D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JAN 04 2008

RONNY LOWDER
EMERALD INC
PO BOX 3050
SUMTER SC 29151

Re: **Notice to Proceed-Groundwater Sampling**
Bid # SB-27496-03/08/05; PO# 574989

Dear Mr. Lowder:

Based on the award of the referenced bid package, enclosed are the information packets to conduct eight (8) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #574989 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	EMERALD CA#	
06797	Santee State Park	Orangeburg	2	R. Miner	02/08/08	BTEXMN, DCA & EDB	31281	31282	7
00120	Four Seasons	Aiken	23	R. Miner	02/08/08	BTEXMN, DCA, EDB, & Oxygenates	31420	31421	1
11543	Green's Amoco	Bamberg	4	R. Miner	02/08/08	BTEXMN, DCA, & Oxygenates	31328	31329	17
12417	Calvin's Quick Lube	Bamberg	4	R. Miner	02/08/08	BTEXMN & DCA	31319	31320	2
18212	Engels Store	Charleston	26	J. Skowronek	02/08/08	BTEXMN, EDB, & Lead	31391	31392	3
12805	Sommers 52	Beaufort	6	R. Miner	02/08/08	BTEXMN, DCA, & Oxygenates	31422	31423	1
14941	Village Store	Beaufort	10	R. Miner	02/08/08	BTEXMN & DCA	31416	31417	1
10628	Pantry 911	Jasper	20	M. Johnson	02/08/08	BTEXMN, DCA, EDB, & Lead	31397	31396	1

Emerald, Inc. will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Bureau grants pre-approval for transportation of drums of groundwater from the referenced sites to a permitted treatment facility. The contaminated groundwater must be properly stored in labeled 55-gallon drums or equivalent containers. The contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included with the final report. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

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Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L Thoma

Debra L. Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Kevin Herring, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files (w/o. enc.)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

SEP 29 2009

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

Re: Bid # IBF-36815-8/27/09-EMW; PO # 782295
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Free Product (FP) recovery using Aggressive Fluid Vapor Recovery (AFVR) or passive skimmers at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR and/or passive skimmers installation. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 782295 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).

UST Permit #	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt.
00120	Four Season Food and Fuel	Aiken	1	2 AFVR	60 days	37113	2,235.00
05419	Pantry 3242	Kershaw	1	2 AFVR	60 days	37151	2,375.00
00140	Majik Market 34062	Aiken	1	1AFVR	60 days	37156	1,225.00
00877	Shelton Food Stores 5	Barnwell	1	1 AFVR	60 days	37157	1,225.00
14102	Holly Oak Convenience Store	Greenwood	1	2 AFVR	60 days	37162	2,385.00

*From receipt of letter

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Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained.

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account.

The Department grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6664, by fax at (803) 896-6245 or by email at milenkmp@dhec.sc.gov.

Sincerely,

Maia Milenkova

Maia Milenkova, Hydrogeologist
Assessment Section
UST Management Division
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets
cc: Technical File (w/copy of ACA)

SCDHEC/UST/09/24/09/MPM

Approved Cost Agreement 37113

Facility: 00120 FOUR SEASONS FOOD & FUEL 5
KOONJT
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	2.0000	350.00	700.00
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	600.0000	0.10	60.00
23 EFR						
		A	8 HOUR EVENT	2.0000	600.00	1,200.00
		C	OFF GAS TREATMENT	2.0000	100.00	200.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		2,235.00

Midlands
Environmental
Consultants, Inc.

UST
OCT 19 2009
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October 14, 2009

Mr. Justin Koon, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
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Subject: Aggressive Fluid Vapor Recovery Report
Four Seasons Food and Fuel
N. Augusta, South Carolina
SCDHEC Site ID # 00120; CA #37113
MECI Project Number 09-2434B
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Koon,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Four Seasons Food and Fuel on October 6, 2009. The event was conducted on monitoring well MW-10 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring well MW-10 prior to the AFVR event. The event was continuously conducted for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 1.18 pounds or approximately 0.20 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.15 pounds per hour. Concentrations of off gas produced during the event were recorded from 8.1 parts per million by volume (PPM) to 186 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 15.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Monitoring well locations are depicted on attached Figure 1.

A total of 60 gallons of liquid was removed from MW-10 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Luke Penney
Staff Biologist

Jeff Coleman
Project Scientist

Attachments:

UST PROGRAM OCT 19 2009

TABLE 1B
AFVR MONITORING DATA
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 09-2434B
SCDHEC SITE ID NUMBER 00120

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-10	10/06/09	8:15	0.50	13.0	186	1815	163.35	0.36	0.18
	10/06/09	8:45	0.50	13.0	8.6	1810	162.90	0.02	0.01
	10/06/09	9:15	0.50	13.0	8.1	1820	163.80	0.02	0.01
	10/06/09	9:45	0.50	15.0	107	1440	129.60	0.17	0.08
	10/06/09	10:15	0.50	15.0	21.8	1530	137.70	0.04	0.02
	10/06/09	10:45	0.50	12.0	23.1	1710	153.90	0.04	0.02
	10/06/09	11:15	0.50	12.0	33.1	1812	163.08	0.06	0.03
	10/06/09	11:45	0.50	10.0	46.7	2030	182.70	0.10	0.05
	10/06/09	12:15	0.50	10.0	55.1	2010	180.90	0.12	0.06
	10/06/09	12:45	0.50	11.0	18.9	2030	182.70	0.04	0.02
	10/06/09	13:15	0.50	13.0	30.1	1750	157.50	0.06	0.03
	10/06/09	13:45	0.50	13.0	48.0	1780	160.20	0.09	0.05
	10/06/09	14:15	0.50	13.0	96.1	1790	161.10	0.19	0.09
	10/06/09	14:45	0.50	13.0	146	1730	155.70	0.27	0.14
	10/06/09	15:15	0.50	13.0	158	1710	153.90	0.29	0.15
	10/06/09	15:45	0.50	13.0	164	1710	153.90	0.30	0.15
	10/06/09	16:15	0.50	13.0	106	1720	154.80	0.20	0.10
									TOTAL **1.18**

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-10	2"	15-30	***	24.06	***	***	23.74	***	0.10

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-10	23.00
Truck Operator:	C. Lashley		
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information

Hydro carbons Removed (vapor):	1.18	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.20	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	60	Gallons

TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 09-2434B
SCDHEC SITE ID NUMBER 00120

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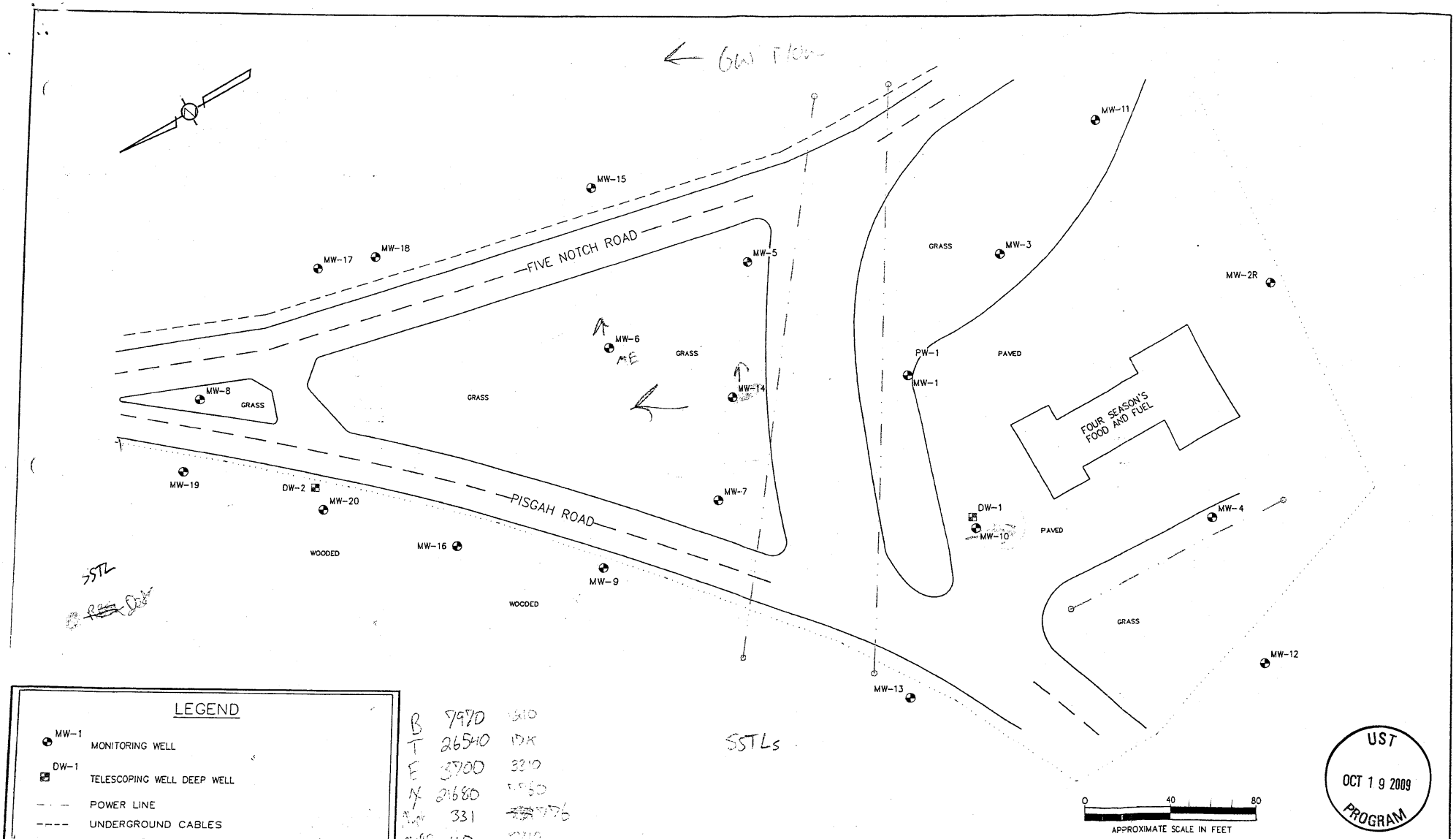
DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-3**	**MW-13**
Nearest Extraction Well:		MW-10	MW-10	MW-10
Approximate Distance:		75 ft	130 ft	85 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:15	0.0	0	0	0
8:45	0.5	0	0	0
9:15	1.0	0	0	0
9:45	1.5	0	0	0
10:15	2.0	0	0	0
10:45	2.5	0	0	0
11:15	3.0	0	0	0
11:45	3.5	0	0	0
12:15	4.0	0	0	0
12:45	4.5	0	0	0
13:15	5.0	0	0	0
13:45	5.5	0	0	0
14:15	6.0	0	0	0
14:45	6.5	0	0	0
15:15	7.0	0	0	0
15:45	7.5	0	0	0
16:15	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-3**	**MW-13**
Nearest Extraction Well:		MW-10	MW-10	MW-10
Approximate Distance:		75 ft	130 ft	85 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		24.34	24.84	21.32
12:15	4 hours	24.32	24.82	21.30
16:15	8 hours	24.32	24.82	21.31
Maximum Change:		0.02	0.02	0.02



LEGEND

- MW-1 MONITORING WELL
- DW-1 TELESCOPING WELL DEEP WELL
- POWER LINE
- UNDERGROUND CABLES
- GAS LINE

B 7970 1210
T 26540 17K
E 3700 3310
X 21680 [illegible]
[illegible] 331 776
[illegible] 40 [illegible]

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CONSULTECH ENVIRONMENTAL, INC.	DRAWN: CJH	DATE: 11/06/05
Environmental Consulting and Engineering © 1999	REVISION #	
Delivering innovative solutions to today's environmental concerns	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 2
SITE PLAN MAP
[illegible] 00120

C 143942

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 45822

2. Page 1 of 1

UST OCT 19 2009 PROGRAM

3. Generator's Name and Mailing Address
Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone ((803) 808-2043

5. Transporter 1 Company Name: Crandall Corporation
6. US EPA ID Number: SCD981864499
A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name
8. US EPA ID Number
B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072
10. US EPA ID Number: SCD981864499
C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2100	G
b. Minicks Texaco ID# 07967 (50 gal.), Summers Store ID# 03198 (60 gal.), Brown Bros ID# 04145 (150 gal.), Southern Gas ID# 03913 (150 gal.) Shelton Food Store ID# 00877 (175 gal.) Trackland ID# 15475 (120 gal.)				
Former Ford Specialist ID# 00487 (125 gal.) Four Season ID# 00120 (60 gal.) Macks Camp ID# 01253 (320 gal.), Mojite Market ID# 00140 (550 gal.), Ridgeway Station Shed ID# 03144 (30 gal.), Pantry 3242 ID# 05419 (100 gal.)				
Anderson Patrol ID# 00769 (60 gal.), Dassmore Grocery ID# 09423 (150 gal), Midway ID# 13046 (80 gal)				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0145822

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
T. Backman (for Midland Env)	Troy Backman	10	16	09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	10	15	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR

TRANSPORTER

FACILITY

GENERATOR COPY

Midlands
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October 14, 2009

Mr. Justin Koon, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Four Seasons Food and Fuel
N. Augusta, South Carolina
SCDHEC Site ID # 00120; CA #37113
MECI Project Number 09-2434A
Certified Site Rehabilitation Contractor UCC-0009

UST
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Dear Mr. Koon,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

A site visit was conducted at Four Seasons Food and Fuel on October 2, 2009 to locate/gauge monitoring wells and to evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Four Seasons Food and Fuel on October 5, 2009. The event was conducted on monitoring well MW-14 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring well MW-14 prior to the AFVR event. The event was continuously conducted for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 3.84 pounds or approximately 0.66 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.48 pounds per hour. Concentrations of off gas produced during the event were recorded from 259 parts per million by volume (PPM) to 354 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 11.0 to 16.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

No liquids was removed from MW-14 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI, and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Luke Penney
Staff Biologist

Jeff Coleman
Project Scientist

Attachments:

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TABLE 1A
AFVR MONITORING DATA
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 09-2434A
SCDHEC SITE ID NUMBER 00120

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-14	10/05/09	8:50	0.50	11.0	259	1750	157.50	0.49	0.24
	10/05/09	9:20	0.50	11.0	288	1730	155.70	0.54	0.27
	10/05/09	9:50	0.50	11.0	289	1750	157.50	0.55	0.27
	10/05/09	10:20	0.50	11.0	301	1730	155.70	0.56	0.28
	10/05/09	10:50	0.50	13.0	288	1750	157.50	0.54	0.27
	10/05/09	11:20	0.50	13.0	330	1450	130.50	0.52	0.26
	10/05/09	11:50	0.50	13.0	350	760	68.40	0.29	0.14
	10/05/09	12:20	0.50	16.0	306	880	79.20	0.29	0.15
	10/05/09	12:50	0.50	16.0	330	1050	94.50	0.37	0.19
	10/05/09	13:20	0.50	14.0	333	1310	117.90	0.47	0.24
	10/05/09	13:50	0.50	14.0	342	1350	121.50	0.50	0.25
	10/05/09	14:20	0.50	14.0	336	1070	96.30	0.39	0.19
	10/05/09	14:50	0.50	14.0	348	970	87.30	0.36	0.18
	10/05/09	15:20	0.50	14.0	339	1110	99.90	0.41	0.20
	10/05/09	15:50	0.50	14.0	345	1270	114.30	0.47	0.24
	10/05/09	16:20	0.50	14.0	354	1250	112.50	0.48	0.24
	10/05/09	16:50	0.50	14.0	346	1210	108.90	0.45	0.23
									TOTAL
									3.84

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-14	2"	9-24	***	16.80	***	***	16.70	***	0.10

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-14	10.00
Truck Operator:	C. Lashley		
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information

Hydro carbons Removed (vapor):	3.84	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.66	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	0	Gallons

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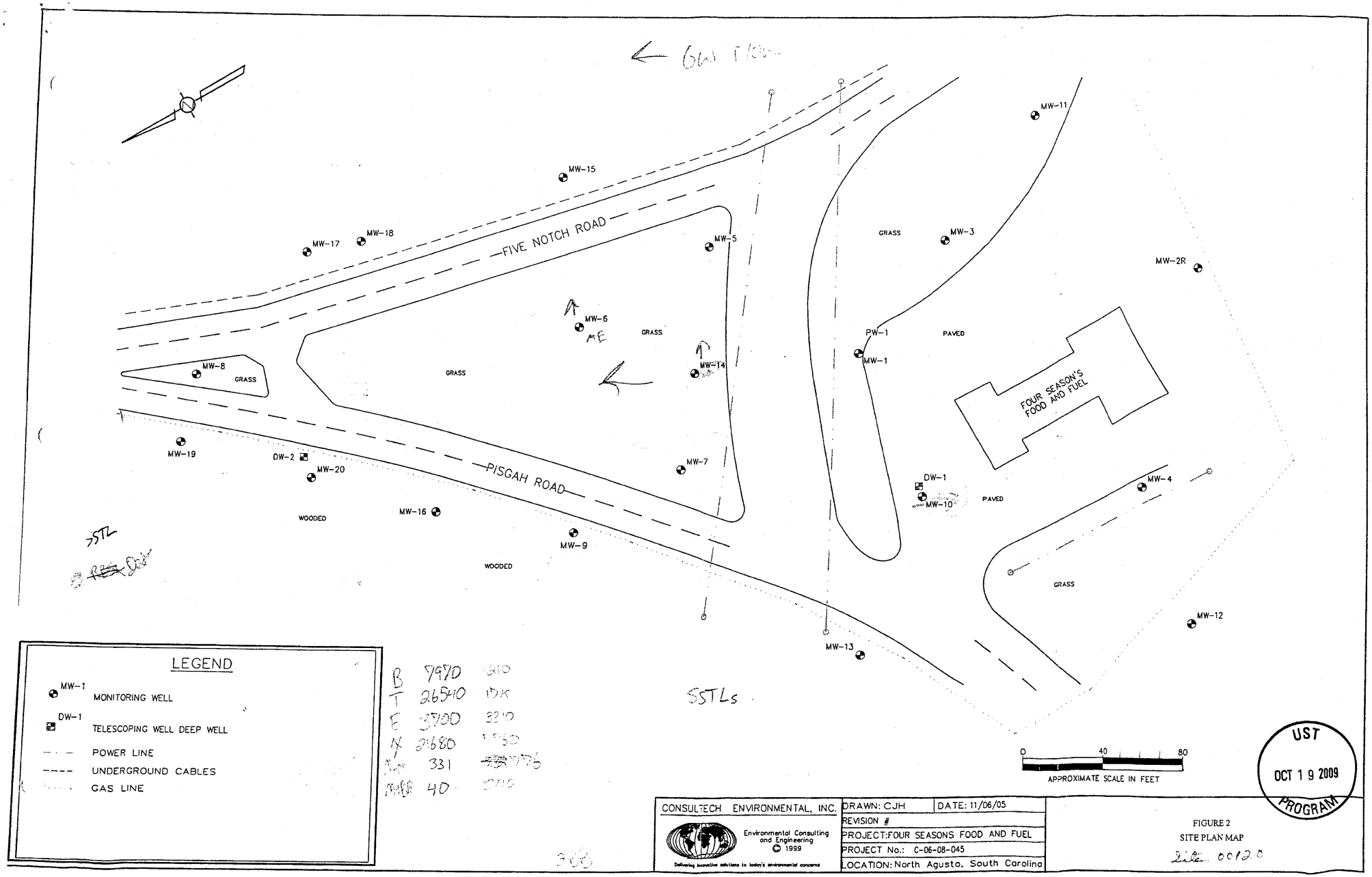
TABLE 2A
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 09-2434A
SCDHEC SITE ID NUMBER 00120

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-1	**MW-5**	**MW-6**
Nearest Extraction Well:		MW-14	MW-14	MW-14
Approximate Distance:		78 ft	60 ft	58 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
8:50	0.0	0	0	0
9:20	0.5	0	0	0
9:50	1.0	0	0	0
10:20	1.5	0	0	0
10:50	2.0	0	0	0
11:20	2.5	0	0	0
11:50	3.0	0	0	0
12:20	3.5	0	0	0
12:50	4.0	0	0	0
13:20	4.5	0	0	0
13:50	5.0	0	0	0
14:20	5.5	0	0	0
14:50	6.0	0	0	0
15:20	6.5	0	0	0
15:50	7.0	0	0	0
16:20	7.5	0	0	0
16:50	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-1	**MW-5**	**MW-6**
Nearest Extraction Well:		MW-14	MW-14	MW-14
Approximate Distance:		78 ft	60 ft	58 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		24.35	13.29	12.73
12:50	4 hours	24.34	13.28	12.73
16:50	8 hours	24.32	13.27	12.72
Maximum Change:		0.03	0.02	0.01



CONSULTECH ENVIRONMENTAL, INC.

Environmental Consulting and Engineering © 1999

Delivering innovative solutions to today's environmental concerns

DRAWN: CJH	DATE: 11/06/05
REVISION #	
PROJECT: FOUR SEASONS FOOD AND FUEL	
PROJECT No.: C-06-08-045	
LOCATION: North Agusta, South Carolina	

FIGURE 2
SITE PLAN MAP

Site 00120

UST
OCT 19 2009
PROGRAM

C 143942

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. 45822

2. Page 1 of 1

OCT 9 2009 PROGRAM

3. Generator's Name and Mailing Address
Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073

4. Generator's Phone (803) 808-2043

5. Transporter 1 Company Name: Crandall Corporation
6. US EPA ID Number: SCD981864499
A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name
8. US EPA ID Number
B. Transporter's Phone

9. Designated Facility Name and Site Address
Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072
10. US EPA ID Number: SCD981864499
C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	001	TT	2100	G
b. Minicks Texaco ID# 07967 (50 gal.), Summers Store ID# 03198 (60 gal.), Brown Bros ID# 04145 (150 gal.), Southern Gas ID# 03913 (150 gal.) Shelton Food Store ID# 00877 (175 gal.) Tackland ID# 15475 (120 gal.)				
Former Ford Specialist ID# 00487 (125 gal.) Four Season ID# 00120 (1 gal.) Macks Camp ID# 01253 (320 gal.), Magic Market ID# 00140 (650 gal.), Ridgeway Station Shell ID# 03144 (30 gal.), Pantry 3242 ID# 05419 (100 gal.)				
Anderson Patrol ID# 00769 (60 gal.), Dasemore Grocery ID# 09N23 (150 gal.), Midway ID# 13046 (80 gal.)				

D. Additional Descriptions for Materials Listed Above

FIELD SERVICE

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

Service Call ID: GLB0145822

Emergency Response: Infotrac - 800-535-5053
Caller must ID Crandall as registrant

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
T. Backman (for Midland Env)	Troy Backman	10	16	09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Troy Backman	Troy Backman	10	15	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR — TRANSPORTER — FACILITY

GENERATOR COPY

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

UST DOCKET 13tch

JAN 29 2010

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

Re: **Notice to Proceed-Groundwater Sampling**
Bid # IFB-33335-3/11/08-EMW; PO# 719459

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct eleven (11) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 719459 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
13046	Midway Serv. Station	Lexington	24	S. Briney	02/22/10	BTEXMN, DCA, EDB, Oxygenates, & total lead	38113	38114
12847	Laurens CPW	Laurens	4	S. Briney	02/22/10	BTEXMN, EDB, & total lead	38103	38104
00036	Hickory Point	Abbeville	16	S. Briney	02/22/10	BTEXMN & total lead	38105	38106
03293	Worshams Superette	Florence	17	M. Rivers	02/22/10	BTEXMN	38095	38096
02766	Sav Way #2	Darlington	22	J. Martin	02/22/10	BTEXMN	37735	37734
04581	Donahue Grocery	Spartanburg	3	M. Rivers	02/22/10	BTEXMN, DCA, EDB, & Oxygenates	38130	38131
16023	Coopers Store	Berkeley	8	R. Miner	02/22/10	BTEXMN, DCA, EDB, & Oxygenates	38124	38125
02940	Sanders Deep Well	Berkeley	12	R. Miner	02/22/10	BTEXMN, DCA, EDB, & Oxygenates	38122	38123
06456	Newberry Cty Maint.	Newberry	31	J. Padgett	02/22/10	BTEXMN, DCA, EDB, Oxygenates & 28-total lead	38143	38142
14623	J&R Mini Mart	Lancaster	6	S. Fulmer	02/22/10	BTEXMN	37702	37701
✓ 00120	Four Season	Aiken	17	J. Koon	02/22/10	BTEXMN, DCA, EDB	38115	38116

MECI will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or

acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Renee Spencer, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files (w/o. enc.)

AFVR Review

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

14 tech
UST
DOCKET

FEB 01 2010

GEORGE MCKIE JR
1025 MARTINTOWN ROAD
NORTH AUGUSTA SC 29841

Re: Four Seasons Food & Fuel 5: 2031 Pisgah Road, North Augusta, SC
UST Permit # **00120**; **CA#37113**
Release Reported November 7, 1997
Aggressive Fluid Vapor Recovery report received on October 19, 2009
Aiken County

Dear Mr. Johnson:

The Underground Storage Tank (UST) Management Division has reviewed the referenced report. Two (2) Aggressive Fluid Vapor Recovery (AFVR) events were conducted between MW14 and MW10 to reduce concentrations of chemicals of concern. Free phase product was not present during either event. A copy of the report is enclosed for your information. The next scope of work is to conduct a comprehensive groundwater sampling event to determine the effectiveness of the AFVR event.

The UST Division will continue to coordinate site rehabilitation activities on your behalf. Future reports will be forwarded to you once they have been reviewed.

If you have any questions concerning this correspondence, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245, or by email at koonjt@dhec.sc.gov.

Sincerely,

Justin Koon, Engineer Associate
Corrective Action Division
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Aggressive Fluid Vapor Recovery Report

cc: Technical File (w/out enc)

JTK

Midlands Environmental Consultants, Inc.

March 2, 2010

UST
MAR 17 2010
PROGRAM

Ms. Debra Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Report of Groundwater Sampling
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID Number 00120, CA # 38116
MECI Project Number 10-2689
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Sampling for the referenced site.

On March 1, 2010, twelve monitoring wells and three surface waters (MW-1 through MW-6, MW-8 through MW-15, DW-1 and DW-2, and SW-1 through SW-3) were sampled. Two monitoring wells (DW-1 and DW-2) were purged prior to sampling. Monitoring well MW-7 and water supply well PW-2 were not located. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 13.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian J. Owen
Field Technician

Brendon P. Kelly
Project Scientist

UST
DOCKET
#15 tech

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food and Fuel
County: Aiken
Field Personnel: Ryan Ariail

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-1	Y	3/1/10	14:18	15-25	***	22.35	***	***	Odor, 1 Bolt Added
MW-3	Y	3/1/10	14:08	17-27	***	22.73	***	***	No Odor, 1 Bolt Added
MW-5	Y	3/1/10	12:39	10-20	***	12.05	***	***	No Odor, Screen is 10-20
MW-6	Y	3/1/10	12:08	9-19	***	11.94	***	***	Odor, 1 Bolt Added
MW-7	N	3/1/10	NL	10-20	NL	NL	NL	NL	Not Located, Possibly Destroyed
MW-8	Y	3/1/10	11:20	5-15	***	7.46	***	***	No odor
MW-9	Y	3/1/10	14:30	10-20	***	13.55	***	***	No Odor
MW-10	Y	3/1/10	13:23	15-30	***	21.64	***	***	Odor
MW-13	Y	3/1/10	13:55	15-30	***	18.76	***	***	No Odor
MW-14	Y	3/1/10	12:55	9-24	***	15.29	***	***	Odor
MW-15	Y	3/1/10	12:25	5-15	***	5.15	***	***	No Odor
DW-1	Y	3/1/10	13:30	55-60	***	24.37	***	5.00	Odor
DW-2	Y	3/1/10	11:30	55-60	***	8.92	***	8.5	No Odor
PW-2	N	3/1/10	NL	NL	NL	NL	NL	NL	Not Located
SW-1	Y	3/1/10	11:00	***	***	***	***	***	Sampled out of storm drain
								13.5	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food and Fuel
County: Aiken
Field Personnel: Ryan Ariail

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
SW-2	Y	3/1/10	11:05	***	***	***	***	***	Sampled to right of main stream
SW-3	Y	3/1/10	11:10	***	***	***	***	***	Sampled to left of main stream
								13.5	**TOTAL GALLONS PURGED**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/1/2010

Field Personnel: Ryan Ariail

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.37			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			35.63	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	5.81	gallons
3 casing volume (3 X CV)=		3	17.42	gallons

Total Volume of Water Purged Before Sampling 5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:30							
pH (s.u.)	6.48							
Specific Conductivity (µmhos/cm)	92.0							
Water Temperature (°C)	14.6							
Dissolved Oxygen	1.75							
PID readings, if required								

Remarks: Sample Time: 13:30 Dry @ 5

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/1/2010

Field Personnel: Ryan Ariail

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

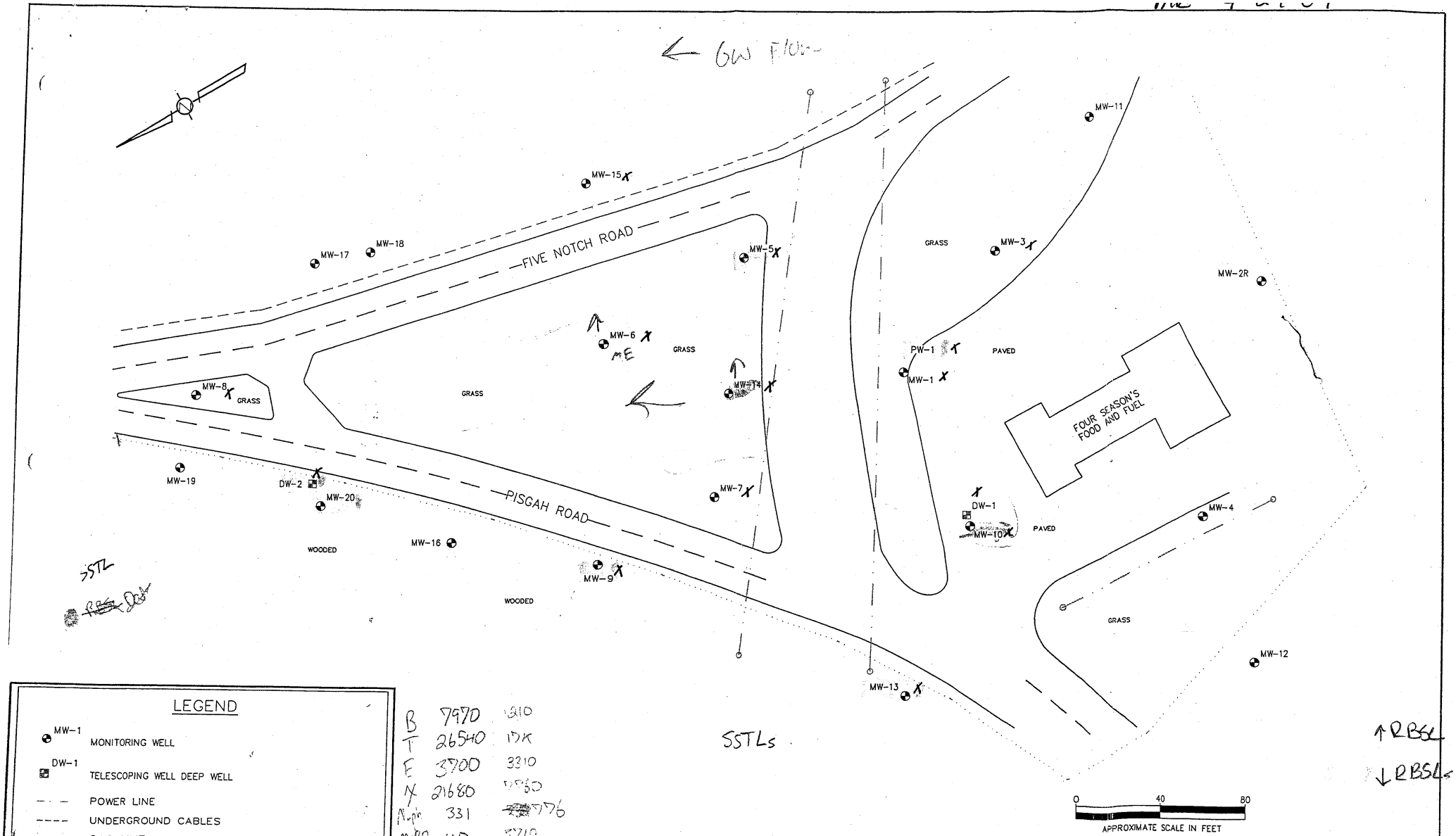
* Free Product Thickness:		feet
Depth to Free Product (DFP)		feet
Depth to Ground Water (DGW)	8.92	feet
Total Well Depth (TWD)	60	feet
Length of the water column (LWC=TWD-DGW)	51.08	feet
1 casing volume (CV=LWC X C)= _____ X 0.163	8.33	gallons
3 casing volume (3 X CV)= 3	24.98	gallons

Total Volume of Water Purged Before Sampling 8.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:35	11:45						
pH (s.u.)	6.82	6.81						
Specific Conductivity (µmhos/cm)	93.8	92.9						
Water Temperature (°C)	15.3	15.6						
Dissolved Oxygen	1.25	1.65						
PID readings, if required								

Remarks: Sample Time: 11:30 Dry @ 8.5



LEGEND

- MW-1 MONITORING WELL
- DW-1 TELESCOPING WELL DEEP WELL
- POWER LINE
- UNDERGROUND CABLES
- GAS LINE

B	7970	1210
T	26540	17K
E	3700	3310
X	21680	7760
Naph	331	776
MtBE	40	3710

CONSULTECH ENVIRONMENTAL, INC.	DRAWN: CJH	DATE: 11/06/05
Environmental Consulting and Engineering © 1999	REVISION #	
Delivering innovative solutions to today's environmental concerns	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 2
SITE PLAN MAP

Site 00120

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1353535

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 BULL ST. COLA., SC 29201
Email To:
Phone: 803-898-6240 Fax: 803-896-6243
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. THOMA
Copy To:
Purchase Order No.: 719459
Project Name: FOUR SEASONS FOOD + FUEL
Project Number: 00120 / CA# 38115

Section C Invoice Information:

Attention: FINANCE (D. THOMA)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: R. SPENCER
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX, NAPH, MTBE (8260B)	1,2-DCA	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			3/1	14:18		6				6					X	X	X		ODOR
2	MW-3						14:08											X	X	X		NO ODOR
3	MW-5						12:39											X	X	X		NO ODOR
4	MW-6						12:08											X	X	X		ODOR
5	~~MW-7~~						~~13:15~~											~~X~~	~~X~~	~~X~~		NOT LOCATED
6	MW-8						11:20											X	X	X		NO ODOR
7	MW-9						14:30											X	X	X		NO ODOR
8	MW-10						13:23											X	X	X		ODOR
9	MW-13						13:55											X	X	X		NO ODOR
10	MW-14						12:55											X	X	X		ODOR
11	MW-15						12:25											X	X	X		NO ODOR
12	DW-1						13:30											X	X	X		ODOR

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
REPORT "J" VALUES	Ryan Arial	3/1/2010	15:39			

SAMPLE CONDITIONS: Temp in °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

2

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: RYAN ARIAIL
SIGNATURE of SAMPLER: Ryan Arial
DATE Signed (MM/DD/YY): 3/1/2010

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

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

1353536

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 BULL ST. COLA., SC 29201
Email To:
Phone: 803-893-6240 Fax: 803-896-6243
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. THOMA
Copy To:
Purchase Order No.: 719459
Project Name: FOUR SEASONS FOOD + FUEL
Project Number: 00120 / CA# 38115

Section C Invoice Information:

Attention: FINANCE (D. THOMA)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: R. SPENCER
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/GRAB DATE	COLLECTED Composite End/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) BTEX, NAPTH, MTBE (8260B)	1,2-DCA	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	DW-2	WT	G			3/1	11:30		6				6					X	X	X		NO ODOR
2	~~PW-2~~																	X	X	X		NOT LOCATED
3	SW-1						11:00											X	X	X		NO ODOR
4	SW-2						11:05											X	X	X		NO ODOR
5	SW-3						11:10											X	X	X		NO ODOR
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
REPORT "J" VALUES	[signature]	3/1/10	15:39				

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RYAN ARIAIL

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/1/2010

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

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

Midlands
Environmental
Consultants, Inc.

March 3, 2010

Re: Treatment of Purge Water
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 10-2689

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.

2. No free-product was detected in any of the purge water drums.

3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.

4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.

5. Record of usage is maintained by Contractor.

6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.

7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 13.5 gallons were treated on March 1, 2010 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian Owen
Field Technician

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March 07, 2010

UST
MAR 09 2010
PROGRAM

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on March 02, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Erin L. Waters for

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Charlotte Certification IDs

Connecticut Certification #: PH-0104
9800 Kincey Ave. - Ste 100 Huntersville, NC 28078
Kentucky UST Certification #: 84
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 990060001
South Carolina Drinking Water Cert. #: 990060003
Tennessee Certification #: 04010
Virginia Certification #: 00213
West Virginia Certification #: 357
Florida/NELAP Certification #: E87627

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SAMPLE SUMMARY

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9264384001	**MW-1**	Water	03/01/10 14:18	03/02/10 14:40
9264384002	**MW-3**	Water	03/01/10 14:08	03/02/10 14:40
9264384003	**MW-5**	Water	03/01/10 12:39	03/02/10 14:40
9264384004	**MW-6**	Water	03/01/10 12:08	03/02/10 14:40
9264384005	**MW-8**	Water	03/01/10 11:20	03/02/10 14:40
9264384006	**MW-9**	Water	03/01/10 14:30	03/02/10 14:40
9264384007	**MW-10**	Water	03/01/10 13:23	03/02/10 14:40
9264384008	**MW-13**	Water	03/01/10 13:55	03/02/10 14:40
9264384009	**MW-14**	Water	03/01/10 12:55	03/02/10 14:40
9264384010	**MW-15**	Water	03/01/10 12:25	03/02/10 14:40
9264384011	**DW-1**	Water	03/01/10 13:30	03/02/10 14:40
9264384012	**DW-2**	Water	03/01/10 11:30	03/02/10 14:40
9264384013	**SW-1**	Water	03/01/10 11:00	03/02/10 14:40
9264384014	**SW-2**	Water	03/01/10 11:05	03/02/10 14:40
9264384015	**SW-3**	Water	03/01/10 11:10	03/02/10 14:40

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SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9264384001	MW-1	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384002	MW-3	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384003	MW-5	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384004	MW-6	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384005	MW-8	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384006	MW-9	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384007	MW-10	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384008	MW-13	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384009	MW-14	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384010	MW-15	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384011	DW-1	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384012	DW-2	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384013	SW-1	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384014	SW-2	EPA 8011	RES	2
		EPA 8260	DLK	13
9264384015	SW-3	EPA 8011	RES	2
		EPA 8260	DLK	13

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-1 **Lab ID: 9264384001** Collected: 03/01/10 14:18 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.056**	ug/L	0.020	0.020	1	03/03/10 11:44	03/03/10 20:55	106-93-4	C2
1-Chloro-2-bromopropane (S)	83	%	60-140		1	03/03/10 11:44	03/03/10 20:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**2170J**	ug/L	2500	600	500		03/04/10 13:07	71-43-2	
1,2-Dichloroethane	ND	ug/L	2500	650	500		03/04/10 13:07	107-06-2	
Ethylbenzene	**1320J**	ug/L	2500	550	500		03/04/10 13:07	100-41-4	
Methyl-tert-butyl ether	**2310J**	ug/L	2500	1000	500		03/04/10 13:07	1634-04-4	
Naphthalene	ND	ug/L	2500	1450	500		03/04/10 13:07	91-20-3	
Toluene	**46900**	ug/L	2500	900	500		03/04/10 13:07	108-88-3	
Xylene (Total)	**7120**	ug/L	5000	1350	500		03/04/10 13:07	1330-20-7	
m&p-Xylene	**4970J**	ug/L	5000	1350	500		03/04/10 13:07	1330-20-7	
o-Xylene	**2150J**	ug/L	2500	850	500		03/04/10 13:07	95-47-6	
4-Bromofluorobenzene (S)	100	%	70-130		500		03/04/10 13:07	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		500		03/04/10 13:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	70-130		500		03/04/10 13:07	17060-07-0	
Toluene-d8 (S)	101	%	70-130		500		03/04/10 13:07	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-3 **Lab ID: 9264384002** Collected: 03/01/10 14:08 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/03/10 11:44	03/03/10 21:15	106-93-4	
1-Chloro-2-bromopropane (S)	124	%	60-140		1	03/03/10 11:44	03/03/10 21:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 10:41	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 10:41	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 10:41	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 10:41	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 10:41	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 10:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 10:41	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 10:41	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 10:41	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		03/04/10 10:41	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		03/04/10 10:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		03/04/10 10:41	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/04/10 10:41	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-5 **Lab ID: 9264384003** Collected: 03/01/10 12:39 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/10 11:44	03/03/10 21:35	106-93-4	
1-Chloro-2-bromopropane (S)	120	%	60-140		1	03/03/10 11:44	03/03/10 21:35	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 10:59	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 10:59	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 10:59	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 10:59	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 10:59	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 10:59	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 10:59	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 10:59	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 10:59	95-47-6	
4-Bromofluorobenzene (S)	100	%	70-130		1		03/04/10 10:59	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		03/04/10 10:59	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/04/10 10:59	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/04/10 10:59	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-6 **Lab ID: 9264384004** Collected: 03/01/10 12:08 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/10 11:44	03/03/10 21:55	106-93-4	
1-Chloro-2-bromopropane (S)	120	%	60-140		1	03/03/10 11:44	03/03/10 21:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**514**	ug/L	250	60.0	50		03/04/10 13:28	71-43-2	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		03/04/10 13:28	107-06-2	
Ethylbenzene	**584**	ug/L	250	55.0	50		03/04/10 13:28	100-41-4	
Methyl-tert-butyl ether	**2900**	ug/L	250	100	50		03/04/10 13:28	1634-04-4	
Naphthalene	ND	ug/L	250	145	50		03/04/10 13:28	91-20-3	
Toluene	**9120**	ug/L	250	90.0	50		03/04/10 13:28	108-88-3	
Xylene (Total)	**3140**	ug/L	500	135	50		03/04/10 13:28	1330-20-7	
m&p-Xylene	**2230**	ug/L	500	135	50		03/04/10 13:28	1330-20-7	
o-Xylene	**911**	ug/L	250	85.0	50		03/04/10 13:28	95-47-6	
4-Bromofluorobenzene (S)	100	%	70-130		50		03/04/10 13:28	460-00-4	
Dibromofluoromethane (S)	108	%	70-130		50		03/04/10 13:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		50		03/04/10 13:28	17060-07-0	
Toluene-d8 (S)	101	%	70-130		50		03/04/10 13:28	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-8 **Lab ID: 9264384005** Collected: 03/01/10 11:20 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/10 11:44	03/03/10 22:15	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140		1	03/03/10 11:44	03/03/10 22:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 10:23	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 10:23	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 10:23	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 10:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 10:23	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 10:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 10:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 10:23	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 10:23	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		03/04/10 10:23	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		1		03/04/10 10:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		03/04/10 10:23	17060-07-0	
Toluene-d8 (S)	93	%	70-130		1		03/04/10 10:23	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-9 **Lab ID: 9264384006** Collected: 03/01/10 14:30 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/03/10 11:44	03/03/10 22:36	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	03/03/10 11:44	03/03/10 22:36	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 11:17	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 11:17	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 11:17	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 11:17	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 11:17	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 11:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 11:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 11:17	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 11:17	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		03/04/10 11:17	460-00-4	
Dibromofluoromethane (S)	112	%	70-130		1		03/04/10 11:17	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		03/04/10 11:17	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/04/10 11:17	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-10 **Lab ID: 9264384007** Collected: 03/01/10 13:23 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**1.1**	ug/L	0.039	0.039	2	03/03/10 11:14	03/04/10 14:04	106-93-4	
1-Chloro-2-bromopropane (S)	92	%	60-140		2	03/03/10 11:14	03/04/10 14:04	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**5870**	ug/L	2500	600	500		03/04/10 12:49	71-43-2	
1,2-Dichloroethane	ND	ug/L	2500	650	500		03/04/10 12:49	107-06-2	
Ethylbenzene	**912J**	ug/L	2500	550	500		03/04/10 12:49	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	2500	1000	500		03/04/10 12:49	1634-04-4	
Naphthalene	ND	ug/L	2500	1450	500		03/04/10 12:49	91-20-3	
Toluene	**86800**	ug/L	2500	900	500		03/04/10 12:49	108-88-3	
Xylene (Total)	**5620**	ug/L	5000	1350	500		03/04/10 12:49	1330-20-7	
m&p-Xylene	**3940J**	ug/L	5000	1350	500		03/04/10 12:49	1330-20-7	
o-Xylene	**1690J**	ug/L	2500	850	500		03/04/10 12:49	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		500		03/04/10 12:49	460-00-4	
Dibromofluoromethane (S)	107	%	70-130		500		03/04/10 12:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	98	%	70-130		500		03/04/10 12:49	17060-07-0	
Toluene-d8 (S)	102	%	70-130		500		03/04/10 12:49	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-13 **Lab ID: 9264384008** Collected: 03/01/10 13:55 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/03/10 11:15	03/03/10 16:42	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	03/03/10 11:15	03/03/10 16:42	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 11:36	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 11:36	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 11:36	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 11:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 11:36	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 11:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 11:36	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 11:36	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 11:36	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		03/04/10 11:36	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		03/04/10 11:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/04/10 11:36	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/04/10 11:36	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-14 **Lab ID: 9264384009** Collected: 03/01/10 12:55 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.074**	ug/L	0.020	0.020	1	03/03/10 11:15	03/03/10 17:01	106-93-4	
1-Chloro-2-bromopropane (S)	117	%	60-140		1	03/03/10 11:15	03/03/10 17:01	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**609**	ug/L	500	120	100		03/04/10 13:49	71-43-2	
1,2-Dichloroethane	ND	ug/L	500	130	100		03/04/10 13:49	107-06-2	
Ethylbenzene	**669**	ug/L	500	110	100		03/04/10 13:49	100-41-4	
Methyl-tert-butyl ether	**3580**	ug/L	500	200	100		03/04/10 13:49	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		03/04/10 13:49	91-20-3	
Toluene	**15200**	ug/L	500	180	100		03/04/10 13:49	108-88-3	
Xylene (Total)	**4140**	ug/L	1000	270	100		03/04/10 13:49	1330-20-7	
m&p-Xylene	**2730**	ug/L	1000	270	100		03/04/10 13:49	1330-20-7	
o-Xylene	**1400**	ug/L	500	170	100		03/04/10 13:49	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		100		03/04/10 13:49	460-00-4	
Dibromofluoromethane (S)	106	%	70-130		100		03/04/10 13:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130		100		03/04/10 13:49	17060-07-0	
Toluene-d8 (S)	101	%	70-130		100		03/04/10 13:49	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: MW-15 **Lab ID: 9264384010** Collected: 03/01/10 12:25 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/03/10 11:15	03/03/10 17:20	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	03/03/10 11:15	03/03/10 17:20	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 11:54	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 11:54	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 11:54	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 11:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 11:54	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 11:54	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 11:54	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 11:54	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 11:54	95-47-6	
4-Bromofluorobenzene (S)	96	%	70-130		1		03/04/10 11:54	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		03/04/10 11:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/04/10 11:54	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		03/04/10 11:54	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: DW-1 **Lab ID: 9264384011** Collected: 03/01/10 13:30 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.051**	ug/L	0.020	0.020	1	03/03/10 11:15	03/03/10 17:39	106-93-4	C3
1-Chloro-2-bromopropane (S)	114	%	60-140		1	03/03/10 11:15	03/03/10 17:39	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**143J**	ug/L	500	120	100		03/04/10 14:10	71-43-2	
1,2-Dichloroethane	ND	ug/L	500	130	100		03/04/10 14:10	107-06-2	
Ethylbenzene	ND	ug/L	500	110	100		03/04/10 14:10	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	500	200	100		03/04/10 14:10	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		03/04/10 14:10	91-20-3	
Toluene	**7700**	ug/L	500	180	100		03/04/10 14:10	108-88-3	
Xylene (Total)	**1680**	ug/L	1000	270	100		03/04/10 14:10	1330-20-7	
m&p-Xylene	**612J**	ug/L	1000	270	100		03/04/10 14:10	1330-20-7	
o-Xylene	**1060**	ug/L	500	170	100		03/04/10 14:10	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		100		03/04/10 14:10	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		100		03/04/10 14:10	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130		100		03/04/10 14:10	17060-07-0	
Toluene-d8 (S)	102	%	70-130		100		03/04/10 14:10	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: DW-2 **Lab ID: 9264384012** Collected: 03/01/10 11:30 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/10 11:15	03/03/10 17:58	106-93-4	
1-Chloro-2-bromopropane (S)	105	%	60-140		1	03/03/10 11:15	03/03/10 17:58	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 12:12	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 12:12	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 12:12	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 12:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 12:12	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 12:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 12:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 12:12	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 12:12	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		03/04/10 12:12	460-00-4	
Dibromofluoromethane (S)	113	%	70-130		1		03/04/10 12:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/04/10 12:12	17060-07-0	
Toluene-d8 (S)	92	%	70-130		1		03/04/10 12:12	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: SW-1 **Lab ID: 9264384013** Collected: 03/01/10 11:00 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/10 11:15	03/03/10 18:16	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	03/03/10 11:15	03/03/10 18:16	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**9.3**	ug/L	5.0	1.2	1		03/04/10 12:31	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 12:31	107-06-2	
Ethylbenzene	**9.4**	ug/L	5.0	1.1	1		03/04/10 12:31	100-41-4	
Methyl-tert-butyl ether	**67.6**	ug/L	5.0	2.0	1		03/04/10 12:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 12:31	91-20-3	
Toluene	**152**	ug/L	5.0	1.8	1		03/04/10 12:31	108-88-3	
Xylene (Total)	**61.9**	ug/L	10.0	2.7	1		03/04/10 12:31	1330-20-7	
m&p-Xylene	**41.0**	ug/L	10.0	2.7	1		03/04/10 12:31	1330-20-7	
o-Xylene	**20.9**	ug/L	5.0	1.7	1		03/04/10 12:31	95-47-6	
4-Bromofluorobenzene (S)	100	%	70-130		1		03/04/10 12:31	460-00-4	
Dibromofluoromethane (S)	109	%	70-130		1		03/04/10 12:31	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/04/10 12:31	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		03/04/10 12:31	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: SW-2 **Lab ID: 9264384014** Collected: 03/01/10 11:05 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/10 11:15	03/03/10 18:36	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	03/03/10 11:15	03/03/10 18:36	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 08:33	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 08:33	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 08:33	100-41-4	
Methyl-tert-butyl ether	**2.0J**	ug/L	5.0	2.0	1		03/04/10 08:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 08:33	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 08:33	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 08:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 08:33	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 08:33	95-47-6	
4-Bromofluorobenzene (S)	99	%	70-130		1		03/04/10 08:33	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		03/04/10 08:33	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		03/04/10 08:33	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/04/10 08:33	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

Sample: SW-3 **Lab ID: 9264384015** Collected: 03/01/10 11:10 Received: 03/02/10 14:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/03/10 11:15	03/03/10 18:55	106-93-4	
1-Chloro-2-bromopropane (S)	99	%	60-140		1	03/03/10 11:15	03/03/10 18:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		03/04/10 08:51	71-43-2	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		03/04/10 08:51	107-06-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		03/04/10 08:51	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		03/04/10 08:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		03/04/10 08:51	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		03/04/10 08:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/04/10 08:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		03/04/10 08:51	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		03/04/10 08:51	95-47-6	
4-Bromofluorobenzene (S)	101	%	70-130		1		03/04/10 08:51	460-00-4	
Dibromofluoromethane (S)	110	%	70-130		1		03/04/10 08:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		03/04/10 08:51	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/04/10 08:51	2037-26-5	

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

QC Batch: OEXT/9401 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9264384001, 9264384002, 9264384003, 9264384004, 9264384005, 9264384006

METHOD BLANK: 409726 Matrix: Water
Associated Lab Samples: 9264384001, 9264384002, 9264384003, 9264384004, 9264384005, 9264384006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	03/03/10 14:09	
1-Chloro-2-bromopropane (S)	%	108	60-140	03/03/10 14:09	

LABORATORY CONTROL SAMPLE & LCSD: 409727 409728

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.31	0.34	110	120	60-140	8	20	
1-Chloro-2-bromopropane (S)	%				109	115	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 409729 409730

Parameter	Units	9263916001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.31	0.33	112	116	60-140	5	20	
1-Chloro-2-bromopropane (S)	%						113	114	60-140			

SAMPLE DUPLICATE: 409731

Parameter	Units	9263916006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	102	110	7		

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

QC Batch: OEXT/9402 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9264384007, 9264384008, 9264384009, 9264384010, 9264384011, 9264384012, 9264384013, 9264384014, 9264384015

METHOD BLANK: 409732 — Matrix: Water
Associated Lab Samples: 9264384007, 9264384008, 9264384009, 9264384010, 9264384011, 9264384012, 9264384013, 9264384014, 9264384015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	03/03/10 14:48	
1-Chloro-2-bromopropane (S)	%	108	60-140	03/03/10 14:48	

LABORATORY CONTROL SAMPLE & LCSD: 409733 409734

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.30	0.32	104	112	60-140	5	20	
1-Chloro-2-bromopropane (S)	%				108	114	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 409735 409736

Parameter	Units	9264384007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	1.1	.28	.28	1.3	1.3	74	76	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						106	109	60-140			

SAMPLE DUPLICATE: 409737

Parameter	Units	9264387001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	105	103	1		

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

QC Batch: MSV/10152 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 9264384001, 9264384002, 9264384003, 9264384004, 9264384005, 9264384006, 9264384007, 9264384008, 9264384009, 9264384010, 9264384011, 9264384012, 9264384013

METHOD BLANK: 409995 Matrix: Water
Associated Lab Samples: 9264384001, 9264384002, 9264384003, 9264384004, 9264384005, 9264384006, 9264384007, 9264384008, 9264384009, 9264384010, 9264384011, 9264384012, 9264384013

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/04/10 04:34	
Benzene	ug/L	ND	5.0	03/04/10 04:34	
Ethylbenzene	ug/L	ND	5.0	03/04/10 04:34	
m&p-Xylene	ug/L	ND	10.0	03/04/10 04:34	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/04/10 04:34	
Naphthalene	ug/L	ND	5.0	03/04/10 04:34	
o-Xylene	ug/L	ND	5.0	03/04/10 04:34	
Toluene	ug/L	ND	5.0	03/04/10 04:34	
Xylene (Total)	ug/L	ND	10.0	03/04/10 04:34	
1,2-Dichloroethane-d4 (S)	%	104	70-130	03/04/10 04:34	
4-Bromofluorobenzene (S)	%	98	70-130	03/04/10 04:34	
Dibromofluoromethane (S)	%	107	70-130	03/04/10 04:34	
Toluene-d8 (S)	%	101	70-130	03/04/10 04:34	

LABORATORY CONTROL SAMPLE: 409996

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.6	113	70-130	
Benzene	ug/L	50	54.9	110	70-130	
Ethylbenzene	ug/L	50	54.6	109	70-130	
m&p-Xylene	ug/L	100	112	112	70-130	
Methyl-tert-butyl ether	ug/L	50	50.9	102	70-130	
Naphthalene	ug/L	50	46.3	93	70-130	
o-Xylene	ug/L	50	55.1	110	70-130	
Toluene	ug/L	50	56.3	113	70-130	
Xylene (Total)	ug/L	150	167	112	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			105	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 409997 409998

Parameter	Units	9264384005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	64.4	64.5	129	129	70-130	0	30	
Benzene	ug/L	ND	50	50	146	117	292	234	70-130	22	30	M0
Ethylbenzene	ug/L	ND	50	50	73.6	69.1	147	138	70-130	6	30	M0

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 409997 409998

Parameter	Units	9264384005 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
m&p-Xylene	ug/L	ND	100	100	164	154	164	154	70-130	6	30	M0
Methyl-tert-butyl ether	ug/L	ND	50	50	90.0	77.8	177	152	70-130	15	30	M0
Naphthalene	ug/L	ND	50	50	52.2	55.3	104	111	70-130	6	30	
o-Xylene	ug/L	ND	50	50	83.9	81.1	168	162	70-130	3	30	M0
Toluene	ug/L	ND	50	50	235	196	471	392	70-130	18	30	M0
1,2-Dichloroethane-d4 (S)	%						101	103	70-130			
4-Bromofluorobenzene (S)	%						105	103	70-130			
Dibromofluoromethane (S)	%						109	109	70-130			
Toluene-d8 (S)	%						98	100	70-130			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

QC Batch: MSV/10153
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV SC
Associated Lab Samples: 9264384014, 9264384015

METHOD BLANK: 410010
Matrix: Water
Associated Lab Samples: 9264384014, 9264384015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/04/10 04:16	
Benzene	ug/L	ND	5.0	03/04/10 04:16	
Ethylbenzene	ug/L	ND	5.0	03/04/10 04:16	
m&p-Xylene	ug/L	ND	10.0	03/04/10 04:16	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/04/10 04:16	
Naphthalene	ug/L	ND	5.0	03/04/10 04:16	
o-Xylene	ug/L	ND	5.0	03/04/10 04:16	
Toluene	ug/L	ND	5.0	03/04/10 04:16	
Xylene (Total)	ug/L	ND	10.0	03/04/10 04:16	
1,2-Dichloroethane-d4 (S)	%	103	70-130	03/04/10 04:16	
4-Bromofluorobenzene (S)	%	100	70-130	03/04/10 04:16	
Dibromofluoromethane (S)	%	106	70-130	03/04/10 04:16	
Toluene-d8 (S)	%	100	70-130	03/04/10 04:16	

LABORATORY CONTROL SAMPLE: 410011

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.7	113	70-130	
Benzene	ug/L	50	54.6	109	70-130	
Ethylbenzene	ug/L	50	54.1	108	70-130	
m&p-Xylene	ug/L	100	112	112	70-130	
Methyl-tert-butyl ether	ug/L	50	51.6	103	70-130	
Naphthalene	ug/L	50	49.0	98	70-130	
o-Xylene	ug/L	50	57.0	114	70-130	
Toluene	ug/L	50	55.4	111	70-130	
Xylene (Total)	ug/L	150	169	113	70-130	
1,2-Dichloroethane-d4 (S)	%			100	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			101	70-130	

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(828)254-7176

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9264384

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

C2	Relative percent difference between results from each column was greater than 40%. The lower of the two results was reported.
C3	Relative percent difference between results from each column was greater than 40%. The higher of the two results was reported.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1353535

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 BULL ST. COLA., SC 29201
Email To:
Phone: 803 896-6240 Fax: 803-896-6243
Requested Due Date/TAT:

Section B Required Project Information:

Report To: S. DUMAS
Copy To:
Purchase Order No.: 7194579
Project Name: PRIME SEASONS (FORMER FIFA)
Project Number: 00120 / CA# 38115

Section C Invoice Information:

Attention: FINANCE (D. DUMAS)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: R. SPENCER
Pace Profile #: 844-1

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N): BTEX, NAPHTHALENE (GC/MS); 1,2-DCA; EDB

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX, NAPHTHALENE (GC/MS)	1,2-DCA	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			3/1	14:18		6				6					X	X	X		ODOR 001
2	MW-3						14:08											X	X	X		NO ODOR 002
3	MW-5						12:59											X	X	X		NO ODOR 003
4	MW-6						12:08											X	X	X		ODOR 004
5	~~MW-7~~						~~13:15~~											~~X~~	~~X~~	~~X~~		NOT LOCATED
6	MW-8						11:20											X	X	X		NO ODOR 005
7	MW-9						14:36											X	X	X		NO ODOR 006
8	MW-10						13:23											X	X	X		ODOR 007
9	MW-13						13:55											X	X	X		NO ODOR 008
10	MW-14						12:55											X	X	X		ODOR 009
11	MW-15						12:25											X	X	X		NO ODOR 010
12	DW-1						13:30											X	X	X		ODOR 011

Pace Project No./ Lab I.D.: 9243524

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
REPORT "J" VALUES	[signature]	3/1/2010	15:39	[signature] Pace	3/2/10	1225				
	[signature] Pace	3/2/10	14:40	[signature] TRANS	3/2/10	1440	2.6	Y	N	Y

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

3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RYAN ARIAIL

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3/1/2010

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

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1353536

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 BULL ST. COLA., SC 29201
Email To:
Phone: 803-898-6240 Fax: 803-896-6243
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. THOMA
Copy To:
Purchase Order No.: 717459
Project Name: FOUR SEASONS FOOD + FUEL
Project Number: 00120 / CAA 38115

Section C Invoice Information:

Attention: FINANCE (D. THOMA)
Company Name: SCDHEC UST
Address:
Pace Quote Reference:
Pace Project Manager: R. SPENCER
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) BTEX NAPH ALDE	(8260B) 1,2-DCA	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9261384
1	DW-2	WT	G			3/1	11:3		6				6					X	X	X		NO ODOR 012
2	PW-2																	X	X	X		NOT LOCATED
3	SW-1						11:00											X	X	X		NO ODOR 013
4	SW-2						11:15											X	X	X		NO ODOR 014
5	SW-3						11:10											X	X	X		NO ODOR 015
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
REPORT 'T' VALUES	Ryan Ariail	3/1/10	15:39	Pace ct	3/2/10	12:28	
	Pace ct	3/2/10	14:40		3/2/10	14:40	2.0 Y N Y

3

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: RYAN ARIAIL
SIGNATURE of SAMPLER: Ryan Ariail
DATE Signed (MM/DD/YY): 3/1/2010

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

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

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 16 2010

UST DOCKET 16 tech

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071

Re: Bid # IFB-34007-6/3/08-EMW; PO# 732429
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. The packets contain the necessary approval for work to begin. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 732429 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
00120	Four Seasons Food and Fuel	Aiken	1	Monitoring Well Installation	60 Days	38754	$5,740.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. **Please note, if there are any changes in the established cost agreement amounts (e.g., additional water supply wells sampled, additional well footage, etc.) contact the site's project manager for technical and/or financial approval. Failure to do so prior to submittal of invoice may result in delay of payment.**

The Bureau grants pre-approval for transportation of drums of virgin petroleum contaminated soil and drums of groundwater from the referenced site to a permitted treatment facility. The contaminated soil and/or groundwater must be properly stored in labeled 55-gallon drums or equivalent containers.

The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. Please note, transportation of waste oil contaminated soil must receive pre-approval from the Division of Waste Assessment & Emergency Response.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. If you have any questions or need further assistance, please contact me at (803) 896-6633.

Sincerely,

Cathleen Ridgley, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc.: Monitoring Well Approvals (MWA)
Approved Cost Agreements (ACA)
Information Packets

cc: Cathleen Ridgley, UST Program (w/out enc)
Technical Files (w/ copy of MWA, ACA, & Site Map)

Approved Cost Agreement 38754

Facility: 00120 FOUR SEASONS FOOD & FUEL 5
KOONJT
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	100.00	100.00
		B	PERSONNEL	2.0000	100.00	200.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	30.0000	20.00	600.00
		C	TELESCOPING	60.0000	25.00	1,500.00
		F	4" ROCK CORING	120.0000	22.00	2,640.00
16 SUBSEQUENT SURVEY						
			SUBSEQUENT SURVEY	1.0000	50.00	50.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	1.0000	50.00	50.00
		C	SOIL (TREATMENT/DISPOSAL)	10.0000	50.00	500.00
23 EFR						
		D	SITE RECONNAISSANCE	1.0000	100.00	100.00
				Total Amount		5,740.00

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Approval

Approval is hereby granted to: **Midlands Environmental Consultants, Inc.**

On behalf of: **Jackson Petroleum**

Facility: **Four Seasons Food and Fuel**
2031 Pisgah Road, N Augusta, SC

UST Permit #: **00120**

County: **Aiken**

This approval is for the installation of 4-4" recovery wells, the replacement of MW7, and new DW3. The monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

5. If any of the information provided to the Department changes, notification to the project manager (tel:803-896-6649 or e-mail: koonjt@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

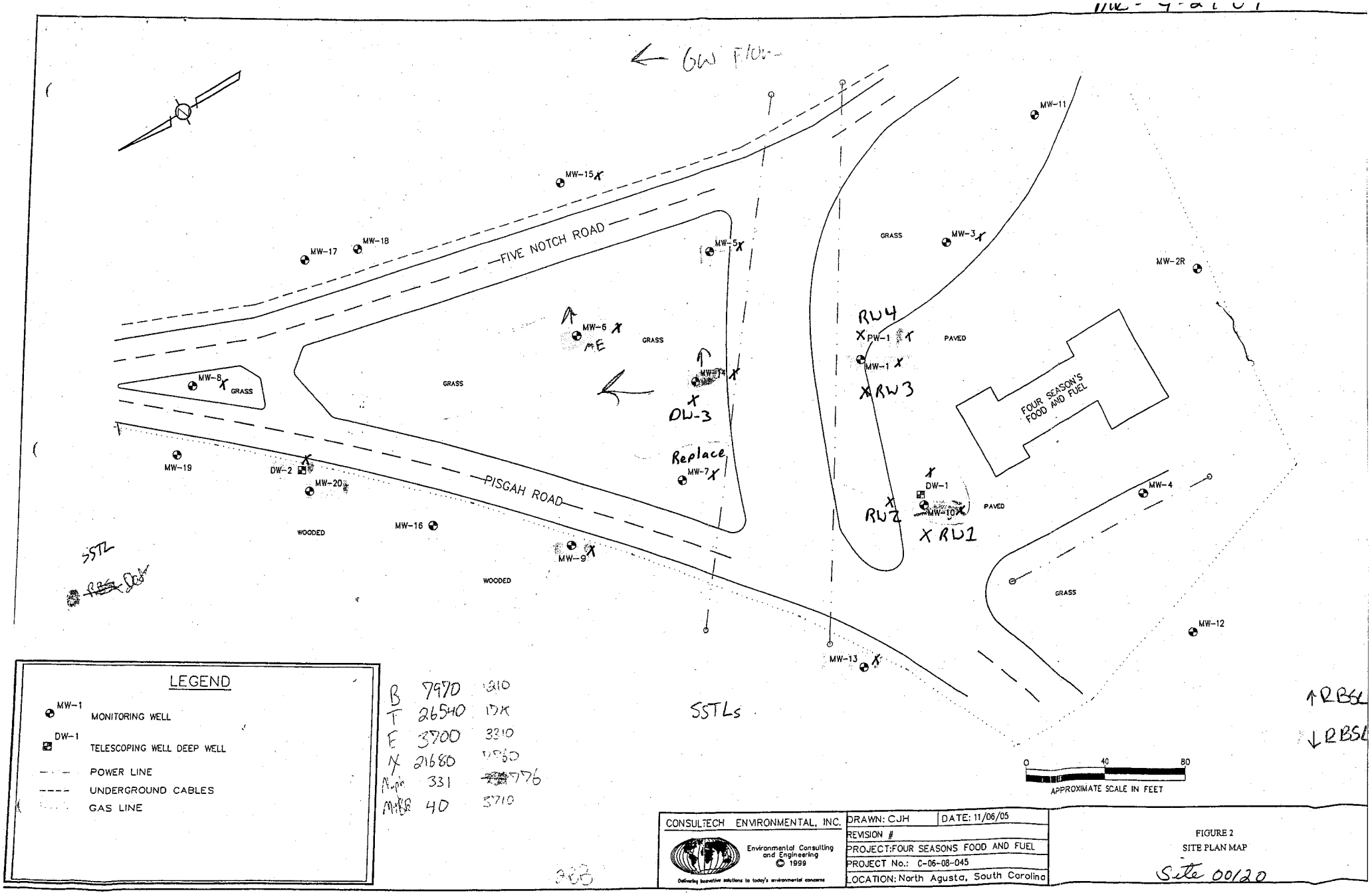
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

Date of Issuance: 4/5/2010 **Approval:** UMW-23613

Justin Koon, Engineer Associate
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management



CONSULTECH ENVIRONMENTAL, INC.	DRAWN: CJH	DATE: 11/06/05
Environmental Consulting and Engineering © 1999	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
Delivering innovative solutions to today's environmental concerns	LOCATION: North Agusta, South Carolina	

FIGURE 2
SITE PLAN MAP

Site 00120

Midlands
Environmental
Consultants, Inc.

June 30, 2010

Mr. Justin Koon, Engineer Associate
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
JUL 02 2010
PROGRAM

Subject: Report of Recovery Well & Monitoring Well Installation
Four Seasons Food and Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120, CA # 38754
MECI Project Number 10-2836
Certified Site Rehabilitation Contractor UCC-0009

17tech
UST
DOCKET

Dear Mr. Koon,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Recovery Well & Monitoring Well Installation for the referenced site. This report describes assessment activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

PROJECT INFORMATION

The subject site (Four Season Food and Fuel) is located at 2031 Pisgah Road, at the intersection of Five Notch Road and Pisgah Road in North Augusta, Aiken County, South Carolina (see Figure 1). The subject site currently consists of a 1.59 acre property containing a one story buildings, canopy, and fuel dispensers. Five Notch Road borders the site to the east, beyond which are residential properties. West of the site is bordered by Pisgah Road, beyond which are wooded properties and residential properties. North of the site is a large grassy median that is currently owned by the City of North Augusta. South of the site is bordered by a commercial property that is currently occupied by a car wash. Three underground storage tanks (UST) were formerly maintained at the subject property. The subject site previously maintained three 4,00 gallon gasoline UST's. These UST's were removed in January of 1999. A release of petroleum product from the UST's was reported and confirmed in November of 1997. Currently the subject site maintains one 12,000 gallon multiple petroleum UST.

The above information is based on reports and correspondence obtained from SCDHEC files.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

FIELD EXPLORATION

Field exploration conducted at the site included:

- construction of one double cased monitoring well, one single cased watertable bracketing monitoring well, four 4-inch recovery wells; and,
- subsequent survey to locate the newly installed wells.

The monitoring well location was selected based on SCDHEC project manager instructions, existing site conditions, and drilling accessibility.

RECOVERY WELL INSTALLATION

From June 14 to 17, 2010, one single cased watertable bracketing monitoring well (MW-7R), four single cased 4"-recovery wells (RW-1 through RW-4), and one double cased monitoring well (DW-3) were installed at the subject site. These wells were installed by Geologic Exploration, of Statesville, North Carolina (S.C. Driller Certification: Mark Gettys # A 01086). The watertable bracketing single cased monitoring well was installed using a truck-mounted drilling rig employing 8.0-inch outer diameter hollow stem augers to construct the borehole. The recovery wells were installed using a truck-mounted drilling rig employing 10.0-inch outer diameter hollow stem augers to construct the borehole.

"Deep" monitoring well DW-3 was installed as a doubled cased monitoring well. During construction, a 6-inch outer casing was advanced to the desired depth and grouted in-place. The grout was allowed to cure and the remainder of the depth of the borehole was achieved using mud-rotary techniques. Monitoring well DW-3 were cased to a depth of 40.0 feet BGS and completed to a depth of 60.0 feet BGS. Monitoring well DW-3 utilizes a five foot screen. .

Well Number	Screened Interval (ft)	Total Depth (ft)
MW-7R	10.0-30.0	30.0
DW-3	55.0-60.0	60.0
RW-1	15.0-30.0	30.0
RW-2	15.0-30.0	30.0
RW-3	15.0-30.0	30.0
RW-4	15.0-30.0	30.0

Representative portions of soil samples were screened with an Photo Ionization Detector (PID) and classified by MECI personnel. Test boring records showing soil descriptions and screening result are attached.

Based on PID readings and lack on access to spread soils onsite, soil cuttings were transported to Richland Landfill/Waste Management in Elgin, SC by MECI. A total of 7.87 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Following completion of the monitoring wells, the wells were developed by bailing until they were determined to be functioning properly and turbidity was reduced. Test Boring Records showing soil descriptions and monitoring well installation details are attached. The drummed purge water was treated by MECI personnel using a granular activated carbon drum. A total of one (1) drum of purge/development water was disposed of in this manner. A disposal manifest for the drummed purge water is attached at the end of this report.

The soils encountered during drilling activities consisted of silty and clayey medium to coarse grained sands of the Costal Plain Physiographic Province and medium to coarse grained sandy clays of the Piedmont Physiographic Province. The site is located near the transition from the Piedmont Physiographic Province to the Coastal Plain Physiographic Province. In the area of this transition zone, termed the "fall line", veneers of Coastal Plain sedimentary rocks may overlay crystalline and/or metamorphic rocks of the Piedmont. In some areas, erosion has resulted in isolation of surficial sedimentary rocks, such that, at the surface, they appear surrounded by Piedmont rocks. Locally, the Coastal Plain sediments consist of silty sands or sandy clays of the Middendorf Formation. These sediments were deposited in the Cretaceous Period during successive advances and retreats of the ocean. This formation contains numerous seams and lenses of kaolinitic clays which often result in "perched" water conditions and a variable, groundwater regime that is difficult to interpret.

SITE SURVEY

Following the well installation, a subsequent survey was conducted by MECI personnel, utilizing a fiberglass rod, level, and tape to determine the horizontal and vertical position of the newly installed monitoring wells. Elevations were based on site datum provided by SCDHEC. See Figure 2 for Top of Casing elevations for the newly installed wells.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessment and waste management projects of this type. Our evaluation of site conditions has been based on our understanding of the site, project information provided to us, and data obtained in our exploration. The general subsurface conditions utilized in our evaluation have been based on interpretation of subsurface data between borings. Contents of this report is intended for the sole use by the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

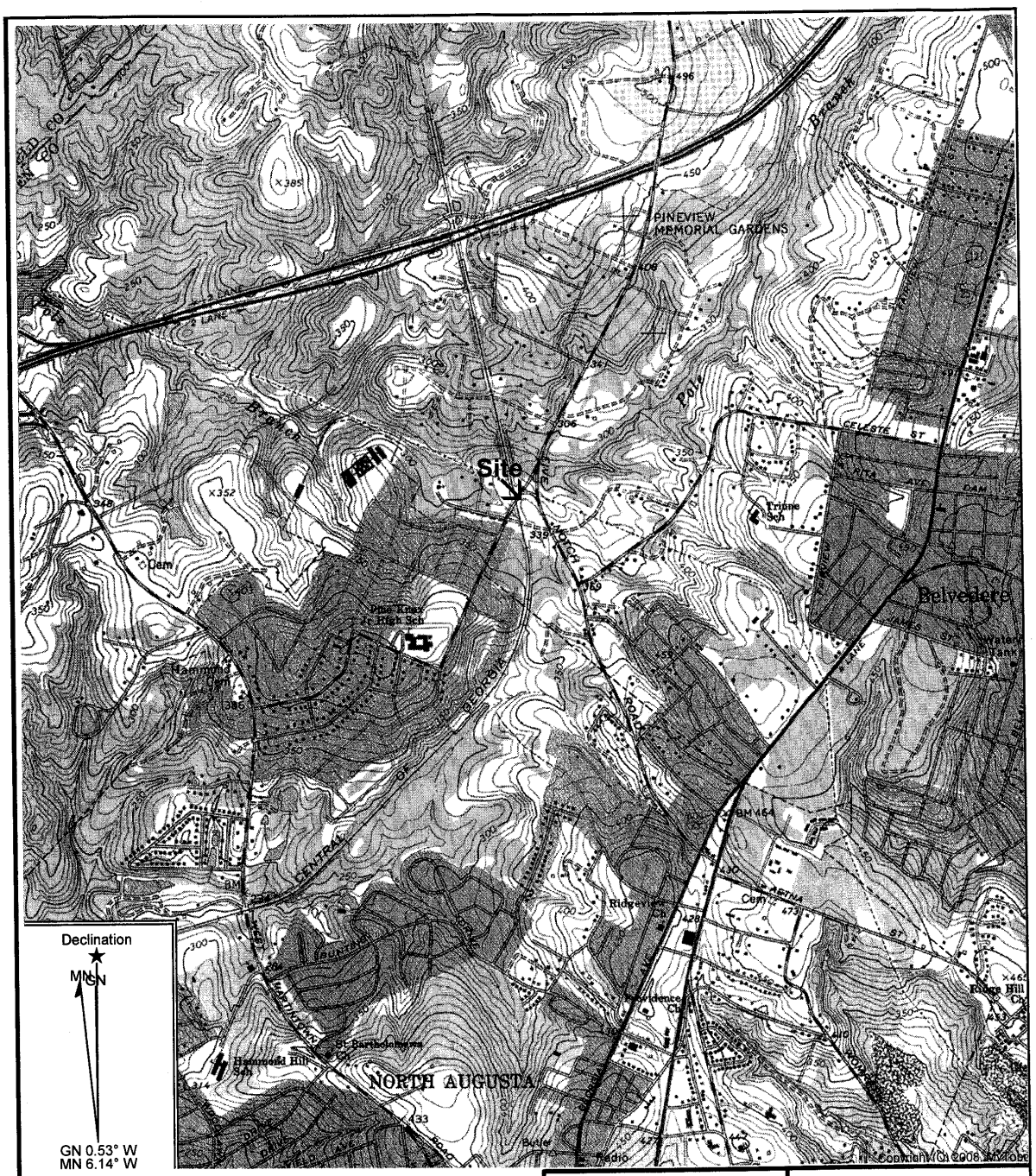
Sincerely,
Midlands Environmental Consultants, Inc.

Brendon P. Kelly
Project Scientist

Jeff L. Coleman
Senior Scientist

Attachments

FIGURES



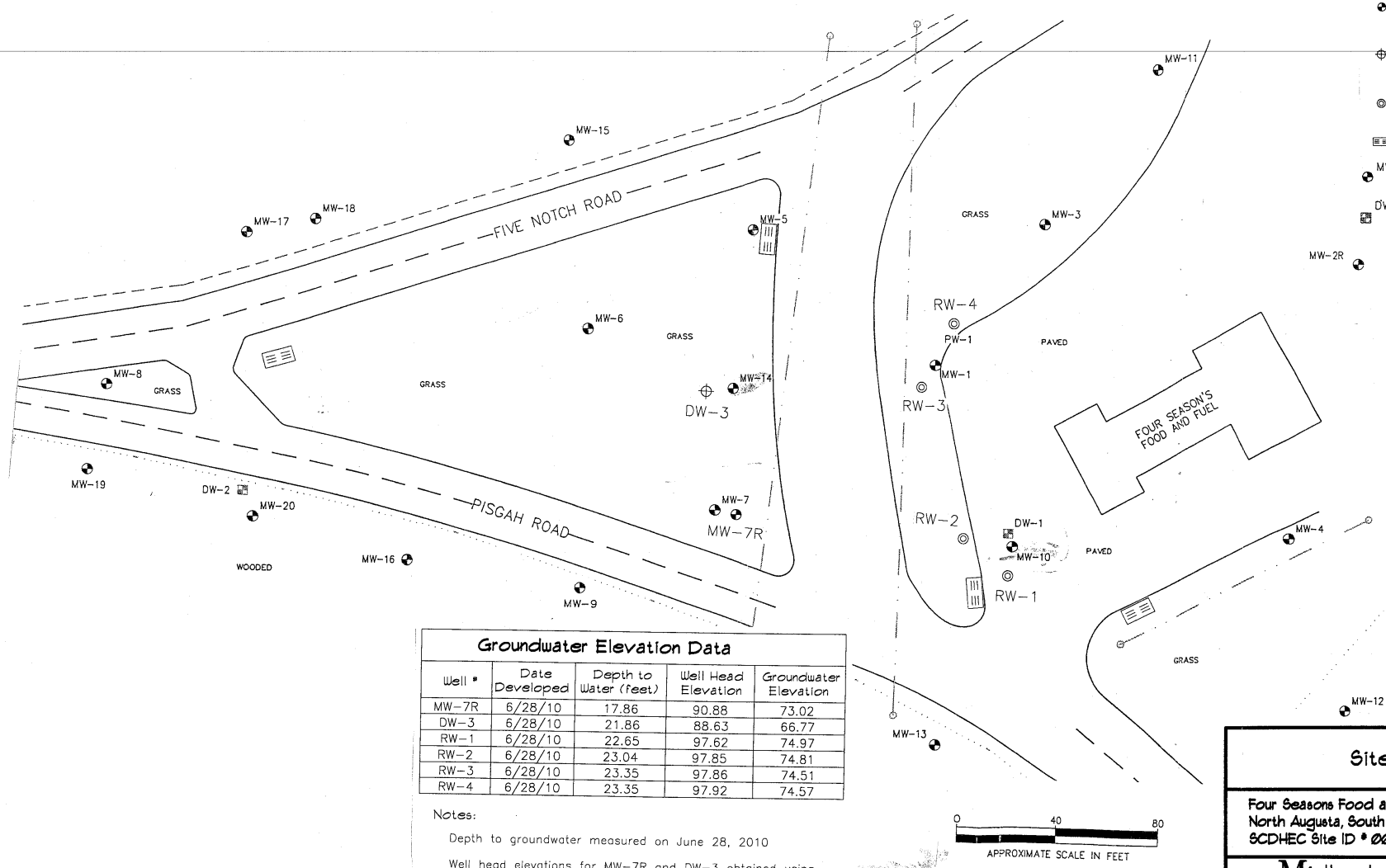
GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Augusta, South Carolina
USGS 7.5 Min. Quad
Countour Interval – 10 Feet

Midlands Environmental Consultants, Inc.	Site Location
Four Seasons Food and Fuel 2031 Pisgah Road, North Augusta, SC SCDHEC Site ID# 00120	
Figure 1	MECI 10-2836



Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of 4-inch Recovery Well
- Storm Sewer Drop Inlet
- MW-1 MONITORING WELL
- DW-1 TELESCOPING WELL DEEP WELL

Groundwater Elevation Data

Well #	Date Developed	Depth to Water (feet)	Well Head Elevation	Groundwater Elevation
MW-7R	6/28/10	17.86	90.88	73.02
DW-3	6/28/10	21.86	88.63	66.77
RW-1	6/28/10	22.65	97.62	74.97
RW-2	6/28/10	23.04	97.85	74.81
RW-3	6/28/10	23.35	97.86	74.51
RW-4	6/28/10	23.35	97.92	74.57

Notes:

Depth to groundwater measured on June 28, 2010

Well head elevations for MW-7R and DW-3 obtained using an elevation of 85.55 feet from MW-5 as a benchmark

Well head elevations for RW-1 through RW-4 obtained using an elevation of 97.87 feet from MW-10 as a benchmark

Drawing Based on SCDHEC Files and MECI Field Notes.
All Locations Are Approximate.

Site Features

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID # 00120

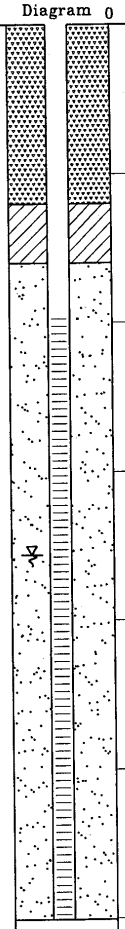
Midlands Environmental Consultants, Inc.

JOB NO. 10-2836
DATE June 30, 2010
Figure 2

TEST BORING AND MONITORING WELL INSTALLATION RECORD

Depth (Feet)	Description	PID PPM
	Grass with Topsoil	
	COASTAL PLAIN SEDIMENT: Orange, Fine to Medium Sandy CLAY	
5	White and Tan, Silty Medium to Coarse SAND	ND
10	White and Tan, Silty Medium to Coarse SAND with Rocks	ND
15	White, Silty Medium to Coarse SAND	ND
20		ND
25	White and Tan, Silty Medium to Coarse SAND	3.5
30	Boring Terminated at 30.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 30.0 Feet BGS. Groundwater Measured at 17.86 Feet Below Top of Casing on 06/28/10.	ND
35		

Well Diagram



Penetration Blows Per Foot: 0, 5, 10, 20, 40, 60, 80, 100

NO BLOWCOUNTS RECORDED

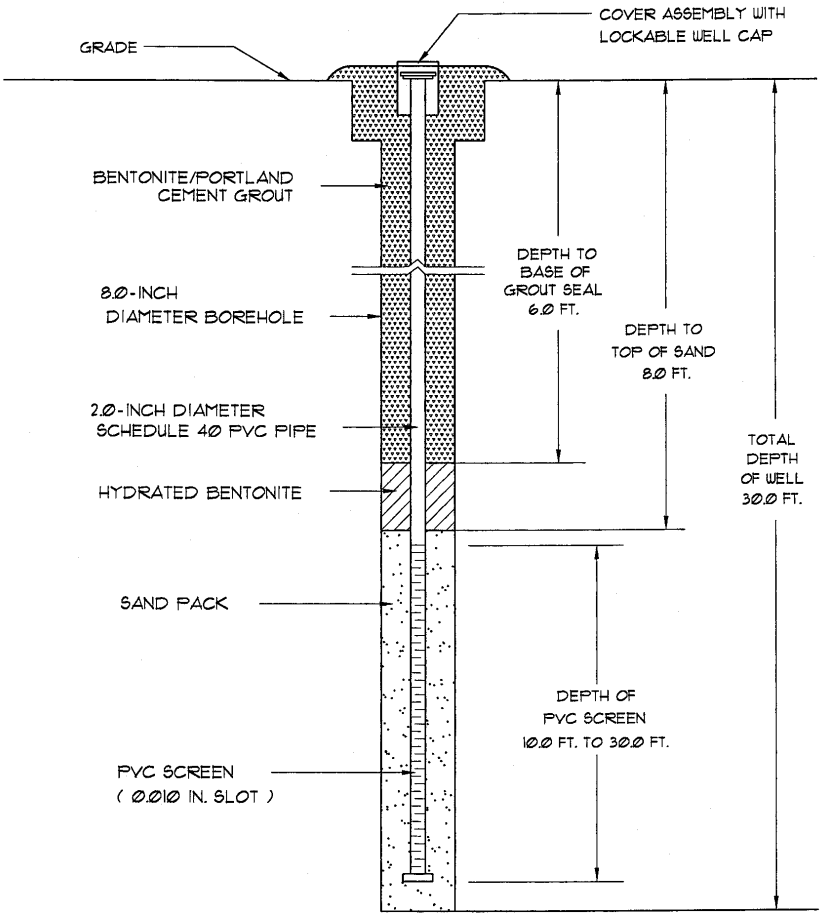
TEST BORING RECORD
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

Boring Number:	MW-7R
Date Drilled:	6/14/10
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 Fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836



Well Number:	MW-7R
Date Drilled:	6/14/10
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: A 01086
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
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(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM
	Grass with Topsoil	
	COASTAL PLAIN SEDIMENT: Brown and Tan, Silty Medium to Coarse SAND	
5	White, Silty Fine to Medium SAND	4.8
10	White and Grey, Clayey Medium to Coarse SAND	3.9
15		13.4
20		1,376
25	Tan, Clayey Medium to Coarse SAND	384.4
30	White and Tan, Medium to Coarse Sandy CLAY	10.7
35		9.2
	NOTE: 10-inch boring terminated at 40.0 feet. 6-inch outer casing set at 40.0 feet and 4-inch mud rotary drilling initiated.	2.4

Well Diagram

Penetration Blows Per Foot: 0, 10, 20, 40, 60, 80, 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

Boring Number:	DW-3
Date Drilled:	6/17/10
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
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Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot (0, 10, 20, 40, 60, 80, 100)
	Brown, Medium to Coarse Sandy CLAY with Rocks			NO BLOWCOUNTS RECORDED
45		ND		
50	Mottled, Medium to Coarse SAND with Rocks	ND		
55		ND		
60	Mud-Rotary Boring Terminated at 60.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 60.0 Feet BGS. Groundwater Measured at 21.86 Feet Below Top of Casing on 06/28/10.	ND		
65				
70				
75				

TEST BORING RECORD
Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

Boring Number:	DW-3
Date Drilled:	6/17/10
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
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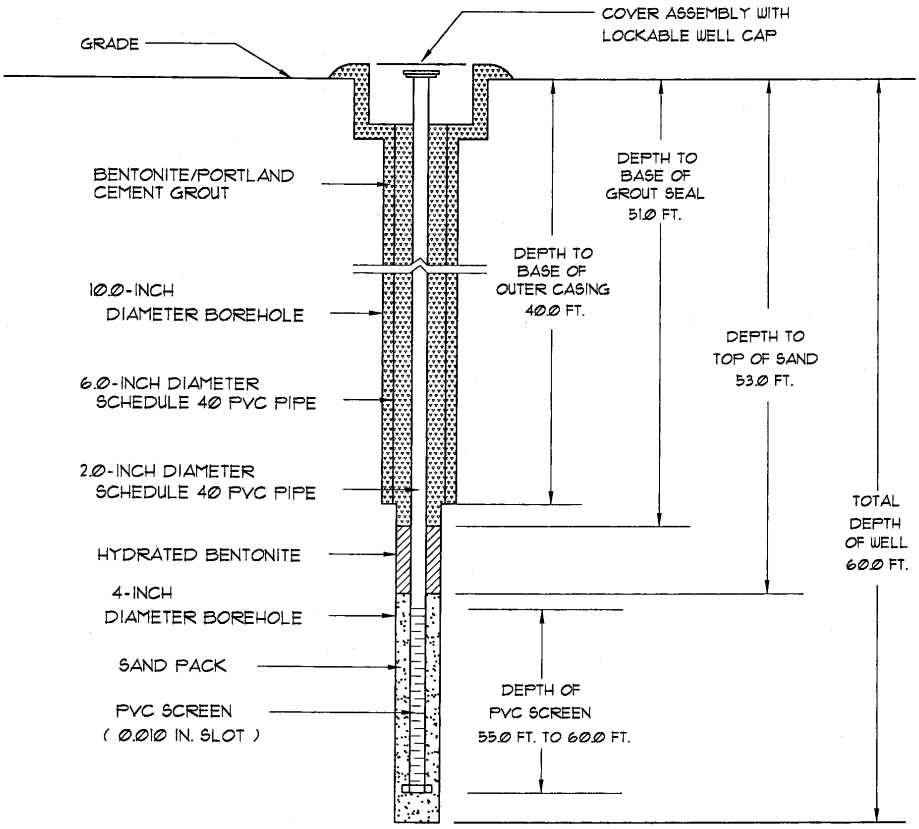
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836



Well Number:	DW-3
Date Drilled:	6/17/10
Drilled By:	Geologic Exploration, Inc.
Driller: M. Gettys	S.C. I.D. #: A 01086
Logged By:	J. Coleman

Prepared By:
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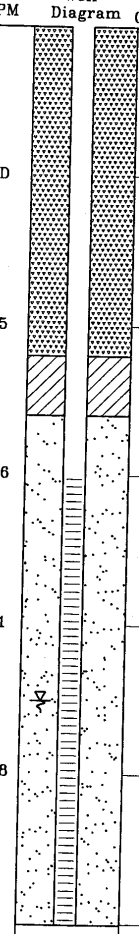
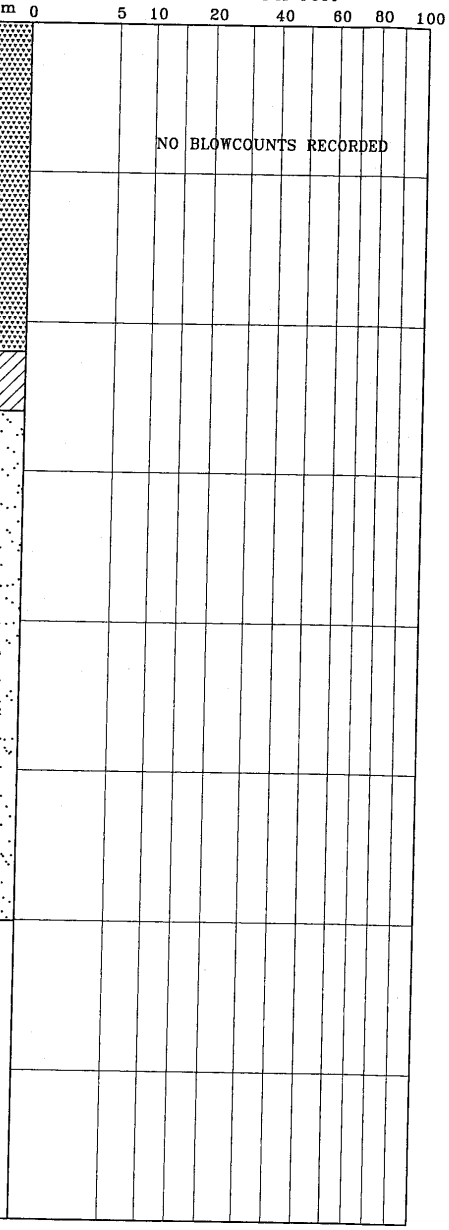
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM
	Asphalt with Stone Base	
	COASTAL PLAIN SEDIMENT: Brown, Silty Fine to Medium SAND	
5		ND
10		2.5
15	Tan, Silty Medium to Coarse SAND	34.6
20		20.1
25	White, Silty Medium to Coarse SAND	312.8
30	Boring Terminated at 30.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 30.0 Feet BGS. Groundwater Measured at 22.65 Feet Below Top of Casing on 06/28/10.	74.3
35		

Well Diagram



Penetration Blows Per Foot



TEST BORING RECORD
Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

Boring Number:	RW-1
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

Prepared By:
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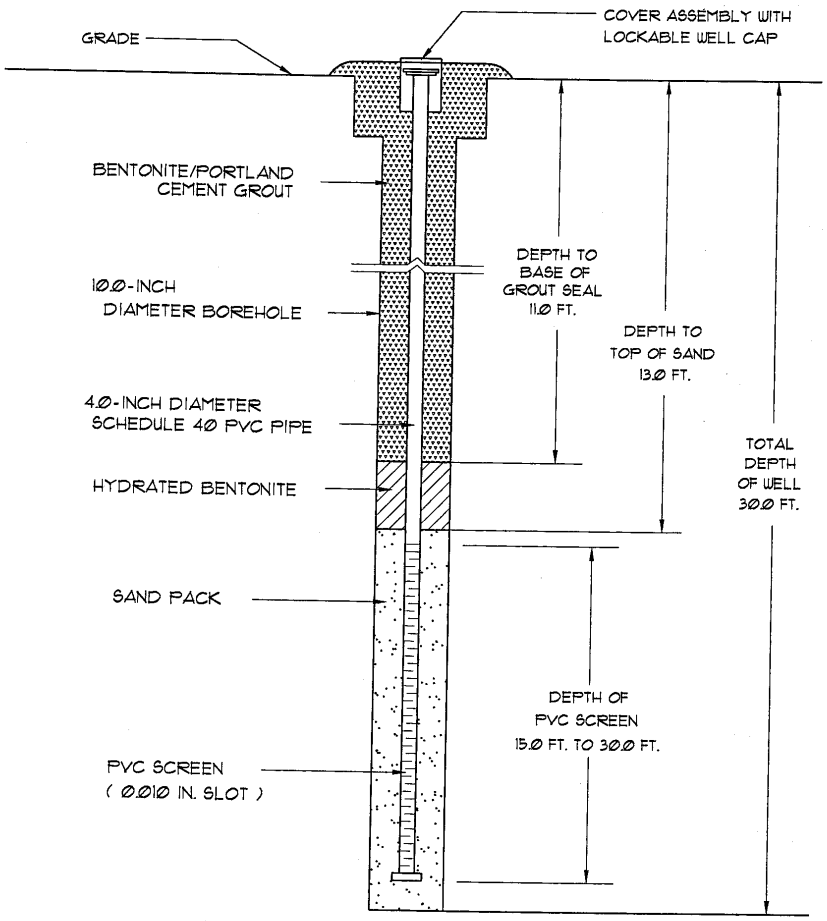
MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836



Well Number:	RW-1
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: A 01086
Logged By:	J. Coleman

Prepared By:
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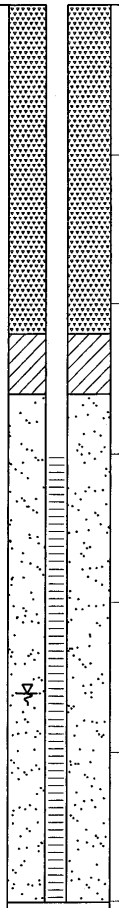
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM
	Grass with Topsoil	
	COASTAL PLAIN SEDIMENT: Brown, Fine to Medium Sandy SILT	
5	Brown and Orange, Silty Fine to Medium SAND	90.1
10	Brown and Orange, Silty Medium to Coarse SAND with Rocks	107.2
15	Brown, Silty Medium to Coarse SAND	110.7
20	White and Tan, Clayey Medium to Coarse SAND	206.5
25	White and Tan, Silty Medium to Coarse SAND with Rocks	795.7
30	Boring Terminated at 30.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 30.0 Feet BGS. Groundwater Measured at 23.04 Feet Below Top of Casing on 06/28/10.	64.1
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

Boring Number:	RW-2
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

Prepared By:
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Lexington, South Carolina 29073
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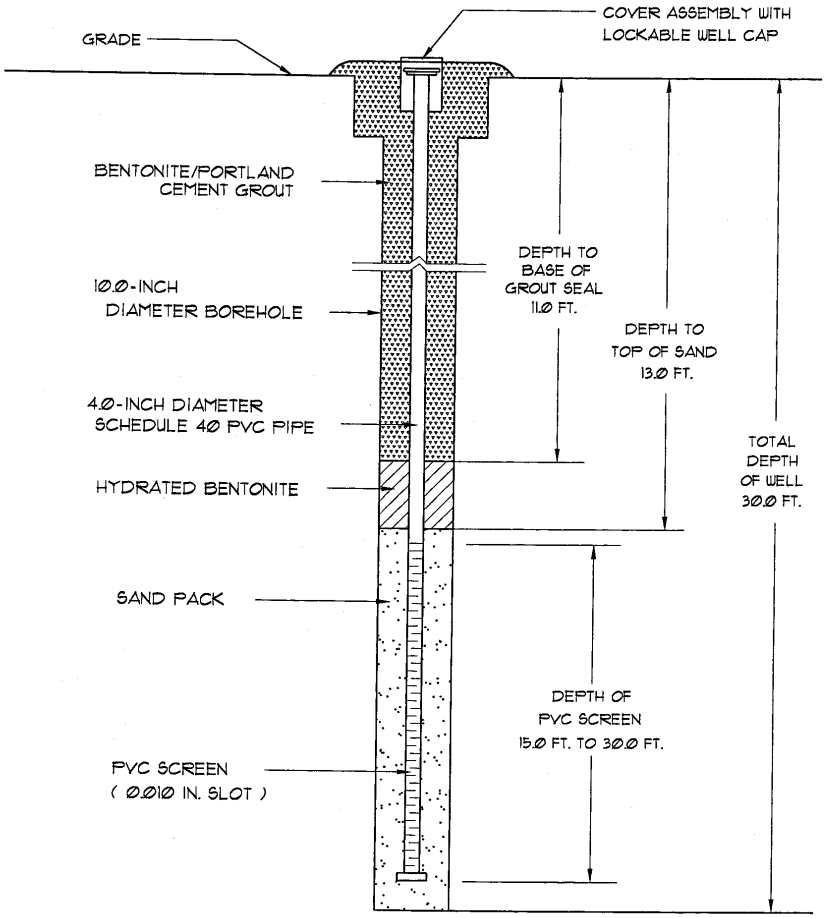
MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

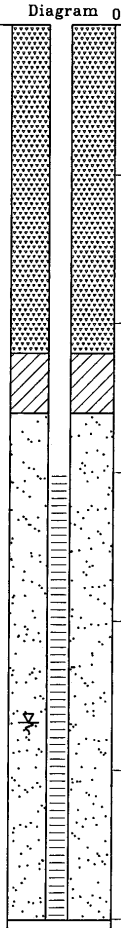


Well Number:	RW-2
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: A 01086
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM
	Grass with Topsoil	
	COASTAL PLAIN SEDIMENT: Orange and Brown, Fine to Medium Sandy SILT	
5		3.5
10		8.4
	Brown and Tan, Silty Medium to Coarse SAND	
15		10.9
	Tan, Silty Medium to Coarse SAND	
20		8.2
	White, Clayey Medium to Coarse SAND	
25		38.7
30		44.5
	Boring Terminated at 30.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 30.0 Feet BGS. Groundwater Measured at 23.35 Feet Below Top of Casing on 06/28/10.	
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

Boring Number:	RW-3
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
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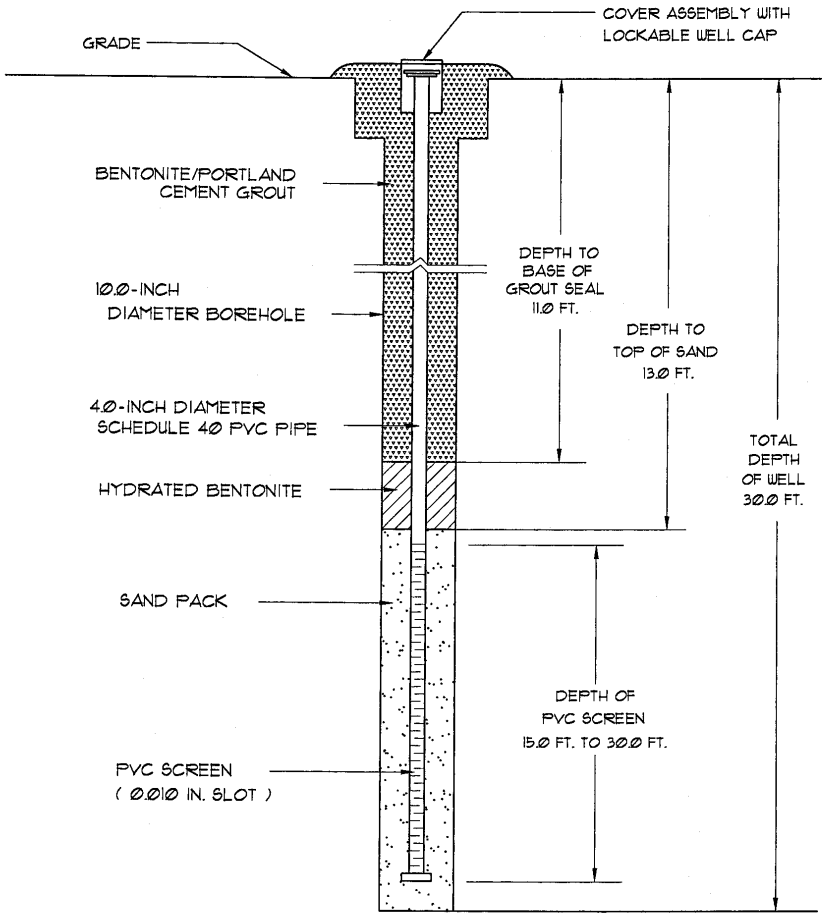
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

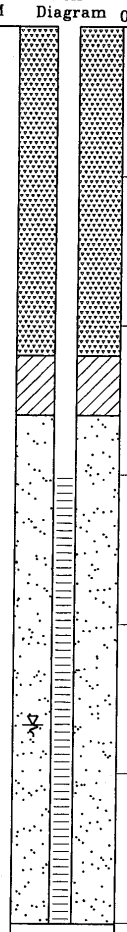


Well Number:	RW-3
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: A 01086
Logged By:	J. Coleman

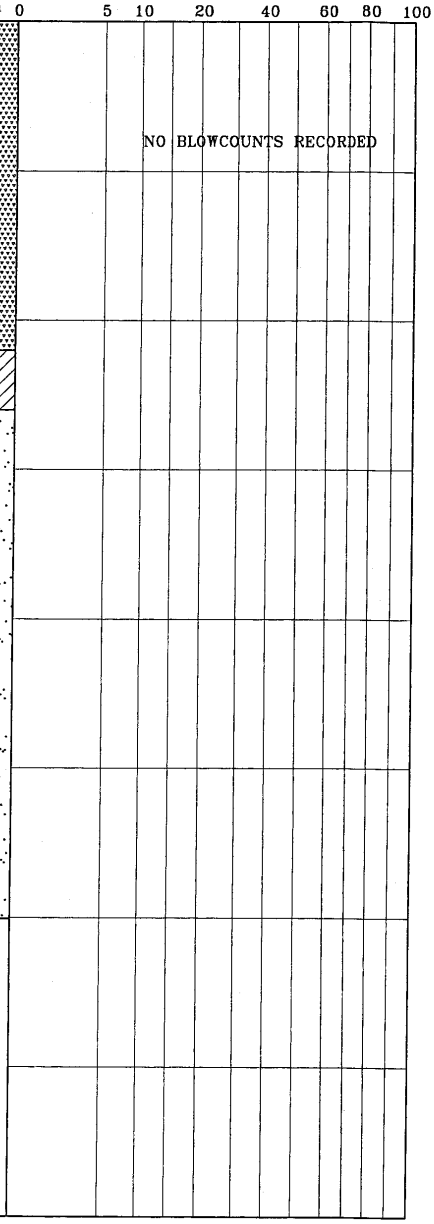
Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM
	Grass with Topsoil	
	COASTAL PLAIN SEDIMENT: Orange, Silty Fime to Medium Sandy CLAY	
5		ND
10		ND
	Brown and Tan, Silty Fine to Medium SAND	
15		2.5
	Tan, Clayey Medium to Coarse SAND	
20		2.4
	White and Grey, Clayey Medium to Coarse SAND	
25		3.7
	White, Silty Clayey Medium to Coarse SAND	
30		4.7
	Boring Terminated at 30.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 30.0 Feet BGS. Groundwater Measured at 23.35 Feet Below Top of Casing on 06/28/10.	
35		

Well Diagram



Penetration Blows Per Foot



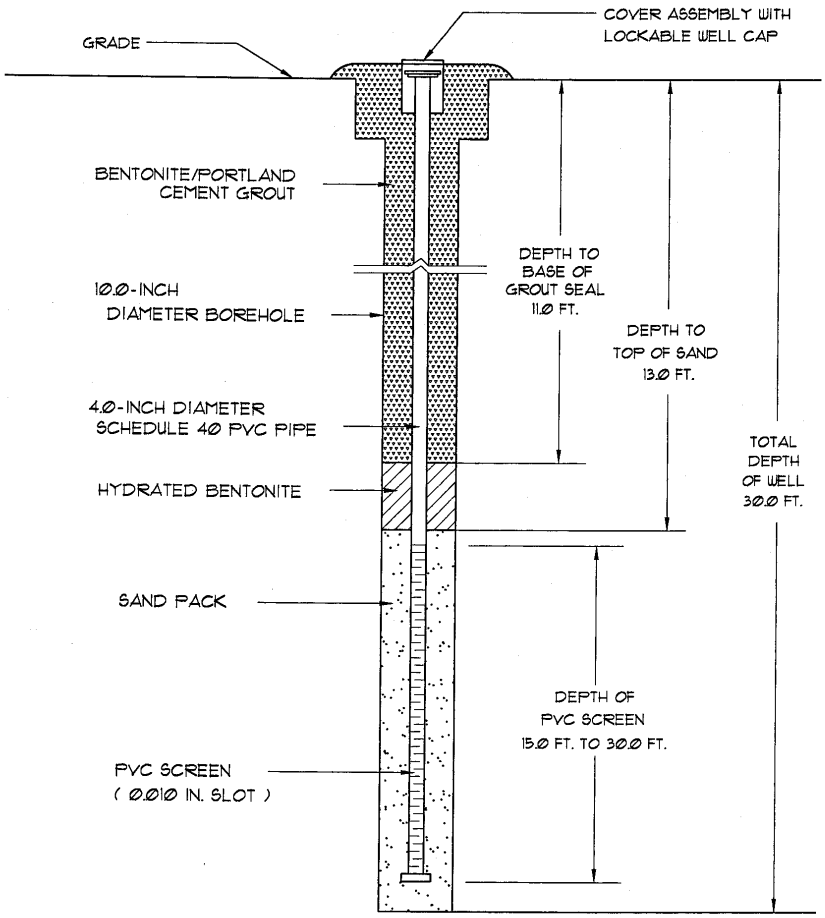
TEST BORING RECORD
Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836

Boring Number:	RW-4
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-2836



Well Number:	RW-4
Date Drilled:	6/15/10
Drilled By:	Geologic Exploration Inc.
Driller: M. Gettys	S.C. I.D. #: A 01086
Logged By:	J. Coleman

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: CITY OF NORTH AUGUSTA (last) (first)
Address: 100 GEORGIA AVENUE
City: N AUGUSTA State: SC Zip: 29841
Telephone: Work: Home:

2. LOCATION OF WELL: SC COUNTY: AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: N AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SAND	5.0	5.0
TAN SAND	5.0	10.0
LIGHT GRAY SAND	10.0	20.0
WHITE SILTY SAND	10.0	30.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-7R BENTONITE SEAL FROM 6.0 TO 8.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Irrigation ☐ Test Well ☐ Public Supply ☐ Air Conditioning ☑ Monitor Well ☐ Process ☐ Emergency ☐ Replacement

9. WELL DEPTH (completed) Date Started: 06/14/10
30.0 ft. Date Completed: 06/14/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 10.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 20.0 FEET
Set Between: 10.0 ft. and 30.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 8.0 ft. to 30.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 6.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: MARK GETTYS CERT. NO.: 01086
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☑ B ☐ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 06/21/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: CITY OF NORTH AUGUSTA (last) (first)
Address: 100 GEORGIA AVENUE
City: N AUGUSTA State: SC Zip: 29841
Telephone: Work: Home:

2. LOCATION OF WELL: SC COUNTY: AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: N AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SAND	5.0	5.0
TAN SAND	5.0	10.0
LIGHT GRAY SAND	10.0	20.0
WHITE SILTY SAND	15.0	35.0
LIGHT BROWN CLAY	10.0	45.0
PURPLE ROCKY QUARTZ CLAY	15.0	60.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
DW-3 BENTONITE SEAL FROM 51.0 TO 53.0 FT. 6 INCH PVC CASING GROUTED FROM 0.0 TO 40.0 FT

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 06/14/10
60.0 ft. Date Completed: 06/17/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH, 6 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 55.0 ft. depth
6.0 in. to 40.0 ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 5.0 FEET
Set Between: 55.0 ft. and 60.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 53.0 ft. to 60.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 51.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: MARK GETTYS CERT. NO.: 01086
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☑ B ☐ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 06/21/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003)

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: MICKIE JR, GEORGE (last) (first)
Address: PO BOX 6680
City: AIKEN State: SC Zip: 29804
Telephone: Work: Home:

2. LOCATION OF WELL: SC COUNTY: AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: N AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE ROCKY SAND	5.0	5.0
TAN/ORANGE SAND	10.0	15.0
LIGHT TAN SAND	5.0	20.0
WHITE SILTY SAND	10.0	30.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
RW-1 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) 30.0 ft. Date Started: 06/15/10 Date Completed: 06/15/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
4.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 4 INCH
Slot/Gauge: .010 Length: 15.0 FEET
Set Between: 15.0 ft. and 30.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 30.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: MARK GETTYS CERT. NO.: 01086
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A B C D (circle one) ☑ ☐ ☐ ☐
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: [signature] Date: 06/21/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: MICKIE JR, GEORGE (last) (first)
Address: PO BOX 6680
City: AIKEN State: SC Zip: 29804
Telephone: Work: Home:

2. LOCATION OF WELL: SC COUNTY: AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: N AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: PUBLIC SYSTEM NUMBER:

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE ROCKY SAND	5.0	5.0
BROWN SAND	10.0	15.0
TAN CLAYEY SAND	10.0	25.0
WHITE SILTY SAND	5.0	30.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
RW-2 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 06/15/10
30.0 ft. Date Completed: 06/15/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
4.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 4 INCH
Slot/Gauge: .010 Length: 15.0 FEET
Set Between: 15.0 ft. and 30.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 30.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: MARK GETTYS CERT. NO.: 01086
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A B C D (circle one) ☑ ☐ ☐ ☐
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 06/21/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: MICKIE JR, GEORGE (last) (first)
Address: PO BOX 6680
City: AIKEN State: SC Zip: 29804
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: N AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED SAND	5.0	5.0
TAN SAND	10.0	15.0
ORANGE/TAN CLAYEY SAND	10.0	25.0
WHITE SILTY SAND	5.0	30.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
RW-3 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 06/15/10
30.0 ft. Date Completed: 06/15/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
4.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 4 INCH
Slot/Gauge: .010 Length: 15.0 FEET
Set Between: 15.0 ft. and 30.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 30.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: MARK GETTYS CERT. NO.: 01086
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A B C D (circle one) ☑ ☐ ☐ ☐
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: _____ Date: 06/21/10
Well Driller

If D Level Driller, provide supervising driller's name:

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D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: MICKIE JR, GEORGE (last) (first)
Address: PO BOX 6680
City: AIKEN State: SC Zip: 29804
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: N AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED SAND	10.0	10.0
TAN SAND	10.0	20.0
BROWN/WHITE SILTY SAND	10.0	30.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
RW-4 BENTONITE SEAL FROM 11.0 TO 13.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER:

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 06/15/10
30.0 ft. Date Completed: 06/15/10

10. CASING: ☑ Threaded ☐ Welded
Diam.: 4 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
4.0 in. to 15.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 4 INCH
Slot/Gauge: .010 Length: 15.0 FEET
Set Between: 15.0 ft. and 30.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 20.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 13.0 ft. to 30.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 11.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: MARK GETTYS **CERT. NO.:** 01086
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☑ B ☐ C ☐ D ☐ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 06/21/10
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

WASTE DISPOSAL MANIFESTS

Midlands
Environmental
Consultants, Inc.

July 1, 2010

Re: Treatment of Purge Water
Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 10-2836

To Whom it May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.
2. No free-product was detected in any of the purge water drums.
3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.
5. Record of usage is maintained by Contractor.
6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.
7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

- All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

One 55-gallon drum was treated on May 26, 2010 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1036520

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 06/15/2010
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

Carrier MIDLANDSENVIRON MIDLANDS ENVIRONMENT
Vehicle# 1
Volume
Container
Driver
Check#
Billing # 0000469
Gen EPA ID

	Time	Scale	ScaleMaster		
In	06/15/2010 07:33:23	Scale1	Dwayne	Gross	15500 lb
Out	06/15/2010 07:50:44	Scale2	Dwayne	Tare	9340 lb
				Net	6160 lb
				Tons	3.08

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Cont. Soil -	100	3.08	Tons				32-LEXINGT
2	FUEL-Fuel Surcharg	100		%				32-LEXINGT
3	EVF-P-Standard Env	100		%				32-LEXINGT

Total Fees
Total Ticket

SIGNATURE

403WM

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE December 7, 2010	Special Waste Phone: 803-744-3346 Fax: 866-904-7194

Prepared by: Karen Truett/Carol Weldon

GENERATOR OF WASTE: Midlands Env. Consultants, Inc. - Various

CUSTOMER Midlands Env. Consultants

ACCOUNT NUMBER: 820-469

LOCATION OF WASTE: Site Address: Four

CITY: COUNTY:

PHONE NUM 803-808-2043

CONTACT: Bryan Shane

FAX NUMBER:

GENERATOR'S SIGNATURE

DATE: 10-15-10

TRANSPORTER OF WASTE: MFCI

DATE: 10-15-10

TRUCK NUMBER: 1

DRIVER'S SIGNATURE

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Soil from UST Assessment

TICKET NUMBER: 1036520

3.08

RECEIVED BY: DLM

WASTE MANAGEMENT

Four Seasons

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1036676

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 06/15/2010
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

Carrier MIDLANDSENVIRON MIDLANDS ENVIRONMENT
Vehicle# 1
Volume
Container
Driver
Check#
Billing # 0000469
Gen EPA ID

	Time	Scale	ScaleMaster		
In	06/15/2010 13:16:37	Scale1	Dwayne	Gross	14280 lb
Out	06/15/2010 13:30:49	Scale2	Dwayne	Tare	9280 lb
				Net	5000 lb
				Tons	2.50

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Cont. Soil -	100	2.50	Tons				32-LEXINGT
2	FUEL-Fuel Surcharg	100		%				32-LEXINGT
3	EVF-P-Standard Env	100		%				32-LEXINGT

Total Fees
Total Ticket

SIGNATURE

403WM

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE December 7, 2010	Special Waste Phone: 803-744-3346 Fax: 866-904-7194
Prepared by:	Karen Truett/Carol Weldon

GENERATOR OF WASTE: Midlands Env. Consultants, Inc. - Various

CUSTOMER Midlands Env. Consultants

ACCOUNT NUMBER: 820-469

LOCATION OF WASTE: Site Address:

CITY: COUNTY:

PHONE NUM 803-808-2043

CONTACT: Bryan Shane

FAX NUMBER:

GENERATOR'S SIGNATURE DATE: 6-15-10

TRANSPORTER OF WASTE: MEDI

DATE: 6-15-10

TRUCK NUMBER: 1

DRIVER'S SIGNATURE

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Soil from UST Assessment

TICKET NUMBER: 1036676 2.50

RECEIVED BY: JLM

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1036958

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 06/16/2010
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

Carrier MIDLANDSENVIRON MIDLANDS ENVIRONMENT
Vehicle# 1
Container
Driver
Check#
Billing # 0000469
Gen EPA ID

Volume

	Time	Scale	ScaleMaster
In	06/16/2010 14:18:58	Scale1	joyce
Out	06/16/2010 14:35:42	Scale2	joyce

Gross	14720 lb
Tare	10140 lb
Net	4580 lb
Tons	2.29

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Cont. Soil -	100	2.29	Tons				40-RICHLAN
2	FUEL-Fuel Surcharg	100		%				40-RICHLAN
3	EVF-P-Standard Env	100		%				40-RICHLAN

4-Seasons

Total Fees
Total Ticket

SIGNATURE

403WM

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE December 7, 2010	Special Waste Phone: 803-744-3346 Fax: 866-904-7194

Prepared by: Karen Truett/Carol Weldon

GENERATOR OF WASTE: Midlands Env. Consultants, Inc. - Various

CUSTOMER Midlands Env. Consultants

ACCOUNT NUMBER: 820-469

LOCATION OF WASTE: Site Address:

CITY: COUNTY: Richland

PHONE NUM 803-808-2043

CONTACT: Bryan Shane

FAX NUMBER:

GENERATOR'S SIGNATURE

DATE:

TRANSPORTER OF WASTE: Brandon Kelly

DATE: 6/16/10

TRUCK NUMBER: 1

DRIVER'S SIGNATURE

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Soil from UST Assessment

TICKET NUMBER: 1036958 2-29

RECEIVED BY:

4-Season's Food + Fuel

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

SEP 14 2010

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

UST DOCKET 18tech

Re: **Notice to Proceed-Groundwater Sampling**
Bid # IFB-33335-3/11/08-EMW; PO# 4500011285

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct eleven (11) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 4500011285 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
02233	Danny Melton	Chesterfield	22	S. Fulmer	ASAP	BTEXMN, DCA, & EDB	39925	39924
05388	Former Pantry 558	Kershaw	22	D. Thoma	ASAP	BTEXMN & DCA	39795	39796
00120	Four Seasons Food	Aiken	27	J. Koon	ASAP	BTEXMN, DCA, EDB, & Oxygenates	39447	39448
03463	Gibbs Grocery	Florence	17	M. Rivers	ASAP	BTEXMN, DCA, & Oxygenates	39774	39773
05027	Main Street Shell	Horry	19	J. Martin	10/30/10	BTEXMN & DCA	39496	39495
12030	Curgins Corner	Aiken	19	J. Koon	10/30/10	BTEXMN, DCA, & Oxygenates	39449	39450
13792	Sawyers Grocery	Marion	20	D. Thoma	10/30/10	BTEXMN, DCA, & EDB	39721	39722
09425	B Quick	York	26	D. Thoma	10/30/10	BTEXMN & DCA	38665	38666
12097	Greenwave Amoco	Dorchester	51	J. Padgett	10/30/10	BTEXMN, DCA, & EDB	39494	39493
18662	Bay Creek Villas	Colleton	14	R. Miner	10/30/10	BTEXMN, DCA, & Oxygenates	39537	39538
04581	Donahue Grocery	Spartanburg	35	M. Rivers	10/30/10	BTEXMN, DCA, EDB, & Oxygenates	39991	39990

MECI will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Renee Spencer, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files (w/o. enc.)

Approved Cost Agreement 39447

Facility: 00120 FOUR SEASONS FOOD & FUEL 5
KOONJT
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	27.0000	23.00	621.00
		F EDB	27.0000	25.00	675.00
		P 8 OXYGENATES	27.0000	30.00	810.00
			Total Amount		2,106.00

Approved Cost Agreement 39448

Facility: 00120 FOUR SEASONS FOOD & FUEL 5
KOONJT
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	150.00	150.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	3.0000	12.00	36.00
		D	GROUNDWATER NO-PURGE	24.0000	10.00	240.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	75.0000	0.30	22.50
				Total Amount		448.50

Midlands Environmental Consultants, Inc.

October 1, 2010

Ms. Debra Thoma, Hydrogeologist
Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
OCT 0 5 2010
PROGRAM

Subject: Report of Groundwater Sampling
Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID Number 00120, CA # 39448
MECI Project Number 10-2985
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Sampling for the referenced site.

On September 29, 2010, twenty six monitoring wells were sampled. Five monitoring wells (MW-18, PW-1, and DW-1 through DW-3) were purged prior to sampling. Monitoring well MW-16 was gauged and determined to have insufficient water for sampling due to an obstruction at nine feet. Monitoring well MW-19 was not located. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 59.0 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

#19
UST
DOCKET

for Brian Owen
Field Technician

Brendon P. Kelly
Project Scientist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

JTK

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food & Fuel
County: Aiken
Field Personnel: Brian Owen, Alex Wolfson

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-1	Y	9/29/10	13:50	15-25	***	23.55	***	***	Odor; Sheen
MW-2R	Y	9/29/10	12:40	15-30	***	24.68	***	***	No Odor
MW-3	Y	9/29/10	12:30	17-27	***	20.02	***	***	No Odor
MW-4	Y	9/29/10	12:50	17-27	***	23.52	***	***	No Odor
MW-5	Y	9/29/10	11:55	10-20	***	12.67	***	***	Tagged out at 20 Feet; Well tag states 10-20
MW-6	Y	9/29/10	11:45	9-19	***	12.32	***	***	Odor
MW-7R	Y	9/29/10	12:15	10-30	***	18.02	***	***	Odor
MW-8	Y	9/29/10	9:45	5-15	***	7.81	***	***	No Odor
MW-9	Y	9/29/10	10:35	10-20	***	15.00	***	***	No Odor
MW-10	Y	9/29/10	14:15	15-30	***	23.15	***	***	No Odor
MW-11	Y	9/29/10	13:40	15-30	***	22.15	***	***	No Odor
MW-12	Y	9/29/10	12:55	15-30	***	20.02	***	***	No Odor
MW-13	Y	9/29/10	13:05	15-30	***	25.80	***	***	No Odor
MW-14	Y	9/29/10	12:10	9-24	***	16.23	***	***	Odor
MW-15	Y	9/29/10	11:35	5-15	***	5.07	***	***	No Odor
								0.0	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food & Fuel
County: Aiken
Field Personnel: Brian Owen, Alex Wolfson

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-16	N	***	***	5-15	***	***	***	***	Obstruction @ 9'. Insufficient water for sampling
MW-17	Y	9/29/10	11:05	5-15	***	2.99	***	***	Bent PVC. Could not purge. Used 1" bailer.
MW-18	Y	9/29/10	11:10	5-15	***	2.20	***	5.0	No Odor
MW-19	N	***	***	5-15	***	***	***	***	Not Located; Measured from MW-8
MW-20	Y	9/29/10	10:00	5-15	***	8.21	***	***	No Odor
PW-1	Y	9/29/10	14:00	41-46	***	24.29	***	7.0	No Odor
DW-1	Y	9/29/10	14:20	55-60	***	28.39	***	15.0	No Odor
DW-2	Y	9/29/10	10:15	55-60	***	9.82	***	18.0	No Odor
DW-3	Y	9/29/10	12:10	55-60	***	18.14	***	14.0	No Odor
RW-1	Y	9/29/10	14:10	15-30	***	22.89	***	***	No Odor
RW-2	Y	9/29/10	13:50	15-30	***	23.29	***	***	Odor
RW-3	Y	9/29/10	13:45	15-30	***	23.54	***	***	Odor
RW-4	Y	9/29/10	13:35	15-30	***	23.51	***	***	Odor
								59.0	**TOTAL GALLONS PURGED**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 9/29/2010

Field Personnel: Brian Owen and Alex Wolfson

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	9.29			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			50.71	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	8.27	gallons
3 casing volume (3 X CV)=		3	24.80	gallons

Total Volume of Water Purged Before Sampling 15 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:10	14:20						
pH (s.u.)	6.56	6.48						
Specific Conductivity (µmhos/cm)	126.0	120.0						
Water Temperature (°C)	22.0	21.0						
Dissolved Oxygen	1.10	1.01						
PID readings, if required								

Remarks: Sample Time: 14:20 Dry at 15 Gallons
Parameters within 10%

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 9/29/2010

Field Personnel: Brian Owen and Alex Wolfson

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	9.82			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			50.18	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	8.18	gallons
3 casing volume (3 X CV)=		3	24.54	gallons

Total Volume of Water Purged Before Sampling 18 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:05	10:10	10:15					
pH (s.u.)	6.96	6.92	6.80					
Specific Conductivity (µmhos/cm)	90.0	92.0	85.0					
Water Temperature (°C)	21.6	20.7	19.7					
Dissolved Oxygen	1.96	1.45	1.31					
PID readings, if required								

Remarks: Sample Time: 10:15 Dry at 18 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 9/29/2010

Field Personnel: Brian Owen and Alex Wolfson

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	18.14			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			41.86	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.82	gallons
3 casing volume (3 X CV)=		3	20.47	gallons

Total Volume of Water Purged Before Sampling 14 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:55	12:03	12:10					
pH (s.u.)	12.23	12.29	12.34					
Specific Conductivity (µmhos/cm)	2,291	2,289	2,274					
Water Temperature (°C)	22.3	21.1	20.9					
Dissolved Oxygen	1.78	1.70	1.60					
PID readings, if required								

Remarks: Sample Time: 12:10 Dry at 14 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 9/29/2010

Field Personnel: Brian Owen and Alex Wolfson

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.29			feet
Total Well Depth (TWD)	46			feet
Length of the water column (LWC=TWD-DGW)			21.71	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.54	gallons
3 casing volume (3 X CV)=		3	10.62	gallons

Total Volume of Water Purged Before Sampling 7 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:50	13:55	14:00					
pH (s.u.)	6.66	6.31	5.83					
Specific Conductivity (µmhos/cm)	61.0	49.0	61.0					
Water Temperature (°C)	21.5	21.5	22.7					
Dissolved Oxygen	5.18	4.88	4.34					
PID readings, if required								

Remarks: Sample Time: 14:00 Dry at 7 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 9/29/2010

Field Personnel: Brian Owen and Alex Wolfson

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** MW-18

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

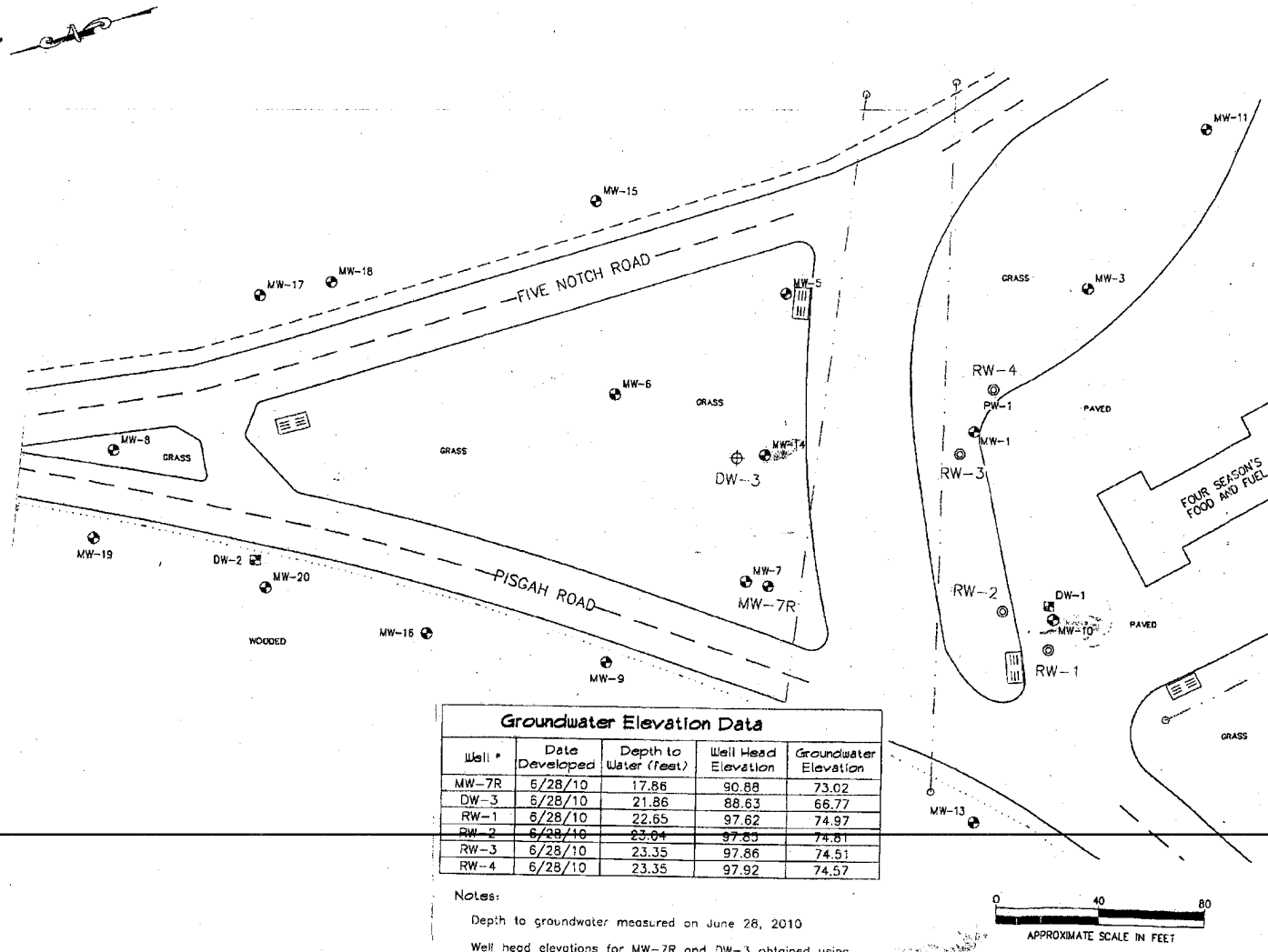
* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	2.20		feet
Total Well Depth (TWD)	15		feet
Length of the water column (LWC=TWD-DGW)		12.8	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	2.09	gallons
3 casing volume (3 X CV)=	3	6.26	gallons

Total Volume of Water Purged Before Sampling 5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:00	11:05	11:10					
pH (s.u.)	5.42	5.39	5.26					
Specific Conductivity (µmhos/cm)	53.0	44.0	46.0					
Water Temperature (°C)	21.6	21.1	20.6					
Dissolved Oxygen	1.54	1.95	2.03					
PID readings, if required								

Remarks: Sample Time: 11:10 Dry at 5 Gallons



Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of Double Cased Monitoring Well
- Location of 4-Inch Recovery Well
- Storm Sewer Drop Inlet
- MW-1 MONITORING WELL
- DW-1 TELESCOPING WELL DEEP WELL

Groundwater Elevation Data

Well *	Date Developed	Depth to Water (feet)	Well Head Elevation	Groundwater Elevation
MW-7R	6/28/10	17.86	90.88	73.02
DW-3	6/28/10	21.86	88.63	66.77
RW-1	6/28/10	22.65	97.62	74.97
RW-2	6/28/10	23.04	97.83	74.81
RW-3	6/28/10	23.35	97.86	74.51
RW-4	6/28/10	23.35	97.92	74.57

Notes:

Depth to groundwater measured on June 28, 2010

Well head elevations for MW-7R and DW-3 obtained using an elevation of 85.55 feet from MW-5 as a benchmark

Well head elevations for RW-1 through RW-4 obtained using an elevation of 97.87 feet from MW-10 as a benchmark

Drawing Based on SCDHEC Files and MECI Field Notes.
All Locations Are Approximate.

Site Features

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID # 00120

Midlands Environmental Consultants, Inc.

JOB NO. 10-2836
DATE June 30, 2010
Figure 2

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 3

1435854

Section A Required Client Information:

Company: SCDHEC - UST
Address: 2100 Bull St. Columbia, SC 29201
Email To:
Phone: 803-896-4210 Fax: 803-896-4076
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Four Seasons Food & Fuel
Project Number: 00120/39447

Section C Invoice Information:

Attention: D. Thoma (Finance)
Company Name: SCDHEC - UST
Address:
Pace Quote Reference:
Pace Project Manager: Renee Spencer
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX, Naph., MTBE	1,2 DCA, 8-OXY (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			9-29	1250		6				6					X	X	X		ODOR / Sheen
2	MW-2R						1240															No ODOR
3	MW-3						1230															
4	MW-4						1250															X
5	MW-5						1155															X
6	MW-6						1145															ODOR
7	MW-7R						1215															ODOR
8	MW-8						945															No ODOR
9	MW-9						1035															
10	MW-10						1415															
11	MW-11						1340															
12	MW-12	X	X			X	1255		X				X					X	X	X		X

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report "J" Values	Brian Owen	9-29	1545							

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: Brian Owen

DATE Signed (MM/DD/YY): 9-29-10

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

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

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Page: 2 of 2

1435853

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St.
Columbia, SC 29201
Email To:
Phone: 803-896-4240 Fax: 803-896-4245
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To: SCDHEC-UST
Purchase Order No.: 719459
Project Name: Four Seasons Food & Fuel
Project Number: 00120/39447

Section C Invoice Information:

Attention: Finance (D. Thoma)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: Renee Spencer
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	COLLECTED Composite Start TIME	COLLECTED Composite End/Grab DATE	COLLECTED Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX, NaOH, MTBE	1,2 DCA, 8-OXY (8260B)		EDB (8011)								Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-13	WT	G			9-29	1305		6				6					X	X		X									No ODOR
2	MW-14						1210																							
3	MW-15	X	X			X	1135		X				X					X	X		X									X
4	MW-16	—	—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		OBSTRUCTION @ 9'
5	MW-17	WT	G			9-29	1105		6				6					X	X		X									No ODOR
6	MW-18	WT	G			9-29	1110		6				6					X	X		X									No ODOR
7	MW-19	—	—	—	—	—	—		—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—		NOT LOCATED
8	MW-20	WT	G			9-29	1000		6				6					X	X		X									No ODOR
9	PW-1						1400																							
10	DW-1						1420																							
11	DW-2						1015																							
12	DW-3	X	X			X	1210		X				X					X	X		X									X

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report "J" Values	[signature]	9-29	1545				

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-29-10

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

2

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

1435852

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC - UST	Report To: D. Thoma	Attention: D. Thoma (Finance)
Address: 2600 Bull St. Columbia, SC 29201	Copy To:	Company Name: SCDHEC - UST
		Address:
Email To:	Purchase Order No.: 719459	Pace Quote Reference:
Phone: 803-896-6200 Fax: 803-896-6205	Project Name: Four Seasons Food & Fuel	Pace Project Manager: Renee Spencer
Requested Due Date/TAT:	Project Number: 00120/39447	Pace Profile #:

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, Naph, Mthe	1,2 DCA, 8-Ox-1 (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	RW-1	WT	G			9-29	1410		6				6						X	X	X		No ODOR
2	RW-2						1350																ODOR
3	RW-3						1345																
4	RW-4	X	X			X	1335		X				X						X	X	X		X
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report "J" Values	[signature]	9-29	1545				

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-29-10

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

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

F-ALL-Q-020rev.07, 15-May-2007

Midlands
Environmental
Consultants, Inc.

October 1, 2010

Re: Treatment of Purge Water
Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 10-2985

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.
2. No free-product was detected in any of the purge water drums.
3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.
5. Record of usage is maintained by Contractor.
6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.
7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Four Seasons Food & Fuel
North Augusta, SC

October 1, 2010

A total of 59.0 gallons were treated on September 29, 2010 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Brian Owen
Field Technician

Pace Analytical
www.pacelabs.com

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2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

October 08, 2010

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

UST
OCT 13 2010
PROGRAM

RE: Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on September 30, 2010. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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(828)254-7176

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031

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Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9278812001	MW-1	Water	09/29/10 13:50	09/30/10 15:00
9278812002	MW-2R	Water	09/29/10 12:40	09/30/10 15:00
9278812003	MW-3	Water	09/29/10 12:30	09/30/10 15:00
9278812004	MW-4	Water	09/29/10 12:50	09/30/10 15:00
9278812005	MW-5	Water	09/29/10 11:55	09/30/10 15:00
9278812006	MW-6	Water	09/29/10 11:45	09/30/10 15:00
9278812007	MW-7R	Water	09/29/10 12:15	09/30/10 15:00
9278812008	MW-8	Water	09/29/10 09:45	09/30/10 15:00
9278812009	MW-9	Water	09/29/10 10:35	09/30/10 15:00
9278812010	MW-10	Water	09/29/10 14:15	09/30/10 15:00
9278812011	MW-11	Water	09/29/10 13:40	09/30/10 15:00
9278812012	MW-12	Water	09/29/10 12:55	09/30/10 15:00
9278812013	MW-13	Water	09/29/10 13:05	09/30/10 15:00
9278812014	MW-14	Water	09/29/10 12:10	09/30/10 15:00
9278812015	MW-15	Water	09/29/10 11:35	09/30/10 15:00
9278812016	MW-17	Water	09/29/10 11:05	09/30/10 15:00
9278812017	MW-18	Water	09/29/10 11:10	09/30/10 15:00
9278812018	MW-20	Water	09/29/10 10:00	09/30/10 15:00
9278812019	PW-1	Water	09/29/10 14:00	09/30/10 15:00
9278812020	DW-1	Water	09/29/10 14:20	09/30/10 15:00
9278812021	DW-2	Water	09/29/10 10:15	09/30/10 15:00
9278812022	DW-3	Water	09/29/10 12:10	09/30/10 15:00
9278812023	RW-1	Water	09/29/10 14:10	09/30/10 15:00
9278812024	RW-2	Water	09/29/10 13:50	09/30/10 15:00
9278812025	RW-3	Water	09/29/10 13:45	09/30/10 15:00
9278812026	RW-4	Water	09/29/10 13:35	09/30/10 15:00

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9278812001	MW-1	EPA 8011	CAH	2
		EPA 8260	KJM	21
9278812002	MW-2R	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812003	MW-3	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812004	MW-4	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812005	MW-5	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812006	MW-6	EPA 8011	CAH	2
		EPA 8260	KJM, MCK	21
9278812007	MW-7R	EPA 8011	CAH	2
		EPA 8260	KJM, MCK	21
9278812008	MW-8	EPA 8011	CAH	2
		EPA 8260	KJM	21
9278812009	MW-9	EPA 8011	CAH	2
		EPA 8260	KJM	21
9278812010	MW-10	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812011	MW-11	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812012	MW-12	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812013	MW-13	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812014	MW-14	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812015	MW-15	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812016	MW-17	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812017	MW-18	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812018	MW-20	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812019	PW-1	EPA 8011	CAH	2

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Huntersville, NC 28078
(704)875-9092

SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260	MCK	21
9278812020	DW-1	EPA 8011	CAH	2
		EPA 8260	KJM	21
9278812021	DW-2	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812022	DW-3	EPA 8011	CAH	2
		EPA 8260	MCK	21
9278812023	RW-1	EPA 8011	CAH	2
		EPA 8260	KJM, MCK	21
9278812024	RW-2	EPA 8011	CAH	2
		EPA 8260	KJM, MCK	21
9278812025	RW-3	EPA 8011	CAH	2
		EPA 8260	KJM, MCK	21
9278812026	RW-4	EPA 8011	CAH	2
		EPA 8260	KJM	21

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-1 **Lab ID: 9278812001** Collected: 09/29/10 13:50 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.10**	ug/L	0.019	0.019	1	10/05/10 16:15	10/06/10 00:14	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140		1	10/05/10 16:15	10/06/10 00:14	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	20000	12400	200		10/05/10 04:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	900	200		10/05/10 04:11	994-05-8	
Benzene	**1150**	ug/L	1000	240	200		10/05/10 04:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	9600	200		10/05/10 04:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	5400	200		10/05/10 04:11	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	1800	200		10/05/10 04:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	260	200		10/05/10 04:11	107-06-2	
Diisopropyl ether	ND	ug/L	1000	540	200		10/05/10 04:11	108-20-3	
Ethanol	ND	ug/L	40000	34000	200		10/05/10 04:11	64-17-5	
Ethylbenzene	**1220**	ug/L	1000	220	200		10/05/10 04:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	920	200		10/05/10 04:11	637-92-3	
Methyl-tert-butyl ether	**1020**	ug/L	1000	400	200		10/05/10 04:11	1634-04-4	
Naphthalene	**595J**	ug/L	1000	580	200		10/05/10 04:11	91-20-3	
Toluene	**33400**	ug/L	1000	360	200		10/05/10 04:11	108-88-3	
Xylene (Total)	**7180**	ug/L	2000	540	200		10/05/10 04:11	1330-20-7	
m&p-Xylene	**4950**	ug/L	2000	540	200		10/05/10 04:11	179601-23-1	
o-Xylene	**2230**	ug/L	1000	340	200		10/05/10 04:11	95-47-6	
Dibromofluoromethane (S)	102	%	70-130		200		10/05/10 04:11	1868-53-7	
Toluene-d8 (S)	100	%	70-130		200		10/05/10 04:11	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		200		10/05/10 04:11	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		200		10/05/10 04:11	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-2R **Lab ID: 9278812002** Collected: 09/29/10 12:40 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/05/10 16:15	10/06/10 00:34	106-93-4	
1-Chloro-2-bromopropane (S)	88	%	60-140		1	10/05/10 16:15	10/06/10 00:34	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/03/10 03:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/03/10 03:15	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/03/10 03:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/03/10 03:15	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/03/10 03:15	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/03/10 03:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/03/10 03:15	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/03/10 03:15	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/03/10 03:15	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/10 03:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/03/10 03:15	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/10 03:15	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/10 03:15	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/10 03:15	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/10 03:15	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/10 03:15	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/10 03:15	95-47-6	
Dibromofluoromethane (S)	108	%	70-130		1		10/03/10 03:15	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		10/03/10 03:15	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		1		10/03/10 03:15	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		10/03/10 03:15	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-3 **Lab ID: 9278812003** Collected: 09/29/10 12:30 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/05/10 16:15	10/06/10 00:54	106-93-4	
1-Chloro-2-bromopropane (S)	121	%	60-140		1	10/05/10 16:15	10/06/10 00:54	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/03/10 03:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/03/10 03:33	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/03/10 03:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/03/10 03:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/03/10 03:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/03/10 03:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/03/10 03:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/03/10 03:33	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/03/10 03:33	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/10 03:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/03/10 03:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/10 03:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/10 03:33	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/10 03:33	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/10 03:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/10 03:33	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/10 03:33	95-47-6	
Dibromofluoromethane (S)	108	%	70-130		1		10/03/10 03:33	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		10/03/10 03:33	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		10/03/10 03:33	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		10/03/10 03:33	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-5 **Lab ID: 9278812005** Collected: 09/29/10 11:55 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:42	10/06/10 03:36	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140		1	10/05/10 16:42	10/06/10 03:36	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/03/10 04:10	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/03/10 04:10	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/03/10 04:10	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/03/10 04:10	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/03/10 04:10	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/03/10 04:10	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/03/10 04:10	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/03/10 04:10	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/03/10 04:10	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/10 04:10	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/03/10 04:10	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/10 04:10	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/10 04:10	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/10 04:10	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/10 04:10	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/10 04:10	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/10 04:10	95-47-6	
Dibromofluoromethane (S)	109	%	70-130		1		10/03/10 04:10	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		10/03/10 04:10	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		10/03/10 04:10	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		10/03/10 04:10	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-4 **Lab ID: 9278812004** Collected: 09/29/10 12:50 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/05/10 16:42	10/06/10 02:36	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	10/05/10 16:42	10/06/10 02:36	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/03/10 03:52	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/03/10 03:52	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/03/10 03:52	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/03/10 03:52	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/03/10 03:52	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/03/10 03:52	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/03/10 03:52	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/03/10 03:52	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/03/10 03:52	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/10 03:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/03/10 03:52	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/10 03:52	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/10 03:52	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/10 03:52	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/10 03:52	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/10 03:52	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/10 03:52	95-47-6	
Dibromofluoromethane (S)	110	%	70-130		1		10/03/10 03:52	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		10/03/10 03:52	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		10/03/10 03:52	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		10/03/10 03:52	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-6 **Lab ID: 9278812006** Collected: 09/29/10 11:45 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:43	10/06/10 03:57	106-93-4	
1-Chloro-2-bromopropane (S)	105	%	60-140		1	10/05/10 16:43	10/06/10 03:57	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**6200**	ug/L	2000	1240	20		10/03/10 04:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	90.0	20		10/03/10 04:28	994-05-8	
Benzene	**315**	ug/L	100	24.0	20		10/03/10 04:28	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	960	20		10/03/10 04:28	624-95-3	
tert-Butyl Alcohol	**6480**	ug/L	2000	540	20		10/03/10 04:28	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	180	20		10/03/10 04:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	26.0	20		10/03/10 04:28	107-06-2	
Diisopropyl ether	ND	ug/L	100	54.0	20		10/03/10 04:28	108-20-3	
Ethanol	ND	ug/L	4000	3400	20		10/03/10 04:28	64-17-5	
Ethylbenzene	**689**	ug/L	100	22.0	20		10/03/10 04:28	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	92.0	20		10/03/10 04:28	637-92-3	
Methyl-tert-butyl ether	**3730**	ug/L	100	40.0	20		10/03/10 04:28	1634-04-4	
Naphthalene	**261**	ug/L	100	58.0	20		10/03/10 04:28	91-20-3	
Toluene	**7750**	ug/L	500	180	100		10/05/10 06:01	108-88-3	
Xylene (Total)	**3700**	ug/L	200	54.0	20		10/03/10 04:28	1330-20-7	
m&p-Xylene	**2550**	ug/L	200	54.0	20		10/03/10 04:28	179601-23-1	
o-Xylene	**1150**	ug/L	100	34.0	20		10/03/10 04:28	95-47-6	
Dibromofluoromethane (S)	107	%	70-130		20		10/03/10 04:28	1868-53-7	
Toluene-d8 (S)	94	%	70-130		20		10/03/10 04:28	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		20		10/03/10 04:28	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		20		10/03/10 04:28	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-7R **Lab ID: 9278812007** Collected: 09/29/10 12:15 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:43	10/06/10 04:37	106-93-4	
1-Chloro-2-bromopropane (S)	118	%	60-140		1	10/05/10 16:43	10/06/10 04:37	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	25000	15500	250		10/05/10 06:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/03/10 04:46	994-05-8	
Benzene	**808**	ug/L	5.0	1.2	1		10/03/10 04:46	71-43-2	E
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/03/10 04:46	624-95-3	
tert-Butyl Alcohol	**826**	ug/L	100	27.0	1		10/03/10 04:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/03/10 04:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/03/10 04:46	107-06-2	
Diisopropyl ether	**12.2**	ug/L	5.0	2.7	1		10/03/10 04:46	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/03/10 04:46	64-17-5	
Ethylbenzene	**658**	ug/L	5.0	1.1	1		10/03/10 04:46	100-41-4	E
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/03/10 04:46	637-92-3	
Methyl-tert-butyl ether	**1440**	ug/L	1250	500	250		10/05/10 06:20	1634-04-4	
Naphthalene	**167**	ug/L	5.0	2.9	1		10/03/10 04:46	91-20-3	
Toluene	**16700**	ug/L	1250	450	250		10/05/10 06:20	108-88-3	
Xylene (Total)	**2700**	ug/L	10.0	2.7	1		10/03/10 04:46	1330-20-7	ES
m&p-Xylene	**1770**	ug/L	10.0	2.7	1		10/03/10 04:46	179601-23-1	E
o-Xylene	**933**	ug/L	5.0	1.7	1		10/03/10 04:46	95-47-6	E
Dibromofluoromethane (S)	102	%	70-130		1		10/03/10 04:46	1868-53-7	
Toluene-d8 (S)	88	%	70-130		1		10/03/10 04:46	2037-26-5	
4-Bromofluorobenzene (S)	109	%	70-130		1		10/03/10 04:46	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		10/03/10 04:46	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-8 **Lab ID: 9278812008** Collected: 09/29/10 09:45 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/05/10 16:43	10/06/10 04:57	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	10/05/10 16:43	10/06/10 04:57	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/05/10 02:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/05/10 02:39	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/05/10 02:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/05/10 02:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/05/10 02:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/05/10 02:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/05/10 02:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/05/10 02:39	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/05/10 02:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/05/10 02:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/05/10 02:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/05/10 02:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/05/10 02:39	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/05/10 02:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/05/10 02:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/05/10 02:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/05/10 02:39	95-47-6	
Dibromofluoromethane (S)	103	%	70-130		1		10/05/10 02:39	1868-53-7	
Toluene-d8 (S)	92	%	70-130		1		10/05/10 02:39	2037-26-5	
4-Bromofluorobenzene (S)	92	%	70-130		1		10/05/10 02:39	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		10/05/10 02:39	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-10 **Lab ID: 9278812010** Collected: 09/29/10 14:15 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**1.1**	ug/L	0.039	0.039	2	10/05/10 16:43	10/07/10 13:55	106-93-4	
1-Chloro-2-bromopropane (S)	123	%	60-140		2	10/05/10 16:43	10/07/10 13:55	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	50000	31000	500		10/03/10 05:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	5000	2250	500		10/03/10 05:41	994-05-8	
Benzene	**5410**	ug/L	2500	600	500		10/03/10 05:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	50000	24000	500		10/03/10 05:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	50000	13500	500		10/03/10 05:41	75-65-0	
tert-Butyl Formate	ND	ug/L	25000	4500	500		10/03/10 05:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	2500	650	500		10/03/10 05:41	107-06-2	
Diisopropyl ether	ND	ug/L	2500	1350	500		10/03/10 05:41	108-20-3	
Ethanol	ND	ug/L	100000	85000	500		10/03/10 05:41	64-17-5	
Ethylbenzene	**865J**	ug/L	2500	550	500		10/03/10 05:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5000	2300	500		10/03/10 05:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	2500	1000	500		10/03/10 05:41	1634-04-4	
Naphthalene	ND	ug/L	2500	1450	500		10/03/10 05:41	91-20-3	
Toluene	**66300**	ug/L	2500	900	500		10/03/10 05:41	108-88-3	
Xylene (Total)	**5350**	ug/L	5000	1350	500		10/03/10 05:41	1330-20-7	
m&p-Xylene	**3700J**	ug/L	5000	1350	500		10/03/10 05:41	179601-23-1	
o-Xylene	**1660J**	ug/L	2500	850	500		10/03/10 05:41	95-47-6	
Dibromofluoromethane (S)	107	%	70-130		500		10/03/10 05:41	1868-53-7	
Toluene-d8 (S)	100	%	70-130		500		10/03/10 05:41	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		500		10/03/10 05:41	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		500		10/03/10 05:41	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-9 **Lab ID: 9278812009** Collected: 09/29/10 10:35 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:43	10/06/10 05:17	106-93-4	
1-Chloro-2-bromopropane (S)	105	%	60-140		1	10/05/10 16:43	10/06/10 05:17	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/05/10 02:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/05/10 02:58	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/05/10 02:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/05/10 02:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/05/10 02:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/05/10 02:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/05/10 02:58	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/05/10 02:58	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/05/10 02:58	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/05/10 02:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/05/10 02:58	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/05/10 02:58	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/05/10 02:58	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/05/10 02:58	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/05/10 02:58	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/05/10 02:58	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/05/10 02:58	95-47-6	
Dibromofluoromethane (S)	104	%	70-130		1		10/05/10 02:58	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		10/05/10 02:58	2037-26-5	
4-Bromofluorobenzene (S)	94	%	70-130		1		10/05/10 02:58	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		10/05/10 02:58	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-11 **Lab ID: 9278812011** Collected: 09/29/10 13:40 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:43	10/06/10 05:58	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140		1	10/05/10 16:43	10/06/10 05:58	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 16:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 16:36	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 16:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 16:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 16:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 16:36	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 16:36	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 16:36	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 16:36	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 16:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 16:36	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 16:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 16:36	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 16:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 16:36	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 16:36	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 16:36	95-47-6	
Dibromofluoromethane (S)	108	%	70-130		1		10/02/10 16:36	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		10/02/10 16:36	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		10/02/10 16:36	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		10/02/10 16:36	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-12 **Lab ID: 9278812012** Collected: 09/29/10 12:55 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/05/10 16:44	10/06/10 06:18	106-93-4	
1-Chloro-2-bromopropane (S)	106	%	60-140		1	10/05/10 16:44	10/06/10 06:18	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 16:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 16:55	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 16:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 16:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 16:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 16:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 16:55	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 16:55	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 16:55	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 16:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 16:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 16:55	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 16:55	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 16:55	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 16:55	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 16:55	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 16:55	95-47-6	
Dibromofluoromethane (S)	104	%	70-130		1		10/02/10 16:55	1868-53-7	
Toluene-d8 (S)	109	%	70-130		1		10/02/10 16:55	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1		10/02/10 16:55	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		10/02/10 16:55	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-13 **Lab ID: 9278812013** Collected: 09/29/10 13:05 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/05/10 16:44	10/06/10 06:38	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	10/05/10 16:44	10/06/10 06:38	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 17:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 17:13	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 17:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 17:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 17:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 17:13	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 17:13	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 17:13	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 17:13	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 17:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 17:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 17:13	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 17:13	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 17:13	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 17:13	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 17:13	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 17:13	95-47-6	
Dibromofluoromethane (S)	112	%	70-130		1		10/02/10 17:13	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		10/02/10 17:13	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		10/02/10 17:13	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		10/02/10 17:13	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-14 **Lab ID: 9278812014** Collected: 09/29/10 12:10 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.25**	ug/L	0.019	0.019	1	10/05/10 16:44	10/06/10 06:58	106-93-4	
1-Chloro-2-bromopropane (S)	112	%	60-140		1	10/05/10 16:44	10/06/10 06:58	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	6200	100		10/02/10 17:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	450	100		10/02/10 17:31	994-05-8	
Benzene	**508**	ug/L	500	120	100		10/02/10 17:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	4800	100		10/02/10 17:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	2700	100		10/02/10 17:31	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	900	100		10/02/10 17:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	130	100		10/02/10 17:31	107-06-2	
Diisopropyl ether	ND	ug/L	500	270	100		10/02/10 17:31	108-20-3	
Ethanol	ND	ug/L	20000	17000	100		10/02/10 17:31	64-17-5	
Ethylbenzene	**617**	ug/L	500	110	100		10/02/10 17:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	460	100		10/02/10 17:31	637-92-3	
Methyl-tert-butyl ether	**2420**	ug/L	500	200	100		10/02/10 17:31	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		10/02/10 17:31	91-20-3	
Toluene	**10700**	ug/L	500	180	100		10/02/10 17:31	108-88-3	
Xylene (Total)	**3530**	ug/L	1000	270	100		10/02/10 17:31	1330-20-7	
m&p-Xylene	**2400**	ug/L	1000	270	100		10/02/10 17:31	179601-23-1	
o-Xylene	**1130**	ug/L	500	170	100		10/02/10 17:31	95-47-6	
Dibromofluoromethane (S)	110	%	70-130		100		10/02/10 17:31	1868-53-7	
Toluene-d8 (S)	99	%	70-130		100		10/02/10 17:31	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		100		10/02/10 17:31	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		100		10/02/10 17:31	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-15 **Lab ID: 9278812015** Collected: 09/29/10 11:35 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:44	10/06/10 07:18	106-93-4	
1-Chloro-2-bromopropane (S)	79	%	60-140		1	10/05/10 16:44	10/06/10 07:18	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 17:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 17:50	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 17:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 17:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 17:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 17:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 17:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 17:50	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 17:50	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 17:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 17:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 17:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 17:50	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 17:50	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 17:50	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 17:50	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 17:50	95-47-6	
Dibromofluoromethane (S)	113	%	70-130		1		10/02/10 17:50	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		10/02/10 17:50	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1		10/02/10 17:50	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		10/02/10 17:50	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-17 **Lab ID: 9278812016** Collected: 09/29/10 11:05 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:44	10/06/10 07:38	106-93-4	
1-Chloro-2-bromopropane (S)	84	%	60-140		1	10/05/10 16:44	10/06/10 07:38	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 18:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 18:08	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 18:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 18:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 18:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 18:08	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 18:08	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 18:08	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 18:08	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 18:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 18:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 18:08	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 18:08	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 18:08	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 18:08	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 18:08	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 18:08	95-47-6	
Dibromofluoromethane (S)	109	%	70-130		1		10/02/10 18:08	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		10/02/10 18:08	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		1		10/02/10 18:08	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		10/02/10 18:08	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-18 **Lab ID: 9278812017** Collected: 09/29/10 11:10 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:44	10/06/10 07:58	106-93-4	
1-Chloro-2-bromopropane (S)	73	%	60-140		1	10/05/10 16:44	10/06/10 07:58	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 18:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 18:26	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 18:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 18:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 18:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 18:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 18:26	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 18:26	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 18:26	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 18:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 18:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 18:26	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 18:26	91-20-3	
Toluene	**20.4**	ug/L	5.0	1.8	1		10/02/10 18:26	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 18:26	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 18:26	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 18:26	95-47-6	
Dibromofluoromethane (S)	111	%	70-130		1		10/02/10 18:26	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		10/02/10 18:26	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		10/02/10 18:26	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		10/02/10 18:26	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: MW-20 **Lab ID: 9278812018** Collected: 09/29/10 10:00 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:45	10/06/10 08:18	106-93-4	
1-Chloro-2-bromopropane (S)	88	%	60-140		1	10/05/10 16:45	10/06/10 08:18	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 18:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 18:44	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 18:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 18:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 18:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 18:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 18:44	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 18:44	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 18:44	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 18:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 18:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 18:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 18:44	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 18:44	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 18:44	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 18:44	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 18:44	95-47-6	
Dibromofluoromethane (S)	109	%	70-130		1		10/02/10 18:44	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		10/02/10 18:44	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		10/02/10 18:44	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		10/02/10 18:44	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: PW-1 **Lab ID: 9278812019** Collected: 09/29/10 14:00 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:45	10/06/10 08:38	106-93-4	
1-Chloro-2-bromopropane (S)	106	%	60-140		1	10/05/10 16:45	10/06/10 08:38	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 19:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 19:03	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 19:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 19:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 19:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 19:03	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 19:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 19:03	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 19:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 19:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 19:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 19:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 19:03	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 19:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 19:03	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 19:03	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 19:03	95-47-6	
Dibromofluoromethane (S)	112	%	70-130		1		10/02/10 19:03	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		10/02/10 19:03	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1		10/02/10 19:03	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	70-130		1		10/02/10 19:03	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: DW-1 **Lab ID: 9278812020** Collected: 09/29/10 14:20 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.034**	ug/L	0.020	0.020	1	10/05/10 16:45	10/06/10 08:59	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	10/05/10 16:45	10/06/10 08:59	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1000	620	10		10/05/10 03:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	45.0	10		10/05/10 03:34	994-05-8	
Benzene	**42.4J**	ug/L	50.0	12.0	10		10/05/10 03:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	480	10		10/05/10 03:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	270	10		10/05/10 03:34	75-65-0	
tert-Butyl Formate	ND	ug/L	500	90.0	10		10/05/10 03:34	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		10/05/10 03:34	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	27.0	10		10/05/10 03:34	108-20-3	
Ethanol	ND	ug/L	2000	1700	10		10/05/10 03:34	64-17-5	
Ethylbenzene	**38.8J**	ug/L	50.0	11.0	10		10/05/10 03:34	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	46.0	10		10/05/10 03:34	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	20.0	10		10/05/10 03:34	1634-04-4	
Naphthalene	**120**	ug/L	50.0	29.0	10		10/05/10 03:34	91-20-3	
Toluene	**1260**	ug/L	50.0	18.0	10		10/05/10 03:34	108-88-3	
Xylene (Total)	**850**	ug/L	100	27.0	10		10/05/10 03:34	1330-20-7	
m&p-Xylene	**323**	ug/L	100	27.0	10		10/05/10 03:34	179601-23-1	
o-Xylene	**527**	ug/L	50.0	17.0	10		10/05/10 03:34	95-47-6	
Dibromofluoromethane (S)	104	%	70-130		10		10/05/10 03:34	1868-53-7	
Toluene-d8 (S)	98	%	70-130		10		10/05/10 03:34	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		10		10/05/10 03:34	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		10		10/05/10 03:34	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: DW-2 **Lab ID: 9278812021** Collected: 09/29/10 10:15 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:45	10/06/10 09:19	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	10/05/10 16:45	10/06/10 09:19	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 19:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 19:39	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 19:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 19:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 19:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 19:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 19:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 19:39	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 19:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 19:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 19:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/02/10 19:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 19:39	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/02/10 19:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 19:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 19:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 19:39	95-47-6	
Dibromofluoromethane (S)	112	%	70-130		1		10/02/10 19:39	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		10/02/10 19:39	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		10/02/10 19:39	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		10/02/10 19:39	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: DW-3 **Lab ID: 9278812022** Collected: 09/29/10 12:10 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/05/10 16:45	10/06/10 09:39	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	10/05/10 16:45	10/06/10 09:39	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		10/02/10 19:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 19:58	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		10/02/10 19:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 19:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 19:58	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 19:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 19:58	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 19:58	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 19:58	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/02/10 19:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 19:58	637-92-3	
Methyl-tert-butyl ether	**2.6J**	ug/L	5.0	2.0	1		10/02/10 19:58	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/02/10 19:58	91-20-3	
Toluene	**3.7J**	ug/L	5.0	1.8	1		10/02/10 19:58	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/02/10 19:58	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/02/10 19:58	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		10/02/10 19:58	95-47-6	
Dibromofluoromethane (S)	113	%	70-130		1		10/02/10 19:58	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		10/02/10 19:58	2037-26-5	
4-Bromofluorobenzene (S)	95	%	70-130		1		10/02/10 19:58	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	70-130		1		10/02/10 19:58	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: RW-1 **Lab ID: 9278812023** Collected: 09/29/10 14:10 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.17**	ug/L	0.020	0.020	1	10/05/10 16:45	10/06/10 10:00	106-93-4	
1-Chloro-2-bromopropane (S)	121	%	60-140		1	10/05/10 16:45	10/06/10 10:00	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**3270**	ug/L	100	62.0	1		10/02/10 20:16	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 20:16	994-05-8	
Benzene	**1730**	ug/L	5.0	1.2	1		10/02/10 20:16	71-43-2	E
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 20:16	624-95-3	
tert-Butyl Alcohol	**57.1J**	ug/L	100	27.0	1		10/02/10 20:16	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 20:16	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 20:16	107-06-2	
Diisopropyl ether	**6.4**	ug/L	5.0	2.7	1		10/02/10 20:16	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 20:16	64-17-5	
Ethylbenzene	**1510**	ug/L	5.0	1.1	1		10/02/10 20:16	100-41-4	E
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 20:16	637-92-3	
Methyl-tert-butyl ether	**193**	ug/L	5.0	2.0	1		10/02/10 20:16	1634-04-4	
Naphthalene	**428**	ug/L	5.0	2.9	1		10/02/10 20:16	91-20-3	E
Toluene	**66400**	ug/L	2500	900	500		10/05/10 04:48	108-88-3	
Xylene (Total)	**9350**	ug/L	5000	1350	500		10/05/10 04:48	1330-20-7	
m&p-Xylene	**6300**	ug/L	5000	1350	500		10/05/10 04:48	179601-23-1	
o-Xylene	**3040**	ug/L	2500	850	500		10/05/10 04:48	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		1		10/02/10 20:16	1868-53-7	
Toluene-d8 (S)	39	%	70-130		1		10/02/10 20:16	2037-26-5	S5
4-Bromofluorobenzene (S)	115	%	70-130		1		10/02/10 20:16	460-00-4	
1,2-Dichloroethane-d4 (S)	93	%	70-130		1		10/02/10 20:16	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: RW-2 **Lab ID: 9278812024** Collected: 09/29/10 13:50 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.13**	ug/L	0.020	0.020	1	10/05/10 16:48	10/06/10 11:41	106-93-4	
1-Chloro-2-bromopropane (S)	121	%	60-140		1	10/05/10 16:48	10/06/10 11:41	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1360**	ug/L	100	62.0	1		10/02/10 20:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		10/02/10 20:34	994-05-8	
Benzene	**576**	ug/L	5.0	1.2	1		10/02/10 20:34	71-43-2	E
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		10/02/10 20:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		10/02/10 20:34	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		10/02/10 20:34	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		10/02/10 20:34	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		10/02/10 20:34	108-20-3	
Ethanol	ND	ug/L	200	170	1		10/02/10 20:34	64-17-5	
Ethylbenzene	**748**	ug/L	5.0	1.1	1		10/02/10 20:34	100-41-4	E
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		10/02/10 20:34	637-92-3	
Methyl-tert-butyl ether	**115**	ug/L	5.0	2.0	1		10/02/10 20:34	1634-04-4	
Naphthalene	**157**	ug/L	5.0	2.9	1		10/02/10 20:34	91-20-3	
Toluene	**26200**	ug/L	1250	450	250		10/05/10 05:06	108-88-3	
Xylene (Total)	**3010**	ug/L	10.0	2.7	1		10/02/10 20:34	1330-20-7	ES
m&p-Xylene	**1930**	ug/L	10.0	2.7	1		10/02/10 20:34	179601-23-1	E
o-Xylene	**1070**	ug/L	5.0	1.7	1		10/02/10 20:34	95-47-6	E
Dibromofluoromethane (S)	94	%	70-130		1		10/02/10 20:34	1868-53-7	
Toluene-d8 (S)	79	%	70-130		1		10/02/10 20:34	2037-26-5	
4-Bromofluorobenzene (S)	114	%	70-130		1		10/02/10 20:34	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		1		10/02/10 20:34	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: RW-3 **Lab ID: 9278812025** Collected: 09/29/10 13:45 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.20**	ug/L	0.020	0.020	1	10/05/10 16:48	10/06/10 12:43	106-93-4	
1-Chloro-2-bromopropane (S)	120	%	60-140		1	10/05/10 16:48	10/06/10 12:43	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**8460J**	ug/L	10000	6200	100		10/02/10 20:52	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	450	100		10/02/10 20:52	994-05-8	
Benzene	**1200**	ug/L	500	120	100		10/02/10 20:52	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	4800	100		10/02/10 20:52	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	2700	100		10/02/10 20:52	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	900	100		10/02/10 20:52	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	130	100		10/02/10 20:52	107-06-2	
Diisopropyl ether	ND	ug/L	500	270	100		10/02/10 20:52	108-20-3	
Ethanol	ND	ug/L	20000	17000	100		10/02/10 20:52	64-17-5	
Ethylbenzene	**1370**	ug/L	500	110	100		10/02/10 20:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	460	100		10/02/10 20:52	637-92-3	
Methyl-tert-butyl ether	**530**	ug/L	500	200	100		10/02/10 20:52	1634-04-4	
Naphthalene	**1110**	ug/L	500	290	100		10/02/10 20:52	91-20-3	
Toluene	**33000**	ug/L	2500	900	500		10/05/10 05:24	108-88-3	
Xylene (Total)	**6780**	ug/L	1000	270	100		10/02/10 20:52	1330-20-7	
m&p-Xylene	**4770**	ug/L	1000	270	100		10/02/10 20:52	179601-23-1	
o-Xylene	**2010**	ug/L	500	170	100		10/02/10 20:52	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		100		10/02/10 20:52	1868-53-7	
Toluene-d8 (S)	97	%	70-130		100		10/02/10 20:52	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		100		10/02/10 20:52	460-00-4	
1,2-Dichloroethane-d4 (S)	91	%	70-130		100		10/02/10 20:52	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

Sample: RW-4 **Lab ID: 9278812026** Collected: 09/29/10 13:35 Received: 09/30/10 15:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/05/10 16:48	10/06/10 13:23	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140		1	10/05/10 16:48	10/06/10 13:23	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**810J**	ug/L	1000	620	10		10/05/10 03:53	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	45.0	10		10/05/10 03:53	994-05-8	
Benzene	**148**	ug/L	50.0	12.0	10		10/05/10 03:53	71-43-2	D3
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	480	10		10/05/10 03:53	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	270	10		10/05/10 03:53	75-65-0	
tert-Butyl Formate	ND	ug/L	500	90.0	10		10/05/10 03:53	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		10/05/10 03:53	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	27.0	10		10/05/10 03:53	108-20-3	
Ethanol	ND	ug/L	2000	1700	10		10/05/10 03:53	64-17-5	
Ethylbenzene	**18.8J**	ug/L	50.0	11.0	10		10/05/10 03:53	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	46.0	10		10/05/10 03:53	637-92-3	
Methyl-tert-butyl ether	**52.1**	ug/L	50.0	20.0	10		10/05/10 03:53	1634-04-4	
Naphthalene	ND	ug/L	50.0	29.0	10		10/05/10 03:53	91-20-3	
Toluene	**505**	ug/L	50.0	18.0	10		10/05/10 03:53	108-88-3	
Xylene (Total)	**352**	ug/L	100	27.0	10		10/05/10 03:53	1330-20-7	
m&p-Xylene	**183**	ug/L	100	27.0	10		10/05/10 03:53	179601-23-1	
o-Xylene	**170**	ug/L	50.0	17.0	10		10/05/10 03:53	95-47-6	
Dibromofluoromethane (S)	103	%	70-130		10		10/05/10 03:53	1868-53-7	
Toluene-d8 (S)	97	%	70-130		10		10/05/10 03:53	2037-26-5	
4-Bromofluorobenzene (S)	96	%	70-130		10		10/05/10 03:53	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		10		10/05/10 03:53	17060-07-0	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

QC Batch: OEXT/11392 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9278812001, 9278812002, 9278812003

METHOD BLANK: 507141 Matrix: Water
Associated Lab Samples: 9278812001, 9278812002, 9278812003

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.021	10/05/10 16:28	
1-Chloro-2-bromopropane (S)	%	114	60-140	10/05/10 16:28	

LABORATORY CONTROL SAMPLE & LCSD: 507142 507143

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.36	0.33	122	114	60-140	8	20	
1-Chloro-2-bromopropane (S)	%				109	105	60-140			

SAMPLE DUPLICATE: 507146

Parameter	Units	9278807005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	110	113	3		

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

QC Batch: OEXT/11393 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9278812004, 9278812005, 9278812006, 9278812007, 9278812008, 9278812009, 9278812010, 9278812011, 9278812012, 9278812013, 9278812014, 9278812015, 9278812016, 9278812017, 9278812018, 9278812019, 9278812020, 9278812021, 9278812022, 9278812023

METHOD BLANK: 507147 Matrix: Water
Associated Lab Samples: 9278812004, 9278812005, 9278812006, 9278812007, 9278812008, 9278812009, 9278812010, 9278812011, 9278812012, 9278812013, 9278812014, 9278812015, 9278812016, 9278812017, 9278812018, 9278812019, 9278812020, 9278812021, 9278812022, 9278812023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	10/06/10 01:35	
1-Chloro-2-bromopropane (S)	%	106	60-140	10/06/10 01:35	

LABORATORY CONTROL SAMPLE & LCSD: 507148 507149

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.32	0.32	110	110	60-140	0	20	
1-Chloro-2-bromopropane (S)	%				102	103	60-140			

SAMPLE DUPLICATE: 507152

Parameter	Units	9278812006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	105	119	12		

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

QC Batch: OEXT/11394 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9278812024, 9278812025, 9278812026

METHOD BLANK: 507226 — Matrix: Water
Associated Lab Samples: 9278812024, 9278812025, 9278812026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	10/06/10 10:40	
1-Chloro-2-bromopropane (S)	%	106	60-140	10/06/10 10:40	

LABORATORY CONTROL SAMPLE & LCSD: 507227 507228

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.33	0.33	114	114	60-140	0	20	
1-Chloro-2-bromopropane (S)	%				105	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 507229 507230

Parameter	Units	9278812024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.13	.28	.28	0.43	0.43	106	106	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						115	110	60-140			

SAMPLE DUPLICATE: 507231

Parameter	Units	9278812025 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.20	0.20	2	20	
1-Chloro-2-bromopropane (S)	%	120	121	1		

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

QC Batch: MSV/12491 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9278812011, 9278812012, 9278812013, 9278812014, 9278812015, 9278812016, 9278812017, 9278812018, 9278812019, 9278812021, 9278812022, 9278812023, 9278812024, 9278812025

METHOD BLANK: 506576 Matrix: Water
Associated Lab Samples: 9278812011, 9278812012, 9278812013, 9278812014, 9278812015, 9278812016, 9278812017, 9278812018, 9278812019, 9278812021, 9278812022, 9278812023, 9278812024, 9278812025

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	10/02/10 12:20	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	10/02/10 12:20	
Benzene	ug/L	ND	5.0	10/02/10 12:20	
Diisopropyl ether	ug/L	ND	5.0	10/02/10 12:20	
Ethanol	ug/L	ND	200	10/02/10 12:20	
Ethyl-tert-butyl ether	ug/L	ND	10.0	10/02/10 12:20	
Ethylbenzene	ug/L	ND	5.0	10/02/10 12:20	
m&p-Xylene	ug/L	ND	10.0	10/02/10 12:20	
Methyl-tert-butyl ether	ug/L	ND	5.0	10/02/10 12:20	
Naphthalene	ug/L	ND	5.0	10/02/10 12:20	
o-Xylene	ug/L	ND	5.0	10/02/10 12:20	
tert-Amyl Alcohol	ug/L	ND	100	10/02/10 12:20	
tert-Amylmethyl ether	ug/L	ND	10.0	10/02/10 12:20	
tert-Butyl Alcohol	ug/L	ND	100	10/02/10 12:20	
tert-Butyl Formate	ug/L	ND	50.0	10/02/10 12:20	
Toluene	ug/L	ND	5.0	10/02/10 12:20	
Xylene (Total)	ug/L	ND	10.0	10/02/10 12:20	
1,2-Dichloroethane-d4 (S)	%	105	70-130	10/02/10 12:20	
4-Bromofluorobenzene (S)	%	97	70-130	10/02/10 12:20	
Dibromofluoromethane (S)	%	106	70-130	10/02/10 12:20	
Toluene-d8 (S)	%	101	70-130	10/02/10 12:20	

LABORATORY CONTROL SAMPLE: 506577

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.9	114	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1120	112	70-130	
Benzene	ug/L	50	51.8	104	70-130	
Diisopropyl ether	ug/L	50	55.3	111	70-130	
Ethanol	ug/L	2000	1960	98	70-130	
Ethyl-tert-butyl ether	ug/L	100	112	112	70-130	
Ethylbenzene	ug/L	50	52.1	104	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	55.4	111	70-130	
Naphthalene	ug/L	50	57.5	115	70-130	
o-Xylene	ug/L	50	52.4	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1200	120	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	595	119	70-130	
tert-Butyl Formate	ug/L	400	412	103	70-130	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

LABORATORY CONTROL SAMPLE: 506577

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	51.5	103	70-130	
Xylene (Total)	ug/L	150	160	106	70-130	
1,2-Dichloroethane-d4 (S)	%			110	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			108	70-130	
Toluene-d8 (S)	%			103	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 506578 506579

Parameter	Units	9278812011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	52.6	51.1	105	102	70-130	3	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	778	862	78	86	70-130	10	30	
Benzene	ug/L	ND	50	50	55.8	49.3	112	99	70-130	12	30	
Diisopropyl ether	ug/L	ND	50	50	52.2	50.3	104	101	70-130	4	30	
Ethanol	ug/L	ND	2000	2000	1180	1840	59	92	70-130	44	30	M0,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	105	103	105	103	70-130	2	30	
Ethylbenzene	ug/L	ND	50	50	55.0	54.1	110	108	70-130	2	30	
m&p-Xylene	ug/L	ND	100	100	112	102	112	102	70-130	10	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	51.8	50.9	104	102	70-130	2	30	
Naphthalene	ug/L	ND	50	50	51.9	50.6	104	101	70-130	3	30	
o-Xylene	ug/L	ND	50	50	55.8	54.3	112	109	70-130	3	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	841	865	84	87	70-130	3	30	
tert-Amylmethyl ether	ug/L	ND	100	100	109	99.8	109	100	70-130	9	30	
tert-Butyl Alcohol	ug/L	ND	500	500	437	471	87	94	70-130	8	30	
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	68.4	56.9	136	113	70-130	18	30	M0
1,2-Dichloroethane-d4 (S)	%						95	94	70-130			
4-Bromofluorobenzene (S)	%						104	102	70-130			
Dibromofluoromethane (S)	%						102	100	70-130			
Toluene-d8 (S)	%						104	95	70-130			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

QC Batch: MSV/12492 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9278812002, 9278812003, 9278812004, 9278812005, 9278812006, 9278812007, 9278812010

METHOD BLANK: 506580 Matrix: Water
Associated Lab Samples: 9278812002, 9278812003, 9278812004, 9278812005, 9278812006, 9278812007, 9278812010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	10/02/10 23:18	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	10/02/10 23:18	
Benzene	ug/L	ND	5.0	10/02/10 23:18	
Diisopropyl ether	ug/L	ND	5.0	10/02/10 23:18	
Ethanol	ug/L	ND	200	10/02/10 23:18	
Ethyl-tert-butyl ether	ug/L	ND	10.0	10/02/10 23:18	
Ethylbenzene	ug/L	ND	5.0	10/02/10 23:18	
m&p-Xylene	ug/L	ND	10.0	10/02/10 23:18	
Methyl-tert-butyl ether	ug/L	ND	5.0	10/02/10 23:18	
Naphthalene	ug/L	ND	5.0	10/02/10 23:18	
o-Xylene	ug/L	ND	5.0	10/02/10 23:18	
tert-Amyl Alcohol	ug/L	ND	100	10/02/10 23:18	
tert-Amylmethyl ether	ug/L	ND	10.0	10/02/10 23:18	
tert-Butyl Alcohol	ug/L	ND	100	10/02/10 23:18	
tert-Butyl Formate	ug/L	ND	50.0	10/02/10 23:18	
Toluene	ug/L	2.4J	5.0	10/02/10 23:18	
Xylene (Total)	ug/L	ND	10.0	10/02/10 23:18	
1,2-Dichloroethane-d4 (S)	%	98	70-130	10/02/10 23:18	
4-Bromofluorobenzene (S)	%	100	70-130	10/02/10 23:18	
Dibromofluoromethane (S)	%	106	70-130	10/02/10 23:18	
Toluene-d8 (S)	%	99	70-130	10/02/10 23:18	

LABORATORY CONTROL SAMPLE: 506581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.9	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1020	102	70-130	
Benzene	ug/L	50	50.2	100	70-130	
Diisopropyl ether	ug/L	50	50.6	101	70-130	
Ethanol	ug/L	2000	2050	102	70-130	
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
Ethylbenzene	ug/L	50	52.3	105	70-130	
m&p-Xylene	ug/L	100	97.0	97	70-130	
Methyl-tert-butyl ether	ug/L	50	51.5	103	70-130	
Naphthalene	ug/L	50	53.4	107	70-130	
o-Xylene	ug/L	50	52.7	105	70-130	
tert-Amyl Alcohol	ug/L	1000	1030	103	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	541	108	70-130	
tert-Butyl Formate	ug/L	400	381	95	70-130	
Toluene	ug/L	50	55.1	110	70-130	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

LABORATORY CONTROL SAMPLE: 506581

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	150	100	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Dibromofluoromethane (S)	%			103	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 506582 506583

Parameter	Units	9278812002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	51.6	50.9	103	102	70-130	1	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1130	1110	113	111	70-130	2	30	
Benzene	ug/L	ND	50	50	56.9	54.5	114	109	70-130	4	30	
Diisopropyl ether	ug/L	ND	50	50	52.3	54.1	105	108	70-130	3	30	
Ethanol	ug/L	ND	2000	2000	2180	2260	109	113	70-130	4	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	110	106	110	106	70-130	4	30	
Ethylbenzene	ug/L	ND	50	50	59.2	53.6	118	107	70-130	10	30	
m&p-Xylene	ug/L	ND	100	100	118	111	117	110	70-130	6	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	54.1	56.3	108	113	70-130	4	30	
Naphthalene	ug/L	ND	50	50	61.3	54.0	123	108	70-130	13	30	
o-Xylene	ug/L	ND	50	50	60.0	54.5	119	108	70-130	10	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	1150	1150	115	115	70-130	0	30	
tert-Amylmethyl ether	ug/L	ND	100	100	116	105	116	105	70-130	10	30	
tert-Butyl Alcohol	ug/L	ND	500	500	626	632	125	126	70-130	1	30	
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	57.9	54.1	114	106	70-130	7	30	
1,2-Dichloroethane-d4 (S)	%						90	92	70-130			
4-Bromofluorobenzene (S)	%						110	102	70-130			
Dibromofluoromethane (S)	%						103	105	70-130			
Toluene-d8 (S)	%						103	100	70-130			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

QC Batch: MSV/12520 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9278812001, 9278812008, 9278812009, 9278812020, 9278812026

METHOD BLANK: 506915 Matrix: Water
Associated Lab Samples: 9278812001, 9278812008, 9278812009, 9278812020, 9278812026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	10/05/10 02:21	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	10/05/10 02:21	
Benzene	ug/L	ND	5.0	10/05/10 02:21	
Diisopropyl ether	ug/L	ND	5.0	10/05/10 02:21	
Ethanol	ug/L	ND	200	10/05/10 02:21	
Ethyl-tert-butyl ether	ug/L	ND	10.0	10/05/10 02:21	
Ethylbenzene	ug/L	ND	5.0	10/05/10 02:21	
m&p-Xylene	ug/L	ND	10.0	10/05/10 02:21	
Methyl-tert-butyl ether	ug/L	ND	5.0	10/05/10 02:21	
Naphthalene	ug/L	ND	5.0	10/05/10 02:21	
o-Xylene	ug/L	ND	5.0	10/05/10 02:21	
tert-Amyl Alcohol	ug/L	ND	100	10/05/10 02:21	
tert-Amylmethyl ether	ug/L	ND	10.0	10/05/10 02:21	
tert-Butyl Alcohol	ug/L	ND	100	10/05/10 02:21	
tert-Butyl Formate	ug/L	ND	50.0	10/05/10 02:21	
Toluene	ug/L	ND	5.0	10/05/10 02:21	
Xylene (Total)	ug/L	ND	10.0	10/05/10 02:21	
1,2-Dichloroethane-d4 (S)	%	101	70-130	10/05/10 02:21	
4-Bromofluorobenzene (S)	%	96	70-130	10/05/10 02:21	
Dibromofluoromethane (S)	%	102	70-130	10/05/10 02:21	
Toluene-d8 (S)	%	98	70-130	10/05/10 02:21	

LABORATORY CONTROL SAMPLE: 506916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.0	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	854	85	70-130	
Benzene	ug/L	50	49.3	99	70-130	
Diisopropyl ether	ug/L	50	48.0	96	70-130	
Ethanol	ug/L	2000	1600	80	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.1	96	70-130	
Ethylbenzene	ug/L	50	49.1	98	70-130	
m&p-Xylene	ug/L	100	99.0	99	70-130	
Methyl-tert-butyl ether	ug/L	50	47.0	94	70-130	
Naphthalene	ug/L	50	51.0	102	70-130	
o-Xylene	ug/L	50	49.5	99	70-130	
tert-Amyl Alcohol	ug/L	1000	923	92	70-130	
tert-Amylmethyl ether	ug/L	100	97.1	97	70-130	
tert-Butyl Alcohol	ug/L	500	479	96	70-130	
tert-Butyl Formate	ug/L	400	350	88	70-130	
Toluene	ug/L	50	49.4	99	70-130	

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

LABORATORY CONTROL SAMPLE: 506916

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	149	99	70-130	
1,2-Dichloroethane-d4 (S)	%			95	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			96	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 506917 506918

Parameter	Units	9278888006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane	ug/L	ND	50	50	46.0	49.6	92	99	70-130	8	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	747	901	75	90	70-130	19	30	
Benzene	ug/L	ND	50	50	49.4	51.7	99	103	70-130	5	30	
Diisopropyl ether	ug/L	ND	50	50	46.5	50.0	93	100	70-130	7	30	
Ethanol	ug/L	ND	2000	2000	1440	1960	72	98	70-130	30	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	90.8	98.0	91	98	70-130	8	30	
Ethylbenzene	ug/L	ND	50	50	50.0	52.7	100	105	70-130	5	30	
m&p-Xylene	ug/L	ND	100	100	100	105	100	105	70-130	5	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	44.3	48.0	89	96	70-130	8	30	
Naphthalene	ug/L	ND	50	50	48.6	57.8	97	116	70-130	17	30	
o-Xylene	ug/L	ND	50	50	49.7	52.8	99	106	70-130	6	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	759	921	76	92	70-130	19	30	
tert-Amylmethyl ether	ug/L	ND	100	100	88.1	96.7	88	97	70-130	9	30	
tert-Butyl Alcohol	ug/L	ND	500	500	425	502	85	100	70-130	17	30	
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	48.6	51.2	97	102	70-130	5	30	
1,2-Dichloroethane-d4 (S)	%						93	93	70-130			
4-Bromofluorobenzene (S)	%						95	99	70-130			
Dibromofluoromethane (S)	%						98	97	70-130			
Toluene-d8 (S)	%						97	98	70-130			

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(704)875-9092

QUALIFIERS

Project: FOUR SEASONS FOOD & FUEL 00120
Pace Project No.: 9278812

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

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

ANALYTE QUALIFIERS

D3	Sample was diluted due to the presence of high levels of non-target analytes or other matrix interference.
E	Analyte concentration exceeded the calibration range. The reported result is estimated.
ES	The reported result is estimated because one or more of the constituent results are qualified as such.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.
R1	RPD value was outside control limits.
S5	Surrogate recovery outside control limits due to matrix interferences (not confirmed by re-analysis).

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 3

1435854

Section A Required Client Information:

Company: SCDHEC - UST
Address: 21000 Bull St. Columbia, SC 29201
Email To:
Phone: 803-896-6246 Fax: 803-896-6245
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Four Seasons Food & Fuel
Project Number: 00120/39447

Section C Invoice Information:

Attention: D. Thoma (Finance)
Company Name: SCDHEC - UST
Address:
Pace Quote Reference:
Pace Project Manager: Renee Sanger
Pace Profile #: 84925

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, Napth, Mtbe	1,2 DCA, 8-oxy (8260B)	[illegible]	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9278812
1	MW-1	WT	G			9-29	1350		10				6						X	X		X		ODOR / Sheen
2	MW-2R						1240																	No ODOR
3	MW-3						1230																	
4	MW-4						1250																	X
5	MW-5						1155																	X
6	MW-6						1145																	ODOR
7	MW-7R						1215																	ODOR
8	MW-8						945																	No ODOR
9	MW-9						1035																	
10	MW-10						1415																	
11	MW-11						1340																	
12	MW-12	X	X			X	1255		X				X						X	X		X		X

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report "J" Values	[signature]	9-29	1545	[signature] / Pace	09/30/10	1415				
	[signature] / Pace	09/30/10	1500	[signature] / Pace	9/30/10	1500	1.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9-29-10

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

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

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1435853

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St. Columbia, SC 29201
Email To:
Phone: 803-896-6240 Fax: 803-896-6245
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To: SCDHEC-UST
Purchase Order No.: 719459
Project Name: Four Seasons Food & Fuel
Project Number: 00120/39447

Section C Invoice Information:

Attention: Finance (D. Thoma)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: Renee Spencer
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX, Naph, MTBE	1,2 DCA, 8-Oxy (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-13	WT	G			9-29	1305		4				6					X	X	X		0278812
2	MW-14						1210															NO ODOR 013
3	MW-15	X	X			X	1135		X				X					X	X	X		14
4	MW-16																					X 15
5	MW-17	WT	G			9-29	1105		6				6					X	X	X		OBSTRUCTION @ 9'
6	MW-18	WT	G			9-29	1110		4				6					X	X	X		NO ODOR 16
7	MW-19																					NO ODOR 17
8	MW-20	WT	G			9-29	1000		6				6					X	X	X		NOT LOCATED
9	PW-1						1400															NO ODOR 18
10	DW-1						1420															19
11	DW-2						1015															20
12	DW-3	X	X			X	1210		X				X					X	X	X		21
																						22

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report "J" Values	[signature]	9-29	1545	[signature] / Pace	9/30/10	1415				
	[signature] / Pace	09/30/10	1500	[signature] / PAL	9/30/10	1500	1.4	4	W	4

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9-29-10

Temp In °C | Received on Ice (Y/N) | Custody Sealed Cooler (Y/N) | Samples Intact (Y/N)

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

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Page: 3 of 3

1435852

Section A Required Client Information:

Company:	SCDHEC- UST
Address:	2600 Bull St. Columbia, SC 29201
Email To:	
Phone:	803-896-6240
Fax:	803-896-6245
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	719459
Project Name:	Four Seasons Food & Fuel
Project Number:	00120/39447

Section C Invoice Information:

Attention:	D. Thoma (Finance)
Company Name:	SCDHEC- UST
Address:	
Pace Quote Reference:	
Pace Project Manager:	Renee Spencer
Pace Profile #:	

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, Naph, Mtbe	1,2 DCA, 8-Oxy (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	RW-1	WT	G			9-29	1410		6				6						X	X	X		No Odor 023
2	RW-2						1350																Odor 024
3	RW-3						1345																025
4	RW-4	X	X			X	1335		X				X						X	X	X		X 026
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

927882

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report "J" Values	[signature]	9-29	1545	[signature] / Pace	09/30/10	1415				
	[signature] / Pace	09/30/10	1500	[signature] / Pace	9/30/10	1500	1.4	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9-29-10

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

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March 31, 2008

RECEIVED
APR 23 2008
UNDERGROUND STORAGE
TANK PROGRAM

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on March 15, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Herring

kevin.herring@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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UST PROGRAM
DOCKETING # 2 tech

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CERTIFICATIONS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Charlotte Certification IDs

Florida/NELAP Certification Number: E87627
Kansas Certification Number: E-10364
Louisiana/LELAP Certification Number: 04034
North Carolina Drinking Water Certification Number: 37706
North Carolina Wastewater Certification Number: 12
North Carolina Field Services Certification Number: 5342
South Carolina Certification Number: 990060001
South Carolina Bioassay Certification Number: 990060003
Tennessee Certification Number: 04010
Virginia Certification Number: 00213

Asheville Certification IDs

Florida/NELAP Certification Number: E87648
Louisiana/LELAP Certification Number: 03095
New Jersey Certification Number: NC011
North Carolina Drinking Water Certification Number: 37712
North Carolina Wastewater Certification Number: 40
North Carolina Bioassay Certification Number: 9
Pennsylvania Certification Number: 68-03578
South Carolina Certification Number: 99030001
South Carolina Bioassay Certification Number: 99030002
Tennessee Certification Number: 2980
Virginia Certification Number: 00072

Eden Certification IDs

North Carolina Drinking Water Certification Number: 37738
Virginia Drinking Water Certification Number: 00424
North Carolina Wastewater Certification Number: 633

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Huntersville, NC 28078
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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-1 **Lab ID: 9215496001** Collected: 03/14/08 11:50 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/18/08 00:00	03/20/08 04:44	106-93-4	
1-Chloro-2-bromopropane (S)	83	%	60-140	1	03/18/08 00:00	03/20/08 04:44	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**7650**	ug/L	5000	50		03/22/08 03:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	50		03/22/08 03:55	994-05-8	
Benzene	**1110**	ug/L	250	50		03/22/08 03:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	50		03/22/08 03:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	50		03/22/08 03:55	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	50		03/22/08 03:55	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	250	50		03/22/08 03:55	106-93-4	
1,2-Dichloroethane	ND	ug/L	250	50		03/22/08 03:55	107-06-2	
Diisopropyl ether	ND	ug/L	250	50		03/22/08 03:55	108-20-3	
Ethanol	ND	ug/L	10000	50		03/22/08 03:55	64-17-5	
Ethylbenzene	**460**	ug/L	250	50		03/22/08 03:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	50		03/22/08 03:55	637-92-3	
Methyl-tert-butyl ether	**426**	ug/L	250	50		03/22/08 03:55	1634-04-4	
Naphthalene	**412**	ug/L	250	50		03/22/08 03:55	91-20-3	
Toluene	**31500**	ug/L	2500	500		03/24/08 12:03	108-88-3	
Xylene (Total)	**5370**	ug/L	500	50		03/22/08 03:55	1330-20-7	
m&p-Xylene	**3720**	ug/L	500	50		03/22/08 03:55	1330-20-7	
o-Xylene	**1650**	ug/L	250	50		03/22/08 03:55	95-47-6	
Dibromofluoromethane (S)	102	%	85-115	50		03/22/08 03:55	1868-53-7	
Toluene-d8 (S)	99	%	70-120	50		03/22/08 03:55	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-109	50		03/22/08 03:55	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	79-120	50		03/22/08 03:55	17060-07-0	

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(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-2R **Lab ID: 9215496002** Collected: 03/14/08 11:15 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/18/08 00:00	03/21/08 20:43	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140	1	03/18/08 00:00	03/21/08 20:43	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/20/08 21:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/20/08 21:35	994-05-8	
Benzene	ND	ug/L	5.0	1		03/20/08 21:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/20/08 21:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/20/08 21:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/20/08 21:35	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/20/08 21:35	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/20/08 21:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/20/08 21:35	108-20-3	
Ethanol	ND	ug/L	200	1		03/20/08 21:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/20/08 21:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/20/08 21:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/20/08 21:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/20/08 21:35	91-20-3	
Toluene	ND	ug/L	5.0	1		03/20/08 21:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/20/08 21:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/20/08 21:35	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/20/08 21:35	95-47-6	
Dibromofluoromethane (S)	100	%	85-115	1		03/20/08 21:35	1868-53-7	
Toluene-d8 (S)	99	%	70-120	1		03/20/08 21:35	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-109	1		03/20/08 21:35	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	79-120	1		03/20/08 21:35	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-3 **Lab ID: 9215496003** Collected: 03/14/08 11:40 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/18/08 00:00	03/20/08 05:05	106-93-4	
1-Chloro-2-bromopropane (S)	71	%	60-140	1	03/18/08 00:00	03/20/08 05:05	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 18:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 18:03	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 18:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 18:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 18:03	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 18:03	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 18:03	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 18:03	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 18:03	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 18:03	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 18:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 18:03	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 18:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 18:03	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 18:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 18:03	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 18:03	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 18:03	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		03/19/08 18:03	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 18:03	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-109	1		03/19/08 18:03	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	79-120	1		03/19/08 18:03	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-4 **Lab ID: 9215496004** Collected: 03/14/08 12:10 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/18/08 00:00	03/20/08 05:16	106-93-4	
1-Chloro-2-bromopropane (S)	96	%	60-140	1	03/18/08 00:00	03/20/08 05:16	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 18:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 18:26	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 18:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 18:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 18:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 18:26	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 18:26	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 18:26	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 18:26	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 18:26	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 18:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 18:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 18:26	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 18:26	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 18:26	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 18:26	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 18:26	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 18:26	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		03/19/08 18:26	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 18:26	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-109	1		03/19/08 18:26	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	79-120	1		03/19/08 18:26	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-5 **Lab ID: 9215496005** Collected: 03/14/08 15:45 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/18/08 00:00	03/20/08 05:26	106-93-4	
1-Chloro-2-bromopropane (S)	96	%	60-140	1	03/18/08 00:00	03/20/08 05:26	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 18:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 18:50	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 18:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 18:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 18:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 18:50	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 18:50	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 18:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 18:50	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 18:50	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 18:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 18:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 18:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 18:50	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 18:50	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 18:50	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 18:50	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 18:50	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		03/19/08 18:50	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 18:50	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-109	1		03/19/08 18:50	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		03/19/08 18:50	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-6 **Lab ID: 9215496006** Collected: 03/14/08 16:20 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	**0.023**	ug/L	0.020	1	03/18/08 00:00	03/20/08 05:37	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140	1	03/18/08 00:00	03/20/08 05:37	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**3160**	ug/L	2500	25		03/22/08 03:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	25		03/22/08 03:31	994-05-8	
Benzene	**452**	ug/L	125	25		03/22/08 03:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	25		03/22/08 03:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	25		03/22/08 03:31	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	25		03/22/08 03:31	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	125	25		03/22/08 03:31	106-93-4	
1,2-Dichloroethane	ND	ug/L	125	25		03/22/08 03:31	107-06-2	
Diisopropyl ether	ND	ug/L	125	25		03/22/08 03:31	108-20-3	
Ethanol	ND	ug/L	5000	25		03/22/08 03:31	64-17-5	
Ethylbenzene	**449**	ug/L	125	25		03/22/08 03:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	25		03/22/08 03:31	637-92-3	
Methyl-tert-butyl ether	**2080**	ug/L	125	25		03/22/08 03:31	1634-04-4	
Naphthalene	**191**	ug/L	125	25		03/22/08 03:31	91-20-3	
Toluene	**9230**	ug/L	500	100		03/22/08 17:57	108-88-3	
Xylene (Total)	**2370**	ug/L	250	25		03/22/08 03:31	1330-20-7	
m&p-Xylene	**1630**	ug/L	250	25		03/22/08 03:31	1330-20-7	
o-Xylene	**743**	ug/L	125	25		03/22/08 03:31	95-47-6	
Dibromofluoromethane (S)	101	%	85-115	25		03/22/08 03:31	1868-53-7	
Toluene-d8 (S)	99	%	70-120	25		03/22/08 03:31	2037-26-5	
4-Bromofluorobenzene (S)	96	%	87-109	25		03/22/08 03:31	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	79-120	25		03/22/08 03:31	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-7 **Lab ID: 9215496007** Collected: 03/14/08 16:10 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/18/08 00:00	03/20/08 05:47	106-93-4	
1-Chloro-2-bromopropane (S)	67	%	60-140	1	03/18/08 00:00	03/20/08 05:47	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**8480**	ug/L	5000	50		03/22/08 04:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 20:48	994-05-8	
Benzene	**585**	ug/L	250	50		03/22/08 04:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 20:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 20:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 20:48	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 20:48	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 20:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 20:48	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 20:48	64-17-5	
Ethylbenzene	**154**	ug/L	5.0	1		03/19/08 20:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 20:48	637-92-3	
Methyl-tert-butyl ether	**3320**	ug/L	250	50		03/22/08 04:19	1634-04-4	
Naphthalene	**68.2**	ug/L	5.0	1		03/19/08 20:48	91-20-3	
Toluene	**6720**	ug/L	250	50		03/22/08 04:19	108-88-3	
Xylene (Total)	**443**	ug/L	10.0	1		03/19/08 20:48	1330-20-7	
m&p-Xylene	**252**	ug/L	10.0	1		03/19/08 20:48	1330-20-7	
o-Xylene	**192**	ug/L	5.0	1		03/19/08 20:48	95-47-6	
Dibromofluoromethane (S)	104	%	85-115	1		03/19/08 20:48	1868-53-7	
Toluene-d8 (S)	102	%	70-120	1		03/19/08 20:48	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-109	1		03/19/08 20:48	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		03/19/08 20:48	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-8 **Lab ID: 9215496008** Collected: 03/14/08 13:00 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 08:15	106-93-4	
1-Chloro-2-bromopropane (S)	90	%	60-140	1	03/19/08 00:00	03/20/08 08:15	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 19:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 19:14	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 19:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 19:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 19:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 19:14	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 19:14	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 19:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 19:14	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 19:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 19:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 19:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 19:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 19:14	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 19:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 19:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 19:14	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 19:14	95-47-6	
Dibromofluoromethane (S)	107	%	85-115	1		03/19/08 19:14	1868-53-7	
Toluene-d8 (S)	99	%	70-120	1		03/19/08 19:14	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-109	1		03/19/08 19:14	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		03/19/08 19:14	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-9 **Lab ID: 9215496009** Collected: 03/14/08 14:40 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 08:47	106-93-4	
1-Chloro-2-bromopropane (S)	93	%	60-140	1	03/19/08 00:00	03/20/08 08:47	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 19:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 19:37	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 19:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 19:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 19:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 19:37	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 19:37	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 19:37	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 19:37	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 19:37	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 19:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 19:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 19:37	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 19:37	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 19:37	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 19:37	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 19:37	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 19:37	95-47-6	
Dibromofluoromethane (S)	106	%	85-115	1		03/19/08 19:37	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 19:37	2037-26-5	
4-Bromofluorobenzene (S)	100	%	87-109	1		03/19/08 19:37	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		03/19/08 19:37	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-10 **Lab ID: 9215496010** Collected: 03/14/08 11:05 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	**0.84**	ug/L	0.020	1	03/19/08 00:00	03/20/08 09:29	106-93-4	
1-Chloro-2-bromopropane (S)	94	%	60-140	1	03/19/08 00:00	03/20/08 09:29	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**24800**	ug/L	5000	50		03/21/08 21:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	50		03/21/08 21:35	994-05-8	
Benzene	**3990**	ug/L	250	50		03/21/08 21:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	50		03/21/08 21:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	50		03/21/08 21:35	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	50		03/21/08 21:35	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	250	50		03/21/08 21:35	106-93-4	
1,2-Dichloroethane	ND	ug/L	250	50		03/21/08 21:35	107-06-2	
Diisopropyl ether	ND	ug/L	250	50		03/21/08 21:35	108-20-3	
Ethanol	ND	ug/L	10000	50		03/21/08 21:35	64-17-5	
Ethylbenzene	**824**	ug/L	250	50		03/21/08 21:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	50		03/21/08 21:35	637-92-3	
Methyl-tert-butyl ether	**639**	ug/L	250	50		03/21/08 21:35	1634-04-4	
Naphthalene	**439**	ug/L	250	50		03/21/08 21:35	91-20-3	
Toluene	**46000**	ug/L	2500	500		03/22/08 23:11	108-88-3	
Xylene (Total)	**3860**	ug/L	500	50		03/21/08 21:35	1330-20-7	
m&p-Xylene	**2700**	ug/L	500	50		03/21/08 21:35	1330-20-7	
o-Xylene	**1160**	ug/L	250	50		03/21/08 21:35	95-47-6	
Dibromofluoromethane (S)	101	%	85-115	50		03/21/08 21:35	1868-53-7	
Toluene-d8 (S)	98	%	70-120	50		03/21/08 21:35	2037-26-5	
4-Bromofluorobenzene (S)	97	%	87-109	50		03/21/08 21:35	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	79-120	50		03/21/08 21:35	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-11 **Lab ID: 9215496011** Collected: 03/14/08 11:30 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 09:40	106-93-4	
1-Chloro-2-bromopropane (S)	90	%	60-140	1	03/19/08 00:00	03/20/08 09:40	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 20:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 20:01	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 20:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 20:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 20:01	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 20:01	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 20:01	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 20:01	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 20:01	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 20:01	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 20:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 20:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 20:01	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 20:01	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 20:01	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 20:01	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 20:01	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 20:01	95-47-6	
Dibromofluoromethane (S)	106	%	85-115	1		03/19/08 20:01	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 20:01	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-109	1		03/19/08 20:01	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		03/19/08 20:01	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-12 **Lab ID: 9215496012** Collected: 03/14/08 12:00 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 09:50	106-93-4	
1-Chloro-2-bromopropane (S)	109	%	60-140	1	03/19/08 00:00	03/20/08 09:50	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 20:25	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 20:25	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 20:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 20:25	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 20:25	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 20:25	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 20:25	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 20:25	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 20:25	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 20:25	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 20:25	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 20:25	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 20:25	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 20:25	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 20:25	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 20:25	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 20:25	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 20:25	95-47-6	
Dibromofluoromethane (S)	106	%	85-115	1		03/19/08 20:25	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 20:25	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-109	1		03/19/08 20:25	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		03/19/08 20:25	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-13 **Lab ID: 9215496013** Collected: 03/14/08 12:30 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 10:01	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140	1	03/19/08 00:00	03/20/08 10:01	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**122**	ug/L	100	1		03/19/08 21:35	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 21:35	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 21:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 21:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 21:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 21:35	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 21:35	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 21:35	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 21:35	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 21:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 21:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 21:35	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 21:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 21:35	91-20-3	
Toluene	**13.8**	ug/L	5.0	1		03/19/08 21:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 21:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 21:35	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 21:35	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		03/19/08 21:35	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 21:35	2037-26-5	
4-Bromofluorobenzene (S)	99	%	87-109	1		03/19/08 21:35	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		03/19/08 21:35	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-14 **Lab ID: 9215496014** Collected: 03/14/08 15:55 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	**0.046**	ug/L	0.020	1	03/19/08 00:00	03/20/08 10:11	106-93-4	
1-Chloro-2-bromopropane (S)	68	%	60-140	1	03/19/08 00:00	03/20/08 10:11	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**1020**	ug/L	1000	10		03/19/08 18:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	10		03/19/08 18:43	994-05-8	
Benzene	**288**	ug/L	50.0	10		03/19/08 18:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	10		03/19/08 18:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	10		03/19/08 18:43	75-65-0	
tert-Butyl Formate	ND	ug/L	500	10		03/19/08 18:43	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	50.0	10		03/19/08 18:43	106-93-4	
1,2-Dichloroethane	ND	ug/L	50.0	10		03/19/08 18:43	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	10		03/19/08 18:43	108-20-3	
Ethanol	ND	ug/L	2000	10		03/19/08 18:43	64-17-5	
Ethylbenzene	**366**	ug/L	50.0	10		03/19/08 18:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	10		03/19/08 18:43	637-92-3	
Methyl-tert-butyl ether	**534**	ug/L	50.0	10		03/19/08 18:43	1634-04-4	
Naphthalene	**127**	ug/L	50.0	10		03/19/08 18:43	91-20-3	
Toluene	**7130**	ug/L	250	50		03/20/08 13:12	108-88-3	
Xylene (Total)	**2130**	ug/L	100	10		03/19/08 18:43	1330-20-7	
m&p-Xylene	**1380**	ug/L	100	10		03/19/08 18:43	1330-20-7	
o-Xylene	**750**	ug/L	50.0	10		03/19/08 18:43	95-47-6	
Dibromofluoromethane (S)	104	%	85-115	10		03/19/08 18:43	1868-53-7	
Toluene-d8 (S)	103	%	70-120	10		03/19/08 18:43	2037-26-5	
4-Bromofluorobenzene (S)	96	%	87-109	10		03/19/08 18:43	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	79-120	10		03/19/08 18:43	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-15 **Lab ID: 9215496015** Collected: 03/14/08 15:30 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 10:22	106-93-4	
1-Chloro-2-bromopropane (S)	86	%	60-140	1	03/19/08 00:00	03/20/08 10:22	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 14:13	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 14:13	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 14:13	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 14:13	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 14:13	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 14:13	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 14:13	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 14:13	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 14:13	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 14:13	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 14:13	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 14:13	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 14:13	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 14:13	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 14:13	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 14:13	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 14:13	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 14:13	95-47-6	
Dibromofluoromethane (S)	103	%	85-115	1		03/19/08 14:13	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 14:13	2037-26-5	
4-Bromofluorobenzene (S)	94	%	87-109	1		03/19/08 14:13	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	79-120	1		03/19/08 14:13	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-16 **Lab ID: 9215496016** Collected: 03/14/08 14:30 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 10:32	106-93-4	
1-Chloro-2-bromopropane (S)	100	%	60-140	1	03/19/08 00:00	03/20/08 10:32	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 14:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 14:30	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 14:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 14:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 14:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 14:30	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 14:30	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 14:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 14:30	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 14:30	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 14:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 14:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 14:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 14:30	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 14:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 14:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 14:30	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 14:30	95-47-6	
Dibromofluoromethane (S)	104	%	85-115	1		03/19/08 14:30	1868-53-7	
Toluene-d8 (S)	99	%	70-120	1		03/19/08 14:30	2037-26-5	
4-Bromofluorobenzene (S)	92	%	87-109	1		03/19/08 14:30	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	79-120	1		03/19/08 14:30	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-17 **Lab ID: 9215496017** Collected: 03/14/08 15:00 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/21/08 22:08	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140	1	03/19/08 00:00	03/21/08 22:08	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 14:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 14:46	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 14:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 14:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 14:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 14:46	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 14:46	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 14:46	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 14:46	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 14:46	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 14:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 14:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 14:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 14:46	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 14:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 14:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 14:46	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 14:46	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		03/19/08 14:46	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 14:46	2037-26-5	
4-Bromofluorobenzene (S)	93	%	87-109	1		03/19/08 14:46	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		03/19/08 14:46	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-18 **Lab ID: 9215496018** Collected: 03/14/08 15:15 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 10:53	106-93-4	
1-Chloro-2-bromopropane (S)	70	%	60-140	1	03/19/08 00:00	03/20/08 10:53	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 15:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 15:02	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 15:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 15:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 15:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 15:02	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 15:02	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 15:02	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 15:02	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 15:02	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 15:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 15:02	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 15:02	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 15:02	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 15:02	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 15:02	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 15:02	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 15:02	95-47-6	
Dibromofluoromethane (S)	106	%	85-115	1		03/19/08 15:02	1868-53-7	
Toluene-d8 (S)	94	%	70-120	1		03/19/08 15:02	2037-26-5	
4-Bromofluorobenzene (S)	92	%	87-109	1		03/19/08 15:02	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	79-120	1		03/19/08 15:02	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-19 **Lab ID: 9215496019** Collected: 03/14/08 13:15 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/20/08 11:04	106-93-4	
1-Chloro-2-bromopropane (S)	97	%	60-140	1	03/19/08 00:00	03/20/08 11:04	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 15:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 15:20	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 15:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 15:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 15:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 15:20	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 15:20	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 15:20	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 15:20	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 15:20	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 15:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 15:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 15:20	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 15:20	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 15:20	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 15:20	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 15:20	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 15:20	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		03/19/08 15:20	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 15:20	2037-26-5	
4-Bromofluorobenzene (S)	92	%	87-109	1		03/19/08 15:20	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	79-120	1		03/19/08 15:20	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: MW-20 **Lab ID: 9215496020** Collected: 03/14/08 14:20 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/21/08 23:11	106-93-4	
1-Chloro-2-bromopropane (S)	93	%	60-140	1	03/19/08 00:00	03/21/08 23:11	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 15:36	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 15:36	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 15:36	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 15:36	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 15:36	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 15:36	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 15:36	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 15:36	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 15:36	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 15:36	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 15:36	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 15:36	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 15:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 15:36	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 15:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 15:36	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 15:36	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 15:36	95-47-6	
Dibromofluoromethane (S)	100	%	85-115	1		03/19/08 15:36	1868-53-7	
Toluene-d8 (S)	100	%	70-120	1		03/19/08 15:36	2037-26-5	
4-Bromofluorobenzene (S)	94	%	87-109	1		03/19/08 15:36	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		03/19/08 15:36	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: PW-1 **Lab ID: 9215496021** Collected: 03/14/08 10:25 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/21/08 23:43	106-93-4	
1-Chloro-2-bromopropane (S)	72	%	60-140	1	03/19/08 00:00	03/21/08 23:43	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 15:52	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 15:52	994-05-8	
Benzene	ND	ug/L	5.0	1		03/19/08 15:52	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 15:52	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 15:52	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 15:52	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 15:52	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 15:52	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 15:52	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 15:52	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 15:52	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 15:52	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 15:52	1634-04-4	
Naphthalene	ND	ug/L	5.0	1		03/19/08 15:52	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 15:52	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 15:52	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 15:52	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 15:52	95-47-6	
Dibromofluoromethane (S)	105	%	85-115	1		03/19/08 15:52	1868-53-7	
Toluene-d8 (S)	99	%	70-120	1		03/19/08 15:52	2037-26-5	
4-Bromofluorobenzene (S)	91	%	87-109	1		03/19/08 15:52	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	79-120	1		03/19/08 15:52	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: DW-1 **Lab ID: 9215496022** Collected: 03/14/08 10:55 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	**0.27**	ug/L	0.020	1	03/19/08 00:00	03/24/08 16:58	106-93-4	
1-Chloro-2-bromopropane (S)	122	%	60-140	1	03/19/08 00:00	03/24/08 16:58	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	**1330**	ug/L	1000	10		03/19/08 19:03	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	10		03/19/08 19:03	994-05-8	
Benzene	**896**	ug/L	50.0	10		03/19/08 19:03	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	10		03/19/08 19:03	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	10		03/19/08 19:03	75-65-0	
tert-Butyl Formate	ND	ug/L	500	10		03/19/08 19:03	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	50.0	10		03/19/08 19:03	106-93-4	
1,2-Dichloroethane	ND	ug/L	50.0	10		03/19/08 19:03	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	10		03/19/08 19:03	108-20-3	
Ethanol	ND	ug/L	2000	10		03/19/08 19:03	64-17-5	
Ethylbenzene	**1270**	ug/L	50.0	10		03/19/08 19:03	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	10		03/19/08 19:03	637-92-3	
Methyl-tert-butyl ether	**110**	ug/L	50.0	10		03/19/08 19:03	1634-04-4	
Naphthalene	**300**	ug/L	50.0	10		03/19/08 19:03	91-20-3	
Toluene	**26800**	ug/L	1000	200		03/20/08 11:57	108-88-3	
Xylene (Total)	**4920**	ug/L	2000	200		03/20/08 11:57	1330-20-7	
m&p-Xylene	**2970**	ug/L	2000	200		03/20/08 11:57	1330-20-7	
o-Xylene	**1950**	ug/L	50.0	10		03/19/08 19:03	95-47-6	
Dibromofluoromethane (S)	102	%	85-115	10		03/19/08 19:03	1868-53-7	
Toluene-d8 (S)	99	%	70-120	10		03/19/08 19:03	2037-26-5	
4-Bromofluorobenzene (S)	98	%	87-109	10		03/19/08 19:03	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	79-120	10		03/19/08 19:03	17060-07-0	

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ANALYTICAL RESULTS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

Sample: PW-2 **Lab ID: 9215496023** Collected: 03/14/08 14:00 Received: 03/15/08 09:30 Matrix: Water

Parameters	Results	Units	Report Limit	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011							
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	1	03/19/08 00:00	03/24/08 17:08	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140	1	03/19/08 00:00	03/24/08 17:08	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260							
tert-Amyl Alcohol	ND	ug/L	100	1		03/19/08 16:08	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	1		03/19/08 16:08	994-05-8	
Benzene	**8.3**	ug/L	5.0	1		03/19/08 16:08	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	1		03/19/08 16:08	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	1		03/19/08 16:08	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1		03/19/08 16:08	762-75-4	
1,2-Dibromoethane (EDB)	ND	ug/L	5.0	1		03/19/08 16:08	106-93-4	
1,2-Dichloroethane	ND	ug/L	5.0	1		03/19/08 16:08	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1		03/19/08 16:08	108-20-3	
Ethanol	ND	ug/L	200	1		03/19/08 16:08	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1		03/19/08 16:08	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	1		03/19/08 16:08	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1		03/19/08 16:08	1634-04-4	
Naphthalene	**7.5**	ug/L	5.0	1		03/19/08 16:08	91-20-3	
Toluene	ND	ug/L	5.0	1		03/19/08 16:08	108-88-3	
Xylene (Total)	ND	ug/L	10.0	1		03/19/08 16:08	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	1		03/19/08 16:08	1330-20-7	
o-Xylene	ND	ug/L	5.0	1		03/19/08 16:08	95-47-6	
Dibromofluoromethane (S)	104	%	85-115	1		03/19/08 16:08	1868-53-7	
Toluene-d8 (S)	99	%	70-120	1		03/19/08 16:08	2037-26-5	
4-Bromofluorobenzene (S)	95	%	87-109	1		03/19/08 16:08	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	79-120	1		03/19/08 16:08	17060-07-0	

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QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

QC Batch: OEXT/2676 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9215496001, 9215496002, 9215496003, 9215496004, 9215496005, 9215496006, 9215496007

METHOD BLANK: 90096
Associated Lab Samples: 9215496001, 9215496002, 9215496003, 9215496004, 9215496005, 9215496006, 9215496007

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	
1-Chloro-2-bromopropane (S)	%	98	60-140	

LABORATORY CONTROL SAMPLE & LCSD: 90097 90098

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.32	0.30	112	106	60-140	6	20	
1-Chloro-2-bromopropane (S)	%				111	105	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90099 90100

Parameter	Units	9215478006 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.26	0.22	92	76	60-140	19	
1-Chloro-2-bromopropane (S)	%						67	67	60-140		

SAMPLE DUPLICATE: 90101

Parameter	Units	9215478007 Result	Dup Result	RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND	0	
1-Chloro-2-bromopropane (S)	%		81	21	

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QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

QC Batch: MSV/2847 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 9215496001, 9215496002, 9215496003, 9215496004, 9215496005, 9215496006, 9215496007, 9215496008, 9215496009, 9215496010, 9215496011, 9215496012

METHOD BLANK: 90392

Associated Lab Samples: 9215496001, 9215496002, 9215496003, 9215496004, 9215496005, 9215496006, 9215496007, 9215496008, 9215496009, 9215496010, 9215496011, 9215496012

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	
1,2-Dichloroethane	ug/L	ND	5.0	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	
Benzene	ug/L	ND	5.0	
Diisopropyl ether	ug/L	ND	5.0	
Ethanol	ug/L	ND	200	
Ethyl-tert-butyl ether	ug/L	ND	10.0	
Ethylbenzene	ug/L	ND	5.0	
m&p-Xylene	ug/L	ND	10.0	
Methyl-tert-butyl ether	ug/L	ND	5.0	
Naphthalene	ug/L	ND	5.0	
o-Xylene	ug/L	ND	5.0	
tert-Amyl Alcohol	ug/L	ND	100	
tert-Amylmethyl ether	ug/L	ND	10.0	
tert-Butyl Alcohol	ug/L	ND	100	
tert-Butyl Formate	ug/L	ND	50.0	
Toluene	ug/L	ND	5.0	
Xylene (Total)	ug/L	ND	10.0	
1,2-Dichloroethane-d4 (S)	%	107	79-120	
4-Bromofluorobenzene (S)	%	99	87-109	
Dibromofluoromethane (S)	%	105	85-115	
Toluene-d8 (S)	%	100	70-120	

LABORATORY CONTROL SAMPLE: 90393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	50	51.7	103	81-125	
1,2-Dichloroethane	ug/L	50	57.8	116	72-126	
3,3-Dimethyl-1-Butanol	ug/L	1000	1230	123	55-148	
Benzene	ug/L	50	53.9	108	78-128	
Diisopropyl ether	ug/L	50	62.7	125	74-131	
Ethanol	ug/L	2000	2670	133	53-150	
Ethyl-tert-butyl ether	ug/L	100	125	125	77-136	
Ethylbenzene	ug/L	50	54.8	110	80-127	
m&p-Xylene	ug/L	100	111	111	82-127	
Methyl-tert-butyl ether	ug/L	50	62.1	124	71-130	
Naphthalene	ug/L	50	57.2	114	52-136	
o-Xylene	ug/L	50	53.0	106	83-124	
tert-Amyl Alcohol	ug/L	1000	1150	115	50-150	
tert-Amylmethyl ether	ug/L	100	120	120	50-150	

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QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

LABORATORY CONTROL SAMPLE: 90393

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Alcohol	ug/L	500	641	128	50-150	
tert-Butyl Formate	ug/L	200	257	128	50-150	
Toluene	ug/L	50	54.7	109	76-126	
Xylene (Total)	ug/L	150	164	110	83-125	
1,2-Dichloroethane-d4 (S)	%			110	79-120	
4-Bromofluorobenzene (S)	%			99	87-109	
Dibromofluoromethane (S)	%			106	85-115	
Toluene-d8 (S)	%			101	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90444 90445

Parameter	Units	9215478003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Benzene	ug/L	ND	50	50	52.4	54.0	105	108	74-136	3	
Toluene	ug/L	ND	50	50	51.7	52.9	103	105	73-131	2	
1,2-Dichloroethane-d4 (S)	%						105	104	79-120		
4-Bromofluorobenzene (S)	%						98	99	87-109		
Dibromofluoromethane (S)	%						105	105	85-115		
Toluene-d8 (S)	%						100	100	70-120		

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QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

QC Batch: MSV/2848
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 9215496013

METHOD BLANK: 90394
Associated Lab Samples: 9215496013

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	
1,2-Dichloroethane	ug/L	ND	5.0	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	
Benzene	ug/L	ND	5.0	
Diisopropyl ether	ug/L	ND	5.0	
Ethanol	ug/L	ND	200	
Ethyl-tert-butyl ether	ug/L	ND	10.0	
Ethylbenzene	ug/L	ND	5.0	
m&p-Xylene	ug/L	ND	10.0	
Methyl-tert-butyl ether	ug/L	ND	5.0	
Naphthalene	ug/L	ND	5.0	
o-Xylene	ug/L	ND	5.0	
tert-Amyl Alcohol	ug/L	ND	100	
tert-Amylmethyl ether	ug/L	ND	10.0	
tert-Butyl Alcohol	ug/L	ND	100	
tert-Butyl Formate	ug/L	ND	50.0	
Toluene	ug/L	ND	5.0	
Xylene (Total)	ug/L	ND	10.0	
1,2-Dichloroethane-d4 (S)	%	107	79-120	
4-Bromofluorobenzene (S)	%	99	87-109	
Dibromofluoromethane (S)	%	105	85-115	
Toluene-d8 (S)	%	100	70-120	

LABORATORY CONTROL SAMPLE: 90395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	50	51.7	103	81-125	
1,2-Dichloroethane	ug/L	50	57.8	116	72-126	
3,3-Dimethyl-1-Butanol	ug/L	1000	1230	123	55-148	
Benzene	ug/L	50	53.9	108	78-128	
Diisopropyl ether	ug/L	50	62.7	125	74-131	
Ethanol	ug/L	2000	2670	133	53-150	
Ethyl-tert-butyl ether	ug/L	100	125	125	77-136	
Ethylbenzene	ug/L	50	54.8	110	80-127	
m&p-Xylene	ug/L	100	111	111	82-127	
Methyl-tert-butyl ether	ug/L	50	62.1	124	71-130	
Naphthalene	ug/L	50	57.2	114	52-136	
o-Xylene	ug/L	50	53.0	106	83-124	
tert-Amyl Alcohol	ug/L	1000	1150	115	50-150	
tert-Amylmethyl ether	ug/L	100	120	120	50-150	
tert-Butyl Alcohol	ug/L	500	641	128	50-150	

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QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

LABORATORY CONTROL SAMPLE: 90395

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	200	257	128	50-150	
Toluene	ug/L	50	54.7	109	76-126	
Xylene (Total)	ug/L	150	164	110	83-125	
1,2-Dichloroethane-d4 (S)	%			110	79-120	
4-Bromofluorobenzene (S)	%			99	87-109	
Dibromofluoromethane (S)	%			106	85-115	
Toluene-d8 (S)	%			101	70-120	

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QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

QC Batch: MSV/2854 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Oxygenates
Associated Lab Samples: 9215496014, 9215496015, 9215496016, 9215496017, 9215496018, 9215496019, 9215496020, 9215496021, 9215496022, 9215496023

METHOD BLANK: 90595

Associated Lab Samples: 9215496014, 9215496015, 9215496016, 9215496017, 9215496018, 9215496019, 9215496020, 9215496021, 9215496022, 9215496023

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	5.0	
1,2-Dichloroethane	ug/L	ND	5.0	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	
Benzene	ug/L	ND	5.0	
Diisopropyl ether	ug/L	ND	5.0	
Ethanol	ug/L	ND	200	
Ethyl-tert-butyl ether	ug/L	ND	10.0	
Ethylbenzene	ug/L	ND	5.0	
m&p-Xylene	ug/L	ND	10.0	
Methyl-tert-butyl ether	ug/L	ND	5.0	
Naphthalene	ug/L	ND	5.0	
o-Xylene	ug/L	ND	5.0	
tert-Amyl Alcohol	ug/L	ND	100	
tert-Amylmethyl ether	ug/L	ND	10.0	
tert-Butyl Alcohol	ug/L	ND	100	
tert-Butyl Formate	ug/L	ND	50.0	
Toluