original Development Water Level Measurement Of, IT Depth to Static Water Level Mea	Well 📆	P	iezometer		C	Diameter 2		N	laterial <u>S</u>	en 40 fre	
Depth to Top of Screen (ft.) 154.06		Point Description	-	TOC	<u>. </u>		Geology at Screen Interval (if known) Geology at Screen Interval				
Depth to Bottom or Screen (it.) ISY . 06	Depth to To	p of Screen (ft.)		144.0	06				-	9	
Total Well Depth (ft.) Depth to Static Water Level (ft.) IL74 Disposal Method Wellhead PID/FID MA Original Well Development Date of Original Development Development Make Field Testing Equipment Used: Make Model Field Testing Calibration Documentation Found in Field Notebook # Time Removed (gal) T' (C/F) pH (umhos) Field Testing Calibration Documentation Found in Field Notebook # Page # Time Removed (gal) T' (C/F) pH (umhos) Turbidity (NTUs) DO Color Odor Other Total Make Field Testing Calibration Documentation Found in Field Notebook # Page # Time Removed (gal) Trotal Make Field Testing Calibration Documentation Found in Field Notebook # Page # Time Removed (gal) Trotal Make Trotal Model Serial Number Trotal My (NTUs) DO Color Odor Other Total Model Trotal My (NTUs) Total Model Trotal Model Tr	Depth to Bo	ottom of Screen (ft.) _	154.0	06	-	Time of Wat	er Level Me	asuremer	nt	
Depth to Static Water Level (ft.) I	-		<u></u>	154.	04	•	Calculate Pu	urge Volume	e (gal.)		25, 2 cje.j
Original Well Development Redevelopment Date of Original Development Date of Original Development PURGE METHOD PURGE METHOD Serial Number 71 00 0 Field Testing Equipment Used: Make HACH 72 00 0 Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Calibration Documentation Found in Field Notebook # Page # Field Testing Equipment Used: Serial Number 7. 0.00 Other Field Testing Equipment Used: Serial Number 7. 0.00 Other Field Testing Equipment Used: Field Testing Equipment Used: Serial Number 7. 0.00 Other Field Testing Equipment Used: Serial Number 7. 0.00 Other Field Testing Equipment Used: Serial Number 7. 0.00 Other 7. 0.00 Other			(ft.)	(1.3	741		Disposal Me	thod _			
Purge Method Purge Method Purge Method Pield Testing Equipment Used: Make Model Serial Number Page # Page #	Бери ю ос		` ′ =		142.32	,	Wellhead Pl	ID/FID	MA		
Field Testing Equipment Used: Make	Original W	ell Development	TX		Redevelopme	ent 🗆	Date of Orig	jinal Develo	pment 🏄	Month	
Field Testing Equipment Used: Make	=								NA		
Field Testing Equipment Used:								-			
Page # P	Field Testi	ng Equipment Us	sed:					000			=
Time Removed (gal) T° (C/F) pH (umhos) Turbidity (NTUs) DO Color Odor Other 10 07	Field Testi		ocumentatio	on Found		ebook #	P	age #			٦
10 15 10 17 16 17 18 18 18 18 18 18 18	Time		T° (C/F)	рН		Turbidity (NTUs)	DO	Color	Odor	Other	
10 15 21 16 71. 16 16 16 16 16 16 16						70.0	17.57) ,		-
1014		100			.145						-
1018	-	154	21.94								-
108 25.0.		77.75 g									- dy 6+229
113 30.0. 22.41 10.66 0.182 36.4 6.23 Chec/box h - 1114 32.55 21.21 10.54 0.527 71.8 7.27 Chec/box h - 121 35.0 22.44 10.55 0.664 72.2 6.86 hmun/Cier 71.2 12.14 45.00 71.58 10.20 0.372 11.4 6.25 Check 12.14 45.00 71.58 10.20 0.372 11.4 6.25 Check 12.14 45.00 71.58 10.20 0.374 11.4 6.25 Check 12.14 6.25 Check 13.24 11.4 6.25 Check 13.24 Check	1024							1.3			1 , 7
113 30.0 27.4 10.54 0.57 71.8 7.37 10.54 0.55 0.664 76.4 6.86	1108	25.00								_	
12 35.0 °, 22.44 10.55 0.664 72.7 6.86 brown (i.e. Vind 1201 1201 10.24 0.372 www.zo.) 6.34 Clear	1113	30.0-								~	
121 35.0	1114									Dry	
ACCEPTANCE CRITERIA (from workplan) Min. Purge Volume (well volumes) gallons Maximum Turbidity Allowed NTUs Stabilization of parameters % Maximum Turbidity Allowed NTUs Has required turbidity been reached Have parameters stabilized Yes No N/A Has required turbidity been reached Have parameters stabilized										~)	
ACCEPTANCE CRITERIA (from workplan) Min. Purge Volume (well volumes) gallons									_	_	
	ACCEPT Min. Pur Maximur	TANCE CRITERIA ge Volume (m Turbidity Allowe	A (from wo well volumedN	rkplan) nes)		Has required vol Has required tur Have parameter	lume been re bidity been res stabilized	reached	Yes	No N/A	
						: 					
						×					-
Signature Date:	Signatur	re) = =	2,	Date:	-		

Purge Volume Calculation

AICOM



Volume /	Linear F	t. of Pipe
ID (in)	Gallon	Liter
0.25	0.0025	0.0097
0.375	0.0057	0.0217
0.5	0.0102	0.0386
0.75	0.0229	0.0869
1	0.0408	0.1544
1.25	0.0637	0.2413
1.5	0.0918	0.3475
2	0.1632	0.6178
2.5	0.2550	0.9653
3	0.3672	1.3900
4	0.6528	2.4711
6	1.4688	,5.5600

328 exit

(continued f										
	Volume									0.110.1
Time	Removed		рН	Spec. Cond.		ORP			Drawdown	Color/Odor
	(Liters)	(°C)		(μS/cm)			(NTU)	(ml/min)	(ft)	
1218	493	22.92	10.16	0.333	5155	-1124				cleir / home
1220	500	22.78	1000	0.167	5.76	-112.0				(lest/yours
1314	625	24.07	9.96	0.67	6.91	-115.3	8.7]			Cle nure
1324	60=	23.37	19.83	0.282	6.06	-1001	C 86			(lear / none
		22.91	9.81	0273	2.37	-1100	(3-8			Clear Inone Clear Inone Clear Inone Clear Inone Clear Inone
1332	624	125	4.80	0.257	5.31	-103.7	26.9		_ \	cler Inena
	J									
			_							
										-

A_COM

Well ID: MWZYI

Low Flow Ground Water Sample Collection Record

Client: Philips Shokespence Nonberry	Date:	3/2016	Time	e: Start <u>//2</u> Finish	am/pm am/pm
Project No: 60323308	-			1 1111311	annpin
Site Location: Newbesty, se	f	<	7.05		
Weather Conds: PHy Cloudy, Cool	Collector(s):		- CE-857		 /\
WATER LEVEL DATA: (measured from Top of Cas a. Total Well Length 38.22	6		(Casing Diame	
b. Water Table Depth d. Calculated System	n Volume (see t	back) 3	18 -	2 /30	4. 40 BUC
2. WELL PURGE DATA a. Purge Method: low flow of peristr	othe pur	P			
b. Acceptance Criteria defined (see workplan) - Temperature 3% -D.O. 109 - pH +1.0 unit -ORP +1 - Sp. Cond. 3% - Drawdown < 0	0mV	,		et.	
c. Field Testing Equipment used: Make 957		Model 556			Number 4///6
MF Sciontific		14110	TOW	20	1104076
Volume <u>Time Removed Temp. pH Spec. Cond. DC</u>	ORP		Flow Rate	Drawdown	Color/Odor
(24hr) (Liters) ((°C) (μS/cm) (mg/l		(NTU)	(ml/min)	(feet)	
Inital - 17.93 6.57 .164 1.19		73.03			cloudy
1330 1.25 14.05 5.85 , 125 1.50		16.36			class
1345 2.50 17.96 5.72 0.118 200		7.09			elear
1401 1.50 17.89 564 0.112 2.3		2.79			
1438 7.80 17.93 552 104 2.7		1.06			
1448 8.00 1792 552 102 2.7	7 69.4	1.61			
d. Acceptance criteria pass/fail Has required volume been removed Has required turbidity been reached Have parameters stabilized If no or N/A - Explain below.	No N/A	tarted			(continued on back)
	0 1				
3. SAMPLE COLLECTION: Method: 50 dq s Sample ID Container Type No. of Containers	stan Preser	votion	Analysis	Peg	—- Time
MUZYI 40 w/ Vis/ 3		valion Prize	-	VOC's	Time
Comments Encunted just over 2			peroc		1/e
0	7				11
Signature 727			Date	3/3/2	016



		_	 	
Well ID:	50U	-7		

Groundwater Sample Collection Record

Client: Suakes	DEADE			Date	e: _4	-25-1	ا صا	Time:	Start Finish	120		(24hr)
Project No: 60 Site Location: 12 Weather: 60	EUBER	adel		Col	lector	r(s):	Jamos	لحقا		_ 22		
1. WATER LEVEL	DATA: (n	measure	d from Top	of Casing	9)							
Total well length:	88.	o Wat	er column len	igth:	2.72							
Water table depth	85.	28 Cas	ing type/diam	eter: N	c 1	z" Mir	nimum purg	je volui	me:	NA		(liters)
2. WELL PURGE I Purge Method:	DATA											
Acceptance Crit	eria define	ed (Field	Sampling Pl		6 Des	sign Proje	ct Operatio					
TemperaturepH	3%	1 unit		- ORP - SpCone	d		٦V	- Dr	awdowi	n < 0	.3 ft	
- D.O.	<0.5			- Turbidi		<10 N	TU TU within 10	0%				
Field Testing Eq	uipment u	ısed: N	lake		Mode			[5	Serial nui	nber(s)		
		- 11-	'SI I F Scientif ic	n U	_	556				20CD.		_
Well Headspace		_ [H SCIENTIFIC	HACH	2	100	2		140.	3000	1681-	1
Begin purge at	1210	- -			-							
Time Purge Vol.	Town	au Sne	c. Cond.	ORP	DO I	Turbidity	Flow Rate	Drawd	lown I	-	omments	
(24hr) (Gals)	Temp. (°C)	(μS/cm)	(mV) (n	ng/L)	(NTU)	(mi/min)	(fee	it)			
1213 0.00	20,98 8	8.75 5	165 -1	19,2 1.	63	OVERS	N A	1014	FI	ow cell fu	111	
3. SAMPLE COLLE	ECTION		Meth	od:	ې مکر <i>پ</i>		(describer of the second					
Sample ID		tainer /pe	No. of Containers		ervati	on	Anai	ysis Re	quired		Time	
500.2		L UDA	3		دت		J	C.2			1215	4-26-1
								-				
					-							
Comments:	D	by A	(0.5	o Ga	LLON	عد						
Signature(s) of Coll	ector(s):		1 L Lea	slas	L		D	ate: _	4.	-26-	16	



Well ID: NW - 9D	

Groundwater Sample Collection Record

01	1	1		>			Date: 4	2/10	- 1	Time: Star	1 123	35 (24hr)
CIIE	ent:	SUAKES	DEM	20.8	Y		Date	- 03-10		Finis			,
		tion: من									-		
		CLEM					Collector	r(s):	JAMES	LEAD HAT	EL		
_					1.6	Ton of C							
1.	WATE	RLEVEL	DATA: ((meas	ured from	lop of C	asing)						
	Total w	vell length:	154.	4	Water colun	nn length:	143.	24					
		. N. S. S. S.	11.0		.	/ul: _ us a t a m	7.1	o s Mir	imum nurc	je volume:	NA	(liters)
	Water	table depth:	11.	10	Casing type	diameter:	100	Z	iiinam parg	je volume.			
2.	WELL	. PURGE D	DATA	1	WADRES	<.5	2 2	1					
	Accep	otance Crite	eria defi	ned (F	ield Sampli	ng Plan -	100% Des	sign Proje	ct Operatio	ns Plan)		. 2 #	
		perature	3%				RP Cond		١V	- Drawdo	wn < (J.3 IL	
	- pH					- S	Cond. Irbidity		TII				
	- D.O.	•		5 mg/l	- within 10%		libidity		rU within 1	0%			
			-							Carlel	number(s)		
	Field '	Testing Equ	uipment	used:	Make		Mod	56			110357	R	
				7	YSI HE Scien	+if-1100		100 Q			050C03		
	Mall	Headspace	- ~a	(7)	FIE-Scion	HITC PAC	N 2	100 0			0,000.		
		purge at		_	-								
	Degin	i puige at	1	_									
_					Line and the same of the same								
	Time	Purge Vol.	Temp.	рН	Spec. Cor	d. ORP	DO	Turbidity (NTU)	Flow Rate	Drawdown		comments	- 1
11	24hr)	(Gals)	(°C)		(μS/cm)	(mV)	(mg/L)	(1110)	(mi/min)	(feet)			
	24hr)	Purge Vol. (Gals)	(°C)		(µs/cm)	- (mv)			(mi/min)	1630	Flow cell f		
12	24hr) 49 54			9.76		-101	1 2.46	94,6	-075	16.30			<u>ज्यार</u> दर
12	24hr) .99	3.co 3.25	F10 20.41 20.69	9.76 9.10 9.40	684 217 247	-101 -73.: -89.	1 2.46 3 11	 عرر عرد	1015	1630 25.45 25.75			ज्यार दि इ
12	24hr) 199 169 169 169	3.00 3.00 3.25 3.50	9.10 20.41 20.69 21.22	9.76 9.10 9.40 9.90	684 217 247 434	-161, -73.; -89.	1 2.46 3 -11 1 3.12 8 2.56	94.5 84.5	1015 1015	1630 25.45 25.75 25.65			o Mars (A
12	24hr) 199 189 189 184 189	3.00 3.00 3.25 3.50 3.75	F.10 20.41 20.69 21.22 21.14	9.76 9.10 9.40 9.90	684 217 247 434 430	-161, -73.: -89. -113.5	1 2.46 3 -11 1 3.12 2.56 8 1.93	95, L 84.5 71.+ 66.3	1015 1015 1015 1025	16.30 25.45 25.75 25.65 25.76			० ५०१६ दि
12	24hr) 199 189 189 1804 1809 1814	3.00 3.00 3.25 3.50 3.75 4.00	F.10 20.41 20.69 21.22 21.14 21.19	9.76 9.10 9.40 9.90 9.94 9.67	684 217 247 434 430 313	-161 -73: -89: -113: -117,	1 2.46 3 -11 1 3.12 8 2.56 8 1.93 7 1.93	94.5 84.5 71.4 66.3 59.8	1015 1016 1016 1016 1016	1630 25.45 25.75 25.65 25.76 25.80			a word G
12 12 12 12 12 12 12 12 12 12 12 12 12 1	24hr) 249 249 249 369 369 314 319	3.00 3.25 3.50 3.75 4.00 4.25	A.10 20.41 20.69 21.22 21.14 21.19 21.32	9.76 9.10 9.40 9.90 9.94 9.67 9.49	684 217 247 434 430 313 273	-101 -73: -89. -113: -117. -107.	1 2.46 = 3-11 1 3.12 = 2.56 = 1.93 = 1.93 1 2.25	95, L 84.5 71.+ 66.3 59.8 79.2	015 026 026 026 026	16.30 25.45 25.75 25.65 25.76			o mars (A
12 12 13 13 13 13 13 13 13 13 13 13 13 13 13	24hr) 199 189 189 1809 1819 1819 1819	3.00 3.00 3.25 3.50 3.75 4.00 4.25 4.50	A.10 20.41 20.69 21.22 21.14 21.19 21.32 21.32	9.76 9.10 9.40 9.90 9.94 9.67 9.49	684 217 247 434 430 313 273	-101. -73.: -89. -113.: -117. -107. -19.:	1 2.46 = 3-11 1 3.12 = 2.56 8 1.93 = 1.93 1 2.25 2.46 2.63	94.5 71.1 66.3 59.8 79.2 85.3	1015 1016 1016 1016 1016	1630 25.45 25.75 25.65 25.76 25.76 25.78			a Mars (3)
12 12 12 12 12 12 12 12 12 12 12 12 12 1	24hr) 49 64 259 364 369 314 369 324	3.00 3.25 3.50 3.75 4.00 4.25	F.10 20.41 20.69 21.22 21.14 21.19 21.32 21.32 21.32	9.76 9.10 9.40 9.90 9.91 9.40 9.40 9.40	684 217 247 434 430 313 273 288	-101. -73.: -89. -113.: -117. -107. -19.:	1 2.46 = 3-11 1 3.12 = 2.56 = 1.93 = 1.93 1 2.25	94.5 71.1 66.3 59.8 79.2 85.3	025 025 025 025 025 025	1630 25.45 25.75 25.65 25.76 25.76 25.78 25.78			o mais G
12 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	24hr) 49 64 259 364 369 314 369 324	9.00 3.00 3.25 3.50 3.75 4.00 4.25 4.50 4.75	20.41 20.41 20.69 21.22 21.14 21.19 21.32 21.32 21.32 ECTION	9.76 9.10 9.40 9.90 9.94 9.67 9.49 9.49 9.40	684 217 247 434 430 313 273 258 252	- 101 -73.: - 89. - 113.: - 117. - 107. - 99.: - 99.: - 94.: Method:	1 2.46 = 3-11 1 3.12 = 2.56 8 1.93 = 1.93 1 2.25 2.46 2.63	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	1630 25.45 25.75 25.65 25.76 25.76 25.78 25.78	SLOW		a Mars (A
12 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	24hr) 49 64 64 669 669 669 669 669 669 669 66	9.00 3.00 3.25 3.50 3.75 4.00 4.25 4.50 4.75	20.41 20.41 20.69 21.22 21.14 21.19 21.32 21.32 21.32 ECTION	9.76 9.10 9.40 9.90 9.91 9.40 9.40 9.40	684 217 247 434 430 313 273 258 252	-101 -73.: -89. -113.: -117. -107. -99.: -94.: Method:	1 2.46 = 3-11 1 3.12 = 2.56 8 1.93 1 2.25 - 2.46 - 2.63 - 2.00	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16,30 25.45 25.75 25.76 25.76 25.78 25.78 25.79 25.78	SLOW	Time	o Mars (3)
12 12 12 12 12 12 12 12 12 12 12 12 12 1	24hr) 49 64 64 669 669 669 669 669 669 669 66	9.00 3.00 3.25 3.50 3.75 4.00 4.25 4.75 PLE COLLI	20.41 20.49 21.72 21.14 21.19 21.32 21.32 ECTION	9.76 9.10 9.40 9.90 9.41 9.49 9.40 9.37	217 247 434 430 313 273 288 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 = 3-11 1 3.12 = 2.56 8 1.93 1 2.25 - 2.46 - 2.63 - 2.25	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	SLOW	Time	o mais ca
12 12 17 17 17 17 17 17 17 17 17 17 17 17 17	24hr) 199 199 199 199 199 199 199 199 199 19	9.00 3.00 3.25 3.50 3.75 4.00 4.25 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.40 9.90 9.94 9.40 9.40 9.37	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	2.46 3.12 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.207	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16,30 25.45 25.75 25.76 25.76 25.78 25.78 25.79 25.78	SLOW	Time	 इ.स.च्य
12 12 17 17 17 17 17 17 17 17 17 17 17 17 17	24hr) 199 199 199 199 199 199 199 199 199 19	9.00 3.00 3.25 3.50 3.75 4.00 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.90 9.94 9.49 9.40 9.40 9.40 Type	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	SLOW	Time	ज्ञ स्वर्ड दि स्वर्ड
12 12 17 17 17 17 17 17 17 17 17 17 17 17 17	24hr) 199 199 199 199 199 199 199 199 199 19	9.00 3.00 3.25 3.50 3.75 4.00 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.90 9.94 9.49 9.40 9.40 9.40 Type	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	SLOW	Time	o mais (A
12 12 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	24hr) 49 64 64 659 659 659 659 659 659 659 659 659 659	9.00 3.00 3.25 3.50 3.75 4.00 4.75 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.90 9.94 9.49 9.40 9.40 9.40 Type	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	SLOW	Time	a Mars CA
12 12 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	24hr) 199 199 199 199 199 199 199 199 199 19	9.00 3.00 3.25 3.50 3.75 4.00 4.75 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.90 9.94 9.49 9.40 9.40 9.40 Type	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	SLOW	Time	o Mars (3)
12 12 12 13 13 15 15 15 15 15 15 15 15 15 15 15 15 15	24hr) 49 64 64 659 659 659 659 659 659 659 659 659 659	9.00 3.00 3.25 3.50 3.75 4.00 4.75 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.90 9.94 9.49 9.40 9.40 9.40 Type	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	SLOW	Time	
12 12 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	24hr) 49 64 64 659 659 659 659 659 659 659 659 659 659	9.00 3.00 3.25 3.50 3.75 4.00 4.75 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.90 9.94 9.49 9.40 9.40 9.40 Type	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75, .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	SLOW	Time	ज्ञ % वर द
12 12 12 13 15 15 15 15 15 15 15 15 15 15 15 15 15	24hr) 49 64 64 659 659 659 659 659 659 659 659 659 659	9.00 3.00 3.25 3.50 3.75 4.00 4.75 4.75 PLE COLLI	20.41 20.49 21.22 21.14 21.19 21.32 21.32 21.29 ECTION	9.76 9.10 9.90 9.94 9.49 9.40 9.40 9.40 Type	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75 .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.78 25.78 25.78 25.78 25.78	ed	Time	o Mars (3)
12 12 12 12 12 12 12 12 12 12 12 12 12 1	24hr) 49 64 64 64 659 659 659 659 659 659 659 659 659 659	9.00 3.00 3.25 3.50 3.75 4.00 4.75 4.75 PLE COLLI	20.41 20.49 21.72 21.14 21.19 21.32 21.32 CTION	9.76 9.10 9.90 9.94 9.49 9.40 9.37	217 247 434 430 313 273 258 252 No. Conta	-101 -73: -89. -113: -117. -19: -94: Method:	1 2.46 3 -11 3.12 5 2.56 8 1.93 7 1.93 1 2.25 2.46 2.46 2.46 2.46 2.46 2.46 2.46 4.20 4.20 4.20 4.20 4.20 4.20 4.20 4.20	94.6 84.5 71.7 66.3 59.8 79.2 85.3 81.6	-0.75 .026 .026 .026 .026 .026 .026	16.30 25.45 25.75 25.76 25.76 25.78 25.78 25.78	ed	Time	

AECOM pg. 9

ATTACHMENT C

GROUNDWATER SAMPLE ANALYTICAL REPORTS

Report of Analysis

AECOM

101 Research Drive Columbia, SC 29203 Attention: Scott Ross

Project Name: Shakespeare - Newberry

Project Number: 60328308.11

Lot Number: RC03069

Date Completed: 03/09/2016

Nisreen Saikaly
Project Manager





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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

SC DHEC No: 32010 NELAC No: E87653 NC DENR No: 329 NC Field Parameters No: 5639

Case Narrative AECOM

Lot Number: RC03069

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Shealy Environmental Services, Inc.

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

Sample Summary AECOM

Lot Number: RC03069

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW24I	Aqueous	03/03/2016 1450	03/03/2016

(1 sample)

Executive Summary AECOM

Lot Number: RC03069

Sample	e Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW24I	Aqueous	Chloroform	8260B	2.1	J	ug/L	5
001	MW24I	Aqueous	Trichloroethene	8260B	1.8	J	ug/L	6

(2 detections)

Volatile Organic Compounds by GC/MS

Laboratory ID: RC03069-001 Client: AECOM

Description: MW24I Matrix: Aqueous Date Sampled: 03/03/2016 1450

Run Prep Method Analytical Method Dilution Analysis Date Analyst **Prep Date Batch** 1 5030B 8260B 03/07/2016 2019 ECP 97884

Parameter Acetone Benzene Bromodichloromethane Bromoform	Number 67-64-1 71-43-2 75-27-4	Method 8260B 8260B	Result Q ND	PQL 20	MDL 1.6	Units	Run
Benzene Bromodichloromethane Bromoform	71-43-2		ND	/()		110/	1
Bromodichloromethane Bromoform			ND	5.0	0.21	ug/L ug/L	1
Bromoform		8260B	ND	5.0	0.23	ug/L	1
	75-25-2	8260B	ND	5.0	0.25	ug/L	1
	74-83-9	8260B	ND	5.0	0.33	ug/L	1
Bromomethane (Methyl bromide) 2-Butanone (MEK)	78-93-3	8260B	ND ND	10	1.8	•	1
Carbon disulfide	75-95-3 75-15-0	8260B	ND	5.0	0.45	ug/L	1
Carbon distillide Carbon tetrachloride	56-23-5	8260B	ND	5.0	0.43	ug/L	1
Chlorobenzene	108-90-7	8260B	ND	5.0	0.20	ug/L	1
Chloroethane	75-00-3	8260B	ND	5.0	0.28	ug/L	1
Chloroform	67-66-3	8260B	2.1 J	5.0 5.0	0.26 0.21	ug/L	
	74-87-3	8260B	ND	5.0 5.0	0.19	ug/L	1
Chloromethane (Methyl chloride)	110-82-7	8260B	ND ND	5.0	0.19	ug/L	1
Cyclohexane			ND ND			ug/L	1
1,2-Dibromo-3-chloropropane (DBCP) Dibromochloromethane	96-12-8 124-48-1	8260B 8260B	ND ND	5.0 5.0	0.57 0.23	ug/L ug/L	1 1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	5.0	0.23	ug/L	1
1,2-Distribution (LDB)	95-50-1	8260B	ND	5.0	0.46	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND	5.0	0.40	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND	5.0	0.19	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND	5.0	0.19	ug/L	1
1,1-Dichloroethane	75-71-3 75-34-3	8260B	ND	5.0	0.03	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND	5.0	0.13	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND	5.0	0.23	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND	5.0	0.20	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND	5.0	0.33	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND	5.0	0.29	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	5.0	0.20	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	5.0	0.22	ug/L	1
Ethylbenzene	100-41-4	8260B	ND	5.0	0.22	ug/L	1
2-Hexanone	591-78-6	8260B	ND	10	0.26	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND	5.0	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND	5.0	0.24	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	5.0	0.23	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND	10	0.29	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND	5.0	0.16	ug/L	1
Methylene chloride	75-09-2	8260B	ND	5.0	0.42	ug/L	1
Styrene	100-42-5	8260B	ND	5.0	0.13	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	5.0	0.13	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND	5.0	0.22	ug/L	1
Toluene	108-88-3	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	5.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	5.0	0.13	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	5.0	0.13	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	5.0	0.22	ug/L	1

PQL = Practical quantitation limit

Date Received: 03/03/2016

ND = Not detected at or above the MDL

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

 $J = Estimated result < PQL and <math>\geq MDL$

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Volatile Organic Compounds by GC/MS

Client: AECOM

Laboratory ID: RC03069-001

Description: MW24I

Date Sampled: 03/03/2016 1450

Matrix: Aqueous

Date Received: 03/03/2016

Run	Prep Method	Analytical Method	Dilution	Analysis Date Analyst	Prep Date	Batch
1	5030B	8260B	1	03/07/2016 2019 ECP		97884

	CAS	Analytical					
Parameter	Number Method		Result Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	1.8 J	5.0	0.16	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND	5.0	0.74	ug/L	1
Vinyl chloride	75-01-4	8260B	ND	2.0	0.50	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND	5.0	0.32	ug/L	1

urrogate	Q	Run 1 % Recovery	Acceptance Limits	
2-Dichloroethane-d4		95	70-130	
omofluorobenzene		92	70-130	
oluene-d8		96	70-130	
-	2-Dichloroethane-d4 omofluorobenzene	2-Dichloroethane-d4 omofluorobenzene	2-Dichloroethane-d4 95 omofluorobenzene 92	2-Dichloroethane-d4 95 70-130 omofluorobenzene 92 70-130

PQL = Practical quantitation limit

B = Detected in the method blank

H = Out of holding time

ND = Not detected at or above the MDL $J = Estimated result < PQL and <math>\geq MDL$ Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

E = Quantitation of compound exceeded the calibration range P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria

Shealy Environmental Services, Inc.

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ97884-001 Batch: 97884

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	1.6	ug/L	03/07/2016 1655
Benzene	ND		1	5.0	0.21	ug/L	03/07/2016 1655
Bromodichloromethane	ND		1	5.0	0.23	ug/L	03/07/2016 1655
Bromoform	ND		1	5.0	0.35	ug/L	03/07/2016 1655
Bromomethane (Methyl bromide)	ND		1	5.0	0.19	ug/L	03/07/2016 1655
2-Butanone (MEK)	ND		1	10	1.8	ug/L	03/07/2016 1655
Carbon disulfide	ND		1	5.0	0.45	ug/L	03/07/2016 1655
Carbon tetrachloride	ND		1	5.0	0.31	ug/L	03/07/2016 1655
Chlorobenzene	ND		1	5.0	0.20	ug/L	03/07/2016 1655
Chloroethane	ND		1	5.0	0.28	ug/L	03/07/2016 1655
Chloroform	ND		1	5.0	0.21	ug/L	03/07/2016 1655
Chloromethane (Methyl chloride)	ND		1	5.0	0.19	ug/L	03/07/2016 1655
Cyclohexane	ND		1	5.0	0.30	ug/L	03/07/2016 1655
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	0.57	ug/L	03/07/2016 1655
Dibromochloromethane	ND		1	5.0	0.23	ug/L	03/07/2016 1655
1,2-Dibromoethane (EDB)	ND		1	5.0	0.17	ug/L	03/07/2016 1655
1,2-Dichlorobenzene	ND		1	5.0	0.46	ug/L	03/07/2016 1655
1,3-Dichlorobenzene	ND		1	5.0	0.19	ug/L	03/07/2016 1655
1,4-Dichlorobenzene	ND		1	5.0	0.19	ug/L	03/07/2016 1655
Dichlorodifluoromethane	ND		1	5.0	0.85	ug/L	03/07/2016 1655
1,2-Dichloroethane	ND		1	5.0	0.23	ug/L	03/07/2016 1655
1,1-Dichloroethane	ND		1	5.0	0.19	ug/L	03/07/2016 1655
1,1-Dichloroethene	ND		1	5.0	0.31	ug/L	03/07/2016 1655
trans-1,2-Dichloroethene	ND		1	5.0	0.33	ug/L	03/07/2016 1655
cis-1,2-Dichloroethene	ND		1	5.0	0.20	ug/L	03/07/2016 1655
1,2-Dichloropropane	ND		1	5.0	0.29	ug/L	03/07/2016 1655
trans-1,3-Dichloropropene	ND		1	5.0	0.22	ug/L	03/07/2016 1655
cis-1,3-Dichloropropene	ND		1	5.0	0.30	ug/L	03/07/2016 1655
Ethylbenzene	ND		1	5.0	0.21	ug/L	03/07/2016 1655
2-Hexanone	ND		1	10	0.26	ug/L	03/07/2016 1655
Isopropylbenzene	ND		1	5.0	0.14	ug/L	03/07/2016 1655
Methyl acetate	ND		1	5.0	0.24	ug/L	03/07/2016 1655
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.23	ug/L	03/07/2016 1655
4-Methyl-2-pentanone	ND		1	10	0.29	ug/L	03/07/2016 1655
Methylcyclohexane	ND		1	5.0	0.16	ug/L	03/07/2016 1655
Methylene chloride	ND		1	5.0	0.42	ug/L	03/07/2016 1655
Styrene	ND		1	5.0	0.13	ug/L	03/07/2016 1655
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.13	ug/L	03/07/2016 1655
Tetrachloroethene	ND		1	5.0	0.22	ug/L	03/07/2016 1655
Toluene	ND		1	5.0	0.24	ug/L	03/07/2016 1655
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	0.30	ug/L	03/07/2016 1655
1,2,4-Trichlorobenzene	0.23	J	1	5.0	0.13	ug/L	03/07/2016 1655
1,1,1-Trichloroethane	ND		1	5.0	0.24	ug/L	
	ND		ı	5.0	0.24	ug/∟	03/07/2016 1655

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

 $\mathsf{ND} = \mathsf{Not}$ detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ97884-001 Batch: 97884

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Parameter	Result	Q Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND	1	5.0	0.16	ug/L	03/07/2016 1655
Trichlorofluoromethane	ND	1	5.0	0.74	ug/L	03/07/2016 1655
Vinyl chloride	ND	1	2.0	0.50	ug/L	03/07/2016 1655
Xylenes (total)	ND	1	5.0	0.32	ug/L	03/07/2016 1655
Surrogate	Q % Rec	Acceptance Limit				
Bromofluorobenzene	90	70-130				
1,2-Dichloroethane-d4	91	70-130				
Toluene-d8	96	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ97884-002 Batch: 97884

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

	Spike						
_	Amount	Result	_			% Rec	
Parameter	(ug/L)	(ug/L)	Q	Dil	% Rec	Limit	Analysis Date
Acetone	100	99		1	99	60-140	03/07/2016 1600
Benzene	50	50		1	101	70-130	03/07/2016 1600
Bromodichloromethane	50	54		1	109	70-130	03/07/2016 1600
Bromoform	50	47		1	93	70-130	03/07/2016 1600
Bromomethane (Methyl bromide)	50	53		1	107	60-140	03/07/2016 1600
2-Butanone (MEK)	100	110		1	105	60-140	03/07/2016 1600
Carbon disulfide	50	47		1	94	60-140	03/07/2016 1600
Carbon tetrachloride	50	59		1	118	70-130	03/07/2016 1600
Chlorobenzene	50	51		1	101	70-130	03/07/2016 1600
Chloroethane	50	50		1	100	60-140	03/07/2016 1600
Chloroform	50	53		1	105	70-130	03/07/2016 1600
Chloromethane (Methyl chloride)	50	48		1	97	60-140	03/07/2016 1600
Cyclohexane	50	50		1	100	70-130	03/07/2016 1600
1,2-Dibromo-3-chloropropane (DBCP)	50	46		1	91	70-130	03/07/2016 1600
Dibromochloromethane	50	53		1	107	70-130	03/07/2016 1600
1,2-Dibromoethane (EDB)	50	53		1	105	70-130	03/07/2016 1600
1.2-Dichlorobenzene	50	48		1	96	70-130	03/07/2016 1600
1,3-Dichlorobenzene	50	46		1	92	70-130	03/07/2016 1600
1,4-Dichlorobenzene	50	45		1	90	70-130	03/07/2016 1600
Dichlorodifluoromethane	50	56		1	112	60-140	03/07/2016 1600
1.2-Dichloroethane	50	49		1	99	70-130	03/07/2016 1600
1,1-Dichloroethane	50	54		1	107	70-130	03/07/2016 1600
1,1-Dichloroethene	50	54		1	108	70-130	03/07/2016 1600
trans-1,2-Dichloroethene	50	52		1	104	70-130	03/07/2016 1600
cis-1,2-Dichloroethene	50	51		1	103	70-130	03/07/2016 1600
1,2-Dichloropropane	50	51		1	103	70-130	03/07/2016 1600
trans-1,3-Dichloropropene	50	54		1	108	70-130	03/07/2016 1600
cis-1,3-Dichloropropene	50	56		1	113	70-130	03/07/2016 1600
Ethylbenzene	50	50		1	100	70-130	03/07/2016 1600
•				1	107	60-140	
2-Hexanone	100	110		•			03/07/2016 1600
Isopropylbenzene	50	52		1	103	70-130	03/07/2016 1600
Methyl acetate	50	55		1	110	60-140	03/07/2016 1600
Methyl tertiary butyl ether (MTBE)	50	50		1	99	70-130	03/07/2016 1600
4-Methyl-2-pentanone	100	110		1	111	60-140	03/07/2016 1600
Methylcyclohexane	50	51		1	101	70-130	03/07/2016 1600
Methylene chloride	50	52		1	104	70-130	03/07/2016 1600
Styrene	50	54		1	108	70-130	03/07/2016 1600
1,1,2,2-Tetrachloroethane	50	47		1	93	70-130	03/07/2016 1600
Tetrachloroethene	50	52		1	104	70-130	03/07/2016 1600
Toluene	50	52		1	103	70-130	03/07/2016 1600
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	53		1	106	70-130	03/07/2016 1600
1,2,4-Trichlorobenzene	50	47		1	94	70-130	03/07/2016 1600
1,1,1-Trichloroethane	50	54		1	109	70-130	03/07/2016 1600
1,1,2-Trichloroethane	50	49		1	98	70-130	03/07/2016 1600

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ97884-002 Batch: 97884 Matrix: Aqueous Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L) Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	50	1	100	70-130	03/07/2016 1600
Trichlorofluoromethane	50	50	1	100	70-130	03/07/2016 1600
Vinyl chloride	50	48	1	97	70-130	03/07/2016 1600
Xylenes (total)	100	110	1	106	70-130	03/07/2016 1600
Surrogate	Q % Rec	Acceptance Limit				
Bromofluorobenzene	88	70-130				
1,2-Dichloroethane-d4	86	70-130				
Toluene-d8	91	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Chain of Custody and Miscellaneous Documents

SHEALY ENVIRONMENTAL SERVICES, INC.

106 Vantage Point Drive • West Columbia, SC 29172 Telephone No. 803-791-9700 Fax No. 803-791-9111 www.shealylab.com

Number 54042

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

Chain of Custody Record

Sheaty Environmental Services, Inc Document Number: ME0018C-04 Page 1 of 1 Effective Date: 02/05/2016 Expiry Date: 02/05/2021

Sample Receipt Checklist (SRC)

Client: A ECOM Cooler Inspected by/date: 403 /3/16 Lot #: R CO3 0 69
Means of receipt: SES1 Client UPS FedEx Other
Yes No 1. Were custody seals present on the cooler?
Yes No NA 2. If custody seals were present, were they intact and unbroken?
pH strip ID: NA Cl strip ID: NA
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
/5.6 /5.6 °C/ °C/ °C/ °C/
Method: Temperature Blank Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 0 °C
Method of coolant: Wet Ice Blue Ice Dry Ice None
12 16 Add 6 0°C year Project Manager notified?
Yes No No NA A S. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM was notified by: phone / email / face-to-face (circle one).
Yes No NA 4. Is the commercial courier's packing slip attached to this form?
Yes No 5. Were proper custody procedures (relinquished/received) followed?
Yes Z No ☐ 6. Were sample IDs listed on the COC?
Yes Z No ☐ 7. Were sample IDs listed on all sample containers?
Yes No No 8. Was collection date & time listed on the COC?
Yes No
Yes Z No ☐ 10. Did all container label information (ID, date, time) agree with the COC?
Yes No 11. Were tests to be performed listed on the COC?
Yes No No 12. Did all samples arrive in the proper containers for each test and/or in good condition
(unoroxen, itas on, etc.)?
Yes / No 13. Was adequate sample volume available?
Yes No 14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes No No 15. Were any samples containers missing/excess (circle one) samples not listed on COC?
Yes No NA 16. Were bubbles present >"pea-size" (1/2" or 6mm in diameter) in any VOA vials?
Yes ☐ No ☐ NA ☑ 17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes No NA
10. Ware all amplicable MH3/TKN/gygnidg/phenol (<0.2 mg/L) samples free of residual
Yes No NA La Johlorine?
Yes No NA 20. Were collection temperatures documented on the COC for NC samples?
You Day NA CV 21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc)
correctly transcribed from the COC into the comment section in Envis
Yes No 2 22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)
The state of the s
Samples(s) were received with TRC >0.2 mg/L (If #21 is No) and were
adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID:
SC Drinking Water Project Sample(s) pH verified to be > 2 by Date:
Sample(s) were not received at a pH of <2 and were adjusted accordingly using SR#
Sample labels applied by: Verified by: Date: 3/3/16
omments:

Report of Analysis

AECOM 101 Research Drive Columbia, SC 29203 Attention: Scott Ross

Project Name: Shakespeare - Newberry

Project Number: 60328308.11

Lot Number: RB26034 Date Completed: 03/01/2016

> Nisreen Saikaly Project Manager





This report shall not be reproduced, except in its entirety, without the written approval of Shealy Environmental Services, Inc.

The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

SC DHEC No: 32010 NELAC No: E87653 NC DENR No: 329 NC Field Parameters No: 5639

Case Narrative **AECOM**

Lot Number: RB26034

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Page: 2 of 11

Sample Summary AECOM

Lot Number: RB26034

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-25	Aqueous	02/26/2016 1330	02/26/2016

(1 sample)

Executive Summary AECOM

Lot Number: RB26034

Sample	e Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-25	Aqueous	Chloroform	8260B	4.0	BJ	ug/L	5
001	MW-25	Aqueous	Trichloroethene	8260B	0.90	J	ug/L	6

(2 detections)

Volatile Organic Compounds by GC/MS

Client: AECOM

Date Sampled:02/26/2016 1330

5030B

Description: MW-25

Laboratory ID: RB26034-001

Matrix: Aqueous

Date Received: 02/26/2016

Run Prep Method

1

Analytical Method Dilution 8260B

Analysis Date Analyst 02/27/2016 1635 RAG

Prep Date

Batch 97293

	CAS	Analytical					
Parameter	Number	Method	Result Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	ND	20	1.6	ug/L	1
Benzene	71-43-2	8260B	ND	5.0	0.21	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND	5.0	0.23	ug/L	1
Bromoform	75-25-2	8260B	ND	5.0	0.35	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	5.0	0.19	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND	10	1.8	ug/L	1
Carbon disulfide	75-15-0	8260B	ND	5.0	0.45	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND	5.0	0.31	ug/L	1
Chlorobenzene	108-90-7	8260B	ND	5.0	0.20	ug/L	1
Chloroethane	75-00-3	8260B	ND	5.0	0.28	ug/L	1
Chloroform	67-66-3	8260B	4.0 BJ	5.0	0.21	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	5.0	0.19	ug/L	1
Cyclohexane	110-82-7	8260B	ND	5.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	5.0	0.57	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND	5.0	0.23	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	5.0	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND	5.0	0.46	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND	5.0	0.19	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND	5.0	0.19	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND	5.0	0.85	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND	5.0	0.19	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND	5.0	0.23	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND	5.0	0.31	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND	5.0	0.20	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND	5.0	0.33	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND	5.0	0.29	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	5.0	0.30	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	5.0	0.22	ug/L	1
Ethylbenzene	100-41-4	8260B	ND	5.0	0.21	ug/L	1
2-Hexanone	591-78-6	8260B	ND	10	0.26	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND	5.0	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND	5.0	0.24	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	5.0	0.23	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND	10	0.29	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND	5.0	0.16	ug/L	1
Methylene chloride	75-09-2	8260B	ND	5.0	0.42	ug/L	1
Styrene	100-42-5	8260B	ND	5.0	0.13	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	5.0	0.13	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND	5.0	0.22	ug/L	1
Toluene	108-88-3	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	5.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	5.0	0.13	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	5.0	0.22	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

ND = Not detected at or above the MDL $J = Estimated \ result < PQL \ and \ge MDL$ Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria

Shealy Environmental Services, Inc.

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

Page: 5 of 11

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

Volatile Organic Compounds by GC/MS

Client: AECOM Laboratory ID: RB26034-001 Description: MW-25 Matrix: Aqueous Date Sampled:02/26/2016 1330 Date Received: 02/26/2016 Run Prep Method Analytical Method Dilution Analysis Date Analyst Prep Date Batch 5030B 8260B 02/27/2016 1635 RAG 97293 CAS Analytical Parameter Result Q PQL MDL Units Run Number Method 0.90 0.16 Trichloroethene 79-01-6 8260B 5.0 ug/L 1 Trichlorofluoromethane 75-69-4 8260B ND5.0 0.74 ug/L 1 Vinyl chloride 75-01-4 8260B ND2.0 0.50 ug/L 1 1330-20-7 ug/L Xylenes (total) 8260B ND 5.0 0.32 1 Run 1 Acceptance Surrogate Q % Recovery Limits

70-130

70-130

70-130

101

100

104

PQL = Practical quantitation limit

1,2-Dichloroethane-d4

Bromofluorobenzene

Toluene-d8

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

 $J = Estimated result < PQL and <math>\geq MDL$ Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W" QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ97293-001 Batch: 97293

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	1.6	ug/L	02/27/2016 1152
Benzene	ND		1	5.0	0.21	ug/L	02/27/2016 1152
Bromodichloromethane	ND		1	5.0	0.23	ug/L	02/27/2016 1152
Bromoform	ND		1	5.0	0.35	ug/L	02/27/2016 1152
Bromomethane (Methyl bromide)	ND		1	5.0	0.19	ug/L	02/27/2016 1152
2-Butanone (MEK)	ND		1	10	1.8	ug/L	02/27/2016 1152
Carbon disulfide	ND		1	5.0	0.45	ug/L	02/27/2016 1152
Carbon tetrachloride	ND		1	5.0	0.31	ug/L	02/27/2016 1152
Chlorobenzene	ND		1	5.0	0.20	ug/L	02/27/2016 1152
Chloroethane	ND		1	5.0	0.28	ug/L	02/27/2016 1152
Chloroform	0.33	J	1	5.0	0.21	ug/L	02/27/2016 1152
Chloromethane (Methyl chloride)	ND		1	5.0	0.19	ug/L	02/27/2016 1152
Cyclohexane	ND		1	5.0	0.30	ug/L	02/27/2016 1152
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	0.57	ug/L	02/27/2016 1152
Dibromochloromethane	ND		1	5.0	0.23	ug/L	02/27/2016 1152
1,2-Dibromoethane (EDB)	ND		1	5.0	0.17	ug/L	02/27/2016 1152
1,3-Dichlorobenzene	ND		1	5.0	0.19	ug/L	02/27/2016 1152
1,4-Dichlorobenzene	ND		1	5.0	0.19	ug/L	02/27/2016 1152
1,2-Dichlorobenzene	ND		1	5.0	0.46	ug/L	02/27/2016 1152
Dichlorodifluoromethane	ND		1	5.0	0.85	ug/L	02/27/2016 1152
1,2-Dichloroethane	ND		1	5.0	0.23	ug/L	02/27/2016 1152
1,1-Dichloroethane	ND		1	5.0	0.19	ug/L	02/27/2016 1152
cis-1,2-Dichloroethene	ND		1	5.0	0.20	ug/L	02/27/2016 1152
1,1-Dichloroethene	ND		1	5.0	0.31	ug/L	02/27/2016 1152
trans-1,2-Dichloroethene	ND		1	5.0	0.33	ug/L	02/27/2016 1152
1,2-Dichloropropane	ND		1	5.0	0.29	ug/L	02/27/2016 1152
trans-1,3-Dichloropropene	ND		1	5.0	0.22	ug/L	02/27/2016 1152
cis-1,3-Dichloropropene	ND		1	5.0	0.30	ug/L	02/27/2016 1152
Ethylbenzene	ND		1	5.0	0.21	ug/L	02/27/2016 1152
2-Hexanone	ND		1	10	0.26	ug/L	02/27/2016 1152
Isopropylbenzene	ND		1	5.0	0.14	ug/L	02/27/2016 1152
Methyl acetate	ND		1	5.0	0.24	ug/L	02/27/2016 1152
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.23	ug/L	02/27/2016 1152
4-Methyl-2-pentanone	ND		1	10	0.29	ug/L	02/27/2016 1152
Methylcyclohexane	ND		1	5.0	0.16	ug/L	02/27/2016 1152
Methylene chloride	ND		1	5.0	0.42	ug/L	02/27/2016 1152
Styrene	ND		1	5.0	0.13	ug/L	02/27/2016 1152
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.13	ug/L	02/27/2016 1152
Tetrachloroethene	ND		1	5.0	0.22	ug/L	02/27/2016 1152
Toluene	ND		1	5.0	0.24	ug/L	02/27/2016 1152
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	0.30	ug/L	02/27/2016 1152
1,2,4-Trichlorobenzene	0.21	J	1	5.0	0.13	ug/L	02/27/2016 1152
1,1,1-Trichloroethane	ND	-	1	5.0	0.24	ug/L	02/27/2016 1152
1,1,2-Trichloroethane	ND		1	5.0	0.22	ug/L	02/27/2016 1152
1,1,2 memore durie	ND		•	3.0	0.22	ug/L	02/2//2010 1132

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS - MB

Sample ID: RQ97293-001 Batch: 97293

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Result	Q [il PQL	MDL	Units	Analysis Date
ND		5.0	0.16	ug/L	02/27/2016 1152
ND		5.0	0.74	ug/L	02/27/2016 1152
ND		2.0	0.50	ug/L	02/27/2016 1152
ND		5.0	0.32	ug/L	02/27/2016 1152
Q % Rec		nce			
101	70-13)			
99	70-13)			
104	70-13)			
	ND ND ND O Rec 101 99	ND 1 ND 1 ND 1 ND 1 ND 1 ND 1 Acceptar Q % Rec Limit 101 70-130 99 70-130	ND 1 5.0 ND 1 5.0 ND 1 2.0 ND 1 5.0 ND 1 5.0 Acceptance Limit 101 70-130 99 70-130	ND 1 5.0 0.16 ND 1 5.0 0.74 ND 1 2.0 0.50 ND 1 5.0 0.32 Q % Rec Limit 101 70-130 99 70-130	ND 1 5.0 0.16 ug/L ND 1 5.0 0.74 ug/L ND 1 2.0 0.50 ug/L ND 1 5.0 0.32 ug/L ND 1 5.0 0.32 ug/L Q % Rec Limit 101 70-130 99 70-130

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ97293-002 Batch: 97293

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

	Spike					0/ 5	
Parameter	Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Acetone	100	100		1	100	60-140	02/27/2016 1058
Benzene	50	52		1	104	70-130	02/27/2016 1058
Bromodichloromethane	50	57		1	113	70-130	02/27/2016 1058
Bromoform	50	49		1	99	70-130	02/27/2016 1058
Bromomethane (Methyl bromide)	50	51		1	101	60-140	02/27/2016 1058
2-Butanone (MEK)	100	91		1	91	60-140	02/27/2016 1058
Carbon disulfide	50	54		1	107	60-140	02/27/2016 1058
Carbon tetrachloride	50	58		1	117	70-130	02/27/2016 1058
Chlorobenzene	50	59		1	119	70-130	02/27/2016 1058
Chloroethane	50	50		1	100	60-140	02/27/2016 1058
Chloroform	50	53		1	106	70-130	02/27/2016 1058
Chloromethane (Methyl chloride)	50	48		1	96	60-140	02/27/2016 1058
Cyclohexane	50	56		1	113	70-130	02/27/2016 1058
1,2-Dibromo-3-chloropropane (DBCP)	50	48		1	97	70-130	02/27/2016 1058
Dibromochloromethane	50	59		1	119	70-130	02/27/2016 1058
1,2-Dibromoethane (EDB)	50	55		1	111	70-130	02/27/2016 1058
1,3-Dichlorobenzene	50	62		1	123	70-130	02/27/2016 1058
1,4-Dichlorobenzene	50	60		1	121	70-130	02/27/2016 1058
1,2-Dichlorobenzene	50	59		1	118	70-130	02/27/2016 1058
Dichlorodifluoromethane	50	54		1	108	60-140	02/27/2016 1058
1,2-Dichloroethane	50	51		1	102	70-130	02/27/2016 1058
1,1-Dichloroethane	50	55		1	110	70-130	02/27/2016 1058
cis-1,2-Dichloroethene	50	54		1	108	70-130	02/27/2016 1058
1,1-Dichloroethene	50	56		1	112	70-130	02/27/2016 1058
trans-1,2-Dichloroethene	50	56		1	111	70-130	02/27/2016 1058
1,2-Dichloropropane	50	53		1	107	70-130	02/27/2016 1058
trans-1,3-Dichloropropene	50	56		1	111	70-130	02/27/2016 1058
cis-1,3-Dichloropropene	50	56		1	112	70-130	02/27/2016 1058
Ethylbenzene	50	59		1	118	70-130	02/27/2016 1058
2-Hexanone	100	92		1	92	60-140	02/27/2016 1058
Isopropylbenzene	50	63		1	126	70-130	02/27/2016 1058
Methyl acetate	50	43		1	85	60-140	02/27/2016 1058
Methyl tertiary butyl ether (MTBE)	50	47		1	94	70-130	02/27/2016 1058
4-Methyl-2-pentanone	100	96		1	96	60-140	02/27/2016 1058
Methylcyclohexane	50	59		1	118	70-130	02/27/2016 1058
Methylene chloride	50	54		1	108	70-130	02/27/2016 1058
Styrene	50	61		1	122	70-130	02/27/2016 1058
1,1,2,2-Tetrachloroethane	50	54		1	109	70-130	02/27/2016 1058
Tetrachloroethene	50	59		1	119	70-130	02/27/2016 1058
Toluene	50	55		1	111	70-130	02/27/2016 1058
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	62		1	123	70-130	02/27/2016 1058
1,2,4-Trichlorobenzene	50	51		1	102	70-130	02/27/2016 1058
1,1,1-Trichloroethane	50	57		1	114	70-130	02/27/2016 1058
1,1,2-Trichloroethane	50	54		1	109	70-130	02/27/2016 1058
1,1,2-THORIO OCUIDIO	50	J+		1	107	70-130	0212112010 1030

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Volatile Organic Compounds by GC/MS - LCS

Sample ID: RQ97293-002 Batch: 97293

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L) Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	56	1	112	70-130	02/27/2016 1058
Trichlorofluoromethane	50	56	1	112	70-130	02/27/2016 1058
Vinyl chloride	50	50	1	100	70-130	02/27/2016 1058
Xylenes (total)	100	130	1	125	70-130	02/27/2016 1058
Surrogate	Q % Rec	Acceptance Limit				
Bromofluorobenzene	99	70-130				
1,2-Dichloroethane-d4	93	70-130				
Toluene-d8	101	70-130				

PQL = Practical quantitation limit

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J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Chain of Custody and Miscellaneous Documents

SHEALY ENVIRONMENTAL SERVICES, INC. Chain of Custody Record

106 Vantage Point Drive • West Columbia, SC 29172 Telephone No. 803-791-9700 Fax No. 803-791-9111 www.shealylab.com

53398

Number

RB26034 Remarks / Cooler LD. Cubie No. Page QC Requirements (Specify) Time 7009 Time Scott. Ross OATCOM. COM Receipt Temp. 11-6 age C Date Oate Analysis (Attach list if more space is needed) □ Unknown ... Poison Telephone No. / E-mail Mo roe Pack Skin Imbant 5,701 989 77[Š Appen-Hazard | | Flammable Possible Hazard Identification Received on los (Cirole) IN 9849 LAB USE ONLY No of Cantahors by Preservance Type HOW 3. Received by Received by 2. Received by ЮН 60WH \$080H ¥ - Return to Otent Medisposal by Lab carthyr Ros4 Metrix 300 E I'ma P995 steachy Note: All samples are ratained for four weeks from receipt Report to Contact Sect dysoduog-g Greeky ⇘ Sample Disposal Safe Oats Oats 1330 7000 uniess other arrangements are made. Print ugn Anound Timo Required (Prior lab approval required for expedited TAT.) 22216 29203 P.O. No. Date Zo Code (Containers for each sample may be combined on one fine.) State Sample ID / Description Traject No. 28'308 . II POLINERALLY 子ろんがよ Alowe GIA 4. Refriquished by 3. Relinquished by Accom なり、これ roject Name Ckent

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

Document Number: F.4D-133 Effective Date: 08-01-2014

HEALŸ

Shealy Environmental Services, Inc. Document Number: MED018C-04 Page 1 of 1 Effective Date: 02/05/2016 Expiry Date: 02/05/2021

Sample Receipt Checklist (SRC)

Clien	t: <u>' P</u> /E	com	Cooler Inspected by/date: www /oscale Lot #: 128 26057
Means of	receipt:	SESI	Client UPS FedEx Other
Yes 🗌	No		Were custody seals present on the cooler?
Yes 🗌	No		2. If custody seals were present, were they intact and unbroken?
pH strip II	D.		Cl strip ID:
Cooler ID	/Original	temperati	are upon receipt/Derived (corrected) temperature upon receipt:
	عا. الأرعا.		/ / °C / / °C/_/ °C
			ink Against Bottles IR Gun ID: IR Gun Correction Factor: O O °C
Method of	f coolant:	□ w	et Ice Blue Ice Dry Ice None
v [/	N- []	NA 🗆	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified?
Yes 🗹	No 🗌	NA 🗌	PM was notified by: phone / emails/ face-to-face (circle one).
Yes 🗌	No 🗌	NA 🗹	Is the commercial courier's packing slip attached to this form?
Yes 🗸	No 🗌		5. Were proper custody procedures (relinquished/received) followed?
Yes 🗹	No 🗌		6. Were sample IDs listed on the COC?
Yes 🔽	No 🗆		7. Were sample IDs listed on all sample containers?
Yes 🕢	No 🗌		8. Was collection date & time listed on the COC?
Yes 🗹	No 🗌		Was collection date & time listed on all sample containers?
Yes 🗷	No 🗔		10. Did all container label information (ID, date, time) agree with the COC?
Yes 🔽	No 🗌		11. Were tests to be performed listed on the COC?
Yes 🗹	No 🗀		12. Did all samples arrive in the proper containers for each test and/or in good condition
/			(unbroken, lids on, etc.)?
Yes 🔽	No 🗌		13. Was adequate sample volume available?
Yes 🗷	No 🗌		14. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes 🗌	No 🗷		15. Were any samples containers missing/excess (circle one) samples not listed on COC?
Yes 🗌	No 🗸	NA 🗌	16. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes 🗌	No 🗌	NA 🗸	17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes 🗌	No 🗌	NA 🗸	18. Were all cyanide and/or sulfide samples received at a pH >12?
v	No 🗆	NA 🗹	19. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual
Yes 🗌	NO	NA IZI	, chlorine?
Yes 🗌	No 🗌	NA 🗷	20. Were collection temperatures documented on the COC for NC samples?
Yes 🗆	No 🗌	NA 🖫	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc)
Y ES	NO	NAL	correctly transcribed from the COC into the comment section in LIMS?
Yes 🔲	No 🗹		22. Was the quote number used taken from the container label?
Sample P	reservati	on (Mu	st be completed for any sample(s) incorrectly preserved or with headspace.)
Sample(s)	Y		were received incorrectly preserved and were adjusted accordingly in
	e receivin	g with	(H ₂ SO ₄ , HNO3, HCl, NaOH) using SR #
Sample(s)			were received with bubbles >6 mm in diameter.
Samples(s			were received with TRC >0.2 mg/L (If #21 is No) and were
adjusted a	ccording!	v in same	le receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID:
			ample(s) pH verified to be > 2 by Date:
Sample(s)		r roject c	vere not received at a pH of <2 and were adjusted accordingly using SR#
			Communication Verified by: Date: 2/26/16
Sample la	ners abbit	ca by	10111000
was the desired			
omments:			

Report of Analysis

AECOM 101 Research Drive Columbia, SC 29203 Attention: Scott Ross

Project Name: Shakespeare - Newberry

Project Number: 60328308.11

Lot Number: RD26033 Date Completed: 04/29/2016

> Nisreen Saikaly Project Manager





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The following non-paginated documents are considered part of this report: Chain of Custody Record and Sample Receipt Checklist.

SC DHEC No: 32010 NELAC No: E87653 NC DENR No: 329 NC Field Parameters No: 5639

Case Narrative AECOM

Lot Number: RD26033

This Report of Analysis contains the analytical result(s) for the sample(s) listed on the Sample Summary following this Case Narrative. The sample receiving date is documented in the header information associated with each sample.

All results listed in this report relate only to the samples that are contained within this report.

Sample receipt, sample analysis, and data review have been performed in accordance with the most current approved NELAC standards, the Shealy Environmental Services, Inc. ("Shealy") Quality Assurance Management Plan (QAMP), standard operating procedures (SOPs), and Shealy policies. Any exceptions to the NELAC standards, the QAMP, SOPs or policies are qualified on the results page or discussed below.

If you have any questions regarding this report please contact the Shealy Project Manager listed on the cover page.

Shealy Environmental Services, Inc.

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

Sample Summary AECOM

Lot Number: RD26033

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW 9D	Aqueous	04/25/2016 1340	04/26/2016
002	MW 9D - DUP	Aqueous	04/25/2016 1340	04/26/2016
003	SDW 2	Aqueous	04/26/2016 1215	04/26/2016
004	TRIP BLANK	Aqueous	04/26/2016	04/26/2016

(4 samples)

Executive Summary AECOM

Lot Number: RD26033

Sampl	e Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW 9D	Aqueous	Acetone	8260B	2.4	J	ug/L	5
001	MW 9D	Aqueous	Chloroform	8260B	2.0	J	ug/L	5
001	MW 9D	Aqueous	Trichloroethene	8260B	3.1	J	ug/L	6
002	MW 9D - DUP	Aqueous	Acetone	8260B	1.9	J	ug/L	7
002	MW 9D - DUP	Aqueous	Chloroform	8260B	1.9	J	ug/L	7
002	MW 9D - DUP	Aqueous	Trichloroethene	8260B	3.1	J	ug/L	8
003	SDW 2	Aqueous	Acetone	8260B	11	J	ug/L	9
003	SDW 2	Aqueous	2-Butanone (MEK)	8260B	2.3	J	ug/L	9
003	SDW 2	Aqueous	Chloroform	8260B	5.7		ug/L	9
003	SDW 2	Aqueous	Chloromethane (Methyl	8260B	0.37	J	ug/L	9
003	SDW 2	Aqueous	2-Hexanone	8260B	0.59	J	ug/L	9
003	SDW 2	Aqueous	4-Methyl-2-pentanone	8260B	0.92	J	ug/L	9
003	SDW 2	Aqueous	Methylene chloride	8260B	1.8	J	ug/L	9
003	SDW 2	Aqueous	Toluene	8260B	27		ug/L	9

(14 detections)

Client: AECOM

Laboratory ID: RD26033-001

Description: MW 9D

Run Prep Method

Matrix: Aqueous

Date Sampled:04/25/2016 1340 Date Received:04/26/2016

5030B

Analytical Method Dilution Analysis Date Analyst 8260B 1 04/28/2016 1638 RAG

Prep Date

Batch 12025

Description	CAS	Analytical	Б ::	0	DC!	ME	11. 11	_
Parameter	Number	Method	Result		PQL	MDL	Units	Run
Acetone	67-64-1	8260B	2.4	J	20	1.6	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.21	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND		5.0	0.23	ug/L	1
Bromoform	75-25-2	8260B	ND		5.0	0.35	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND		5.0	0.19	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND		10	1.8	ug/L	1
Carbon disulfide	75-15-0	8260B	ND		5.0	0.45	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND		5.0	0.31	ug/L	1
Chlorobenzene	108-90-7	8260B	ND		5.0	0.20	ug/L	1
Chloroethane	75-00-3	8260B	ND		5.0	0.28	ug/L	1
Chloroform	67-66-3	8260B	2.0	J	5.0	0.21	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND		5.0	0.19	ug/L	1
Cyclohexane	110-82-7	8260B	ND		5.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND		5.0	0.57	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND		5.0	0.23	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND		5.0	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND		5.0	0.46	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND		5.0	0.19	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND		5.0	0.19	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND		5.0	0.85	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND		5.0	0.19	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.23	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND		5.0	0.31	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND		5.0	0.20	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND		5.0	0.33	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND		5.0	0.29	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND		5.0	0.30	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND		5.0	0.22	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	0.21	ug/L	1
2-Hexanone	591-78-6	8260B	ND		10	0.26	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND		5.0	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND		5.0	0.24	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.23	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND		10	0.29	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND		5.0	0.16	ug/L	1
Methylene chloride	75-09-2	8260B	ND		5.0	0.42	ug/L	1
Styrene	100-42-5	8260B	ND		5.0	0.13	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND		5.0	0.13	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND		5.0	0.13	ug/L	1
Toluene								
1,1,2-Trichloro-1,2,2-Trifluoroethane	108-88-3	8260B	ND		5.0	0.24	ug/L	1
	76-13-1	8260B	ND		5.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND		5.0	0.13	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND		5.0	0.24	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND		5.0	0.22	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

 $ND = Not \ detected \ at \ or \ above \ the \ MDL \qquad J = Estimated \ result < PQL \ and \ge MDL \qquad P = The \ RF \ Where \ applicable, \ all \ soil \ sample \ analysis \ are \ reported \ on \ a \ dry \ weight \ basis \ unless \ flagged \ with \ a \ "W"$

N = Recovery is out of criteria

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 $[\]label{eq:power_power} E = \mbox{Quantitation of compound exceeded the calibration range} \\ P = \mbox{The RPD between two GC columns exceeds 40\%}$

H = Out of holding time

Client: AECOM Laboratory ID: RD26033-001 Description: MW 9D Matrix: Aqueous Date Sampled:04/25/2016 1340 Date Received: 04/26/2016 Run Prep Method Analytical Method Dilution Analysis Date Analyst Prep Date Batch 5030B 8260B 04/28/2016 1638 RAG 12025 CAS Analytical Parameter Result Q PQL MDL Units Run Number Method 0.16 Trichloroethene 79-01-6 8260B 3.1 5.0 ug/L 1 Trichlorofluoromethane 75-69-4 8260B ND 5.0 0.74 ug/L 1 Vinyl chloride 75-01-4 8260B ND2.0 0.50 ug/L 1 1330-20-7 ug/L Xylenes (total) 8260B ND5.0 0.32 1 Run 1 Acceptance Surrogate Q % Recovery Limits 70-130 1,2-Dichloroethane-d4 97 Bromofluorobenzene 95 70-130

70-130

100

PQL = Practical quantitation limit

Toluene-d8

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

 $J = Estimated result < PQL and <math>\geq MDL$ Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM

Laboratory ID: RD26033-002

Description: MW 9D - DUP

Date Sampled:04/25/2016 1340

Matrix: Aqueous

Date Received: 04/26/2016

Run Prep Method 1 5030B Analytical Method Dilution 8260B

Analysis Date Analyst 04/28/2016 1701 RAG

Prep Date

Batch 12025

_	CAS	Analytical					
Parameter	Number	Method	Result Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	1.9 J	20	1.6	ug/L	1
Benzene	71-43-2	8260B	ND	5.0	0.21	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND	5.0	0.23	ug/L	1
Bromoform	75-25-2	8260B	ND	5.0	0.35	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	5.0	0.19	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND	10	1.8	ug/L	1
Carbon disulfide	75-15-0	8260B	ND	5.0	0.45	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND	5.0	0.31	ug/L	1
Chlorobenzene	108-90-7	8260B	ND	5.0	0.20	ug/L	1
Chloroethane	75-00-3	8260B	ND	5.0	0.28	ug/L	1
Chloroform	67-66-3	8260B	1.9 J	5.0	0.21	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	5.0	0.19	ug/L	1
Cyclohexane	110-82-7	8260B	ND	5.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	5.0	0.57	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND	5.0	0.23	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	5.0	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND	5.0	0.46	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND	5.0	0.19	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND	5.0	0.19	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND	5.0	0.85	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND	5.0	0.19	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND	5.0	0.23	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND	5.0	0.31	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND	5.0	0.20	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND	5.0	0.33	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND	5.0	0.29	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	5.0	0.30	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	5.0	0.22	ug/L	1
Ethylbenzene	100-41-4	8260B	ND	5.0	0.21	ug/L	1
2-Hexanone	591-78-6	8260B	ND	10	0.26	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND	5.0	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND	5.0	0.24	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	5.0	0.23	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND	10	0.29	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND	5.0	0.16	ug/L	1
Methylene chloride	75-09-2	8260B	ND	5.0	0.42	ug/L	1
Styrene	100-42-5	8260B	ND	5.0	0.13	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	5.0	0.13	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND	5.0	0.22	ug/L	1
Toluene	108-88-3	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	5.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	5.0	0.13	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	5.0	0.22	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

ND = Not detected at or above the MDL $J = Estimated \ result < PQL \ and \ge MDL$ Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Shealy Environmental Services, Inc.

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

Client: AECOM Laboratory ID: RD26033-002 Description: MW 9D - DUP Matrix: Aqueous Date Sampled:04/25/2016 1340 Date Received: 04/26/2016 Run Prep Method Analytical Method Dilution Analysis Date Analyst Prep Date Batch 1 5030B 8260B 04/28/2016 1701 RAG 12025

	CAS	Analytical					
Parameter	Number	Method	Result Q	PQL	MDL	Units	Run
Trichloroethene	79-01-6	8260B	3.1 J	5.0	0.16	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND	5.0	0.74	ug/L	1
Vinyl chloride	75-01-4	8260B	ND	2.0	0.50	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND	5.0	0.32	ug/L	1
Surrogata	Run 1 Accept						

Surrogate	Q	% Recovery	Limits	
1,2-Dichloroethane-d4		96	70-130	
Bromofluorobenzene		93	70-130	
Toluene-d8		100	70-130	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time N = Recovery is out of criteria

ND = Not detected at or above the MDL $J = Estimated result < PQL and <math>\geq MDL$ P = The RPD between two GC columns exceeds 40% Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: AECOM

Laboratory ID: RD26033-003

Description: SDW 2

Matrix: Aqueous

Date Sampled:04/26/2016 1215 Date Received: 04/26/2016

Run Prep Method 1 5030B Analytical Method Dilution 8260B 1

Analysis Date Analyst 04/28/2016 1724 RAG Prep Date

Batch 12025

	CAS	Analytical					
Parameter	Number	Method	Result Q	PQL	MDL	Units	Run
Acetone	67-64-1	8260B	11 J	20	1.6	ug/L	1
Benzene	71-43-2	8260B	ND	5.0	0.21	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND	5.0	0.23	ug/L	1
Bromoform	75-25-2	8260B	ND	5.0	0.35	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	5.0	0.19	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	2.3 J	10	1.8	ug/L	1
Carbon disulfide	75-15-0	8260B	ND	5.0	0.45	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND	5.0	0.31	ug/L	1
Chlorobenzene	108-90-7	8260B	ND	5.0	0.20	ug/L	1
Chloroethane	75-00-3	8260B	ND	5.0	0.28	ug/L	1
Chloroform	67-66-3	8260B	5.7	5.0	0.21	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	0.37 J	5.0	0.19	ug/L	1
Cyclohexane	110-82-7	8260B	ND	5.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	5.0	0.57	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND	5.0	0.23	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	5.0	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND	5.0	0.46	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND	5.0	0.19	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND	5.0	0.19	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND	5.0	0.85	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND	5.0	0.19	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND	5.0	0.23	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND	5.0	0.31	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND	5.0	0.20	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND	5.0	0.33	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND	5.0	0.29	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	5.0	0.30	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	5.0	0.22	ug/L	1
Ethylbenzene	100-41-4	8260B	ND	5.0	0.21	ug/L	1
2-Hexanone	591-78-6	8260B	0.59 J	10	0.26	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND	5.0	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND	5.0	0.24	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	5.0	0.23	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	0.92 J	10	0.29	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND	5.0	0.16	ug/L	1
Methylene chloride	75-09-2	8260B	1.8 J	5.0	0.42	ug/L	1
Styrene	100-42-5	8260B	ND	5.0	0.13	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	5.0	0.13	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND	5.0	0.22	ug/L	1
Toluene	108-88-3	8260B	27	5.0	0.24	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	5.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	5.0	0.13	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	5.0	0.22	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

 $[\]label{eq:energy} \textbf{E} = \textbf{Quantitation of compound exceeded the calibration range}$

H = Out of holding time

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Laboratory ID: RD26033-003 Client: AECOM Description: SDW 2 Matrix: Aqueous Date Sampled:04/26/2016 1215 Date Received: 04/26/2016 Run Prep Method Analytical Method Dilution Analysis Date Analyst Prep Date Batch 5030B 8260B 04/28/2016 1724 RAG 12025 CAS Analytical Parameter Result Q PQL MDL Units Run Number Method

Trichloroethene	79-01-6	8260B	ND	5.0	0.16	ug/L	1
Trichlorofluoromethane	75-69-4	8260B	ND	5.0	0.74	ug/L	1
Vinyl chloride	75-01-4	8260B	ND	2.0	0.50	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND	5.0	0.32	ug/L	1
Surrogate	Run 1 Acceptar Q % Recovery Limit						

Surrogate	Q	% Recovery	Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		95	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

 $\label{eq:energy} \textbf{E} = \textbf{Quantitation of compound exceeded the calibration range}$

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

Client: AECOM L

Laboratory ID: RD26033-004 Matrix: Aqueous

Date Sampled:04/26/2016
Date Received:04/26/2016

Description: TRIP BLANK

Run Prep Method Analytical Method Dilution Analysis Date Analyst Prep Date Batch 1 5030B 8260B 1 04/28/2016 1158 RAG 12025

Parameter	CAS Number	Analytical	Result Q	PQL	MDL	Units	Run
Acetone	67-64-1	Method 8260B	ND	20	1.6	ug/L	1
Benzene	71-43-2	8260B	ND	5.0	0.21	ug/L	1
Bromodichloromethane	75-27-4	8260B	ND	5.0	0.23	ug/L	1
Bromoform	75-25-2	8260B	ND	5.0	0.35	ug/L	1
Bromomethane (Methyl bromide)	74-83-9	8260B	ND	5.0	0.19	ug/L	1
2-Butanone (MEK)	78-93-3	8260B	ND	10	1.8	ug/L	1
Carbon disulfide	75-15-0	8260B	ND	5.0	0.45	ug/L	1
Carbon tetrachloride	56-23-5	8260B	ND	5.0	0.31	ug/L	1
Chlorobenzene	108-90-7	8260B	ND	5.0	0.20	ug/L	1
Chloroethane	75-00-3	8260B	ND	5.0	0.28	ug/L	1
Chloroform	67-66-3	8260B	ND	5.0	0.21	ug/L	1
Chloromethane (Methyl chloride)	74-87-3	8260B	ND	5.0	0.19	ug/L	1
Cyclohexane	110-82-7	8260B	ND	5.0	0.30	ug/L	1
1,2-Dibromo-3-chloropropane (DBCP)	96-12-8	8260B	ND	5.0	0.57	ug/L	1
Dibromochloromethane	124-48-1	8260B	ND	5.0	0.23	ug/L	1
1,2-Dibromoethane (EDB)	106-93-4	8260B	ND	5.0	0.17	ug/L	1
1,2-Dichlorobenzene	95-50-1	8260B	ND	5.0	0.46	ug/L	1
1,3-Dichlorobenzene	541-73-1	8260B	ND	5.0	0.19	ug/L	1
1,4-Dichlorobenzene	106-46-7	8260B	ND	5.0	0.19	ug/L	1
Dichlorodifluoromethane	75-71-8	8260B	ND	5.0	0.85	ug/L	1
1,1-Dichloroethane	75-34-3	8260B	ND	5.0	0.19	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND	5.0	0.23	ug/L	1
1,1-Dichloroethene	75-35-4	8260B	ND	5.0	0.31	ug/L	1
cis-1,2-Dichloroethene	156-59-2	8260B	ND	5.0	0.20	ug/L	1
trans-1,2-Dichloroethene	156-60-5	8260B	ND	5.0	0.33	ug/L	1
1,2-Dichloropropane	78-87-5	8260B	ND	5.0	0.29	ug/L	1
cis-1,3-Dichloropropene	10061-01-5	8260B	ND	5.0	0.30	ug/L	1
trans-1,3-Dichloropropene	10061-02-6	8260B	ND	5.0	0.22	ug/L	1
Ethylbenzene	100-41-4	8260B	ND	5.0	0.21	ug/L	1
2-Hexanone	591-78-6	8260B	ND	10	0.26	ug/L	1
Isopropylbenzene	98-82-8	8260B	ND	5.0	0.14	ug/L	1
Methyl acetate	79-20-9	8260B	ND	5.0	0.24	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND	5.0	0.23	ug/L	1
4-Methyl-2-pentanone	108-10-1	8260B	ND	10	0.29	ug/L	1
Methylcyclohexane	108-87-2	8260B	ND	5.0	0.16	ug/L	1
Methylene chloride	75-09-2	8260B	ND	5.0	0.42	ug/L	1
Styrene	100-42-5	8260B	ND	5.0	0.13	ug/L	1
1,1,2,2-Tetrachloroethane	79-34-5	8260B	ND	5.0	0.13	ug/L	1
Tetrachloroethene	127-18-4	8260B	ND	5.0	0.22	ug/L	1
Toluene	108-88-3	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloro-1,2,2-Trifluoroethane	76-13-1	8260B	ND	5.0	0.30	ug/L	1
1,2,4-Trichlorobenzene	120-82-1	8260B	ND	5.0	0.13	ug/L	1
1,1,1-Trichloroethane	71-55-6	8260B	ND	5.0	0.24	ug/L	1
1,1,2-Trichloroethane	79-00-5	8260B	ND	5.0	0.22	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

 $[\]label{eq:energy} \textbf{E} = \textbf{Quantitation of compound exceeded the calibration range}$

H = Out of holding time

Client: AECOM Laboratory ID: RD26033-004 Description: TRIP BLANK Matrix: Aqueous Date Sampled:04/26/2016 Date Received: 04/26/2016 Run Prep Method Analytical Method Dilution Analysis Date Analyst Prep Date Batch 5030B 8260B 04/28/2016 1158 RAG 12025 CAS Analytical Parameter Result Q PQL MDL Units Run Number Method 0.16 Trichloroethene 79-01-6 8260B ND 5.0 ug/L 1 Trichlorofluoromethane 75-69-4 8260B ND5.0 0.74 ug/L 1 Vinyl chloride 75-01-4 8260B ND2.0 0.50 ug/L 1 1330-20-7 8260B ug/L Xylenes (total) ND5.0 0.32 1 Run 1 Acceptance Surrogate Q % Recovery Limits 70-130 1,2-Dichloroethane-d4 94 Bromofluorobenzene 94 70-130 Toluene-d8 102 70-130

PQL = Practical quantitation limit

B = Detected in the method blank

 $\label{eq:energy} \textbf{E} = \textbf{Quantitation of compound exceeded the calibration range}$

H = Out of holding time

J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

QC Summary

Sample ID: RQ12025-001 Batch: 12025

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Acetone	ND		1	20	1.6	ug/L	04/28/2016 1026
Benzene	ND		1	5.0	0.21	ug/L	04/28/2016 1026
Bromodichloromethane	ND		1	5.0	0.23	ug/L	04/28/2016 1026
Bromoform	ND		1	5.0	0.35	ug/L	04/28/2016 1026
Bromomethane (Methyl bromide)	ND		1	5.0	0.19	ug/L	04/28/2016 1026
2-Butanone (MEK)	ND		1	10	1.8	ug/L	04/28/2016 1026
Carbon disulfide	ND		1	5.0	0.45	ug/L	04/28/2016 1026
Carbon tetrachloride	ND		1	5.0	0.31	ug/L	04/28/2016 1026
Chlorobenzene	ND		1	5.0	0.20	ug/L	04/28/2016 1026
Chloroethane	ND		1	5.0	0.28	ug/L	04/28/2016 1026
Chloroform	ND		1	5.0	0.21	ug/L	04/28/2016 1026
Chloromethane (Methyl chloride)	ND		1	5.0	0.19	ug/L	04/28/2016 1026
Cyclohexane	ND		1	5.0	0.30	ug/L	04/28/2016 1026
1,2-Dibromo-3-chloropropane (DBCP)	ND		1	5.0	0.57	ug/L	04/28/2016 1026
Dibromochloromethane	ND		1	5.0	0.23	ug/L	04/28/2016 1026
1,2-Dibromoethane (EDB)	ND		1	5.0	0.17	ug/L	04/28/2016 1026
1,4-Dichlorobenzene	ND		1	5.0	0.19	ug/L	04/28/2016 1026
1,3-Dichlorobenzene	ND		1	5.0	0.19	ug/L	04/28/2016 1026
1,2-Dichlorobenzene	ND		1	5.0	0.46	ug/L	04/28/2016 1026
Dichlorodifluoromethane	ND		1	5.0	0.85	ug/L	04/28/2016 1026
1,2-Dichloroethane	ND		1	5.0	0.23	ug/L	04/28/2016 1026
1,1-Dichloroethane	ND		1	5.0	0.19	ug/L	04/28/2016 1026
trans-1,2-Dichloroethene	ND		1	5.0	0.33	ug/L	04/28/2016 1026
cis-1,2-Dichloroethene	ND		1	5.0	0.20	ug/L	04/28/2016 1026
1,1-Dichloroethene	ND		1	5.0	0.31	ug/L	04/28/2016 1026
1,2-Dichloropropane	ND		1	5.0	0.29	ug/L	04/28/2016 1026
trans-1,3-Dichloropropene	ND		1	5.0	0.22	ug/L	04/28/2016 1026
cis-1,3-Dichloropropene	ND		1	5.0	0.30	ug/L	04/28/2016 1026
Ethylbenzene	ND		1	5.0	0.21	ug/L	04/28/2016 1026
2-Hexanone	ND		1	10	0.26	ug/L	04/28/2016 1026
Isopropylbenzene	ND		1	5.0	0.14	ug/L	04/28/2016 1026
Methyl acetate	ND		1	5.0	0.24	ug/L	04/28/2016 1026
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.23	ug/L	04/28/2016 1026
4-Methyl-2-pentanone	ND		1	10	0.29	ug/L	04/28/2016 1026
Methylcyclohexane	ND		1	5.0	0.16	ug/L	04/28/2016 1026
Methylene chloride	ND		1	5.0	0.42	ug/L	04/28/2016 1026
Styrene	ND		1	5.0	0.13	ug/L	04/28/2016 1026
1,1,2,2-Tetrachloroethane	ND		1	5.0	0.13	ug/L	04/28/2016 1026
Tetrachloroethene	ND		1	5.0	0.22	ug/L	04/28/2016 1026
Toluene	ND		1	5.0	0.24	ug/L	04/28/2016 1026
1,1,2-Trichloro-1,2,2-Trifluoroethane	ND		1	5.0	0.30	ug/L	04/28/2016 1026
1,2,4-Trichlorobenzene	ND		1	5.0	0.13	ug/L	04/28/2016 1026
1,1,2-Trichloroethane	ND		1	5.0	0.22	ug/L	04/28/2016 1026
1,1,1-Trichloroethane	ND		1	5.0	0.24	ug/L	04/28/2016 1026

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Sample ID: RQ12025-001 Batch: 12025

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Trichloroethene	ND		1	5.0	0.16	ug/L	04/28/2016 1026
Trichlorofluoromethane	ND		1	5.0	0.74	ug/L	04/28/2016 1026
Vinyl chloride	ND		1	2.0	0.50	ug/L	04/28/2016 1026
Xylenes (total)	ND		1	5.0	0.32	ug/L	04/28/2016 1026
Surrogate	Q % Red		eptance imit				
Bromofluorobenzene	95	70	0-130				
1,2-Dichloroethane-d4	96	70	0-130				
Toluene-d8	104	70	D-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Sample ID: RQ12025-002 Batch: 12025

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

	Spike						
Darameter	Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Data
Parameter	, ,		<u> </u>				Analysis Date
Acetone	100	76		1	76	60-140	04/28/2016 0919
Benzene	50	42		1	84	70-130	04/28/2016 0919
Bromodichloromethane	50	44		1	88	70-130	04/28/2016 0919
Bromoform	50	45		1	91	70-130	04/28/2016 0919
Bromomethane (Methyl bromide)	50	49		1	97	60-140	04/28/2016 0919
2-Butanone (MEK)	100	76		1	76	60-140	04/28/2016 0919
Carbon disulfide	50	34		1	68	60-140	04/28/2016 0919
Carbon tetrachloride	50	42		1	83	70-130	04/28/2016 0919
Chlorobenzene	50	46		1	92	70-130	04/28/2016 0919
Chloroethane	50	47		1	95	60-140	04/28/2016 0919
Chloroform	50	41		1	82	70-130	04/28/2016 0919
Chloromethane (Methyl chloride)	50	46		1	93	60-140	04/28/2016 0919
Cyclohexane	50	44		1	88	70-130	04/28/2016 0919
1,2-Dibromo-3-chloropropane (DBCP)	50	39		1	78	70-130	04/28/2016 0919
Dibromochloromethane	50	46		1	92	70-130	04/28/2016 0919
1,2-Dibromoethane (EDB)	50	46		1	92	70-130	04/28/2016 0919
1,4-Dichlorobenzene	50	44		1	89	70-130	04/28/2016 0919
1,3-Dichlorobenzene	50	46		1	92	70-130	04/28/2016 0919
1,2-Dichlorobenzene	50	47		1	93	70-130	04/28/2016 0919
Dichlorodifluoromethane	50	60		1	120	60-140	04/28/2016 0919
1,2-Dichloroethane	50	43		1	86	70-130	04/28/2016 0919
1,1-Dichloroethane	50	41		1	83	70-130	04/28/2016 0919
trans-1,2-Dichloroethene	50	42		1	85	70-130	04/28/2016 0919
cis-1,2-Dichloroethene	50	41		1	83	70-130	04/28/2016 0919
1,1-Dichloroethene	50	39		1	78	70-130	04/28/2016 0919
1,2-Dichloropropane	50	40		1	81	70-130	04/28/2016 0919
trans-1,3-Dichloropropene	50	43		1	86	70-130	04/28/2016 0919
cis-1,3-Dichloropropene	50	43		1	85	70-130	04/28/2016 0919
Ethylbenzene	50	48		1	95	70-130	04/28/2016 0919
2-Hexanone	100	110		1	108	60-140	04/28/2016 0919
Isopropylbenzene	50	44		1	88	70-130	04/28/2016 0919
Methyl acetate	50	42		1	84	60-140	04/28/2016 0919
Methyl tertiary butyl ether (MTBE)	50	37		1	74	70-130	04/28/2016 0919
	100	100		1	101	60-140	04/28/2016 0919
4-Methylevelehevene							04/28/2016 0919
Methylogo oblorida	50	42		1	84	70-130	
Methylene chloride	50	35		1	71	70-130	04/28/2016 0919
Styrene	50	47		1	94	70-130	04/28/2016 0919
1,1,2,2-Tetrachloroethane	50	42		1	84	70-130	04/28/2016 0919
Tetrachloroethene	50	54		1	108	70-130	04/28/2016 0919
Toluene	50	46		1	93	70-130	04/28/2016 0919
1,1,2-Trichloro-1,2,2-Trifluoroethane	50	41		1	82	70-130	04/28/2016 0919
1,2,4-Trichlorobenzene	50	41		1	82	70-130	04/28/2016 0919
1,1,2-Trichloroethane	50	44		1	89	70-130	04/28/2016 0919
1,1,1-Trichloroethane	50	46		1	92	70-130	04/28/2016 0919

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Sample ID: RQ12025-002 Batch: 12025

Analytical Method: 8260B

Matrix: Aqueous Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L) Q	Dil	% Rec	% Rec Limit	Analysis Date
Trichloroethene	50	47	1	95	70-130	04/28/2016 0919
Trichlorofluoromethane	50	53	1	106	70-130	04/28/2016 0919
Vinyl chloride	50	48	1	96	70-130	04/28/2016 0919
Xylenes (total)	100	98	1	98	70-130	04/28/2016 0919
Surrogate	Q % Rec	Acceptance Limit				
Bromofluorobenzene	97	70-130				
1,2-Dichloroethane-d4	93	70-130				
Toluene-d8	103	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Chain of Custody and Miscellaneous Documents

Chain of Custody Record

SHEALY ENVIRONMENTAL SERVICES, INC. 106 Vantage Point Drive • West Columbia, SC 29172 Tetephone No. 803-791-9700 Fax No. 803-791-9111 www.shealylab.com

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Number

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Project Name Sur of Children Common C	4327	1			RD26033
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Sample 10 / Description Contained for early sample way be contained on one line.	anomby	PALSON HOWN CONH BONH MOSEH YELGAN	•አ		Remarks / Cooler I.D.
MES 97	G.	7	3		
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Turn Around Time Required (Prior lab approve) required for expedited ML) Sample Disposal ST-Geometers Relays (Society)	Sample Disposal Pessible Hazard Identification Pessible Hazard Identification Person is Oventy Z Disposal by Lab X Non-texan	Possible Hazard Identification	on B C Skin Irritant C Potson C Unknown	CIC Fequirements (Specity)	nts (Specity)
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Note: All samples are retained for four weeks fro unless other arrangements are made.	iks from receipt nade.	Acceived on the (Circle) (Yes)	rea) No to Pack Receipt Temp. 5.7	5.7 °	
DISTRIBUTION: WHITE & YELLOW-Return to laboratory with Sample(s); PRINC-Reductions Copy	y PRW-FieldCillent Copy			umber: F.AD-130	Document Number: F-AD-133 - Effective Date: 03-01-2014

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc. Document Number: ME0018C-04 Page 1 of 1 Effective Date: 02/05/2016 Expiry Date: 02/05/2021

Sample Receipt Checklist (SRC)
Client: AE COM Cooler Inspected by/date: WaW/4 24/14 Lot #: RD 24 033
Means of receipt: ☑ ŞESI ☐ Client ☐ UPS ☐ FedEx ☐ Other
Yes No V 1. Were custody seals present on the cooler?
Yes No NA 2 2. If custody seals were present, were they intact and unbroken?
pH strip ID: Cl strip ID:
Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt:
3100 /5·75.7°C / 6 / °C / / °C / / °C
Method: Temperature Blank Against Bottles IR Gun ID: 6 IR Gun Correction Factor: 6 °C
Method of coolant: Wet Ice Blue Ice Dry Ice None
Yes No No NA 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified?
Yes No NA
Yes No NA 4. Is the commercial courier's packing slip attached to this form?
Yes , No 5. Were proper custody procedures (relinquished/received) followed?
Yes Mo 6. Were sample IDs listed on the COC?
Yes [7] No [7] 7. Were sample IDs listed on all sample containers?
Yes V No 8. Was collection date & time listed on the COC?
Yes ☑ No ☐ 9. Was collection date & time listed on all sample containers?
Yes Y No 10. Did all container label information (ID, date, time) agree with the COC?
Yes V No 11. Were tests to be performed listed on the COC?
12 Did all complex arrive in the present containing for each test and/or in more condition
Yes [Y] No [] (unbroken, lids on, etc.)?
Yes ☑ No ☐ 13. Was adequate sample volume available?
Yes No 14. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes No No 15. Were any samples containers missing/excess (circle one) samples not listed on COC?
Yes ☑ No ☐ NA ☐ 16. Were bubbles present >"pea-size" (¼"or 6mm in diameter) in any VOA vials?
Yes No NA 7. Were all metals/O&G/HEM/outrient samples received at a pH of <2?
Yes No No NA ✓ 18. Were all cyanide and/or sulfide samples received at a pH >12? 19. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual
Yes No NA
Yes No NA 2 20. Were collection temperatures documented on the COC for NC samples?
Yes No No NA V 21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc)
correctly transcribed from the COC into the comment section in LIMS?
Yes No Y 22. Was the quote number used taken from the container label?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)
Sample(s) were received incorrectly preserved and were adjusted accordingly in
sample receiving with (H ₂ SO ₄ , HNO3, HCl, NaOH) using SR #
Sample(s) #3 (1) 9 # 4 (mv) were received with bubbles >6 mm in diameter.
Samples(s) were received with TRC >0.2 mg/L (If #21 is No) and were
adjusted accordingly in sample receiving with sodium thiosulfate (Na ₂ S ₂ O ₃) with Shealy ID:
SC Drinking Water Project Sample(s) pH verified to be > 2 by Date:
Sample(s) /were not received at a pH of <2 and were adjusted accordingly using SR#
Sample labels applied by:
Sample ladels applied by. 17 11 10 ventiled by.
annearte:
omments:
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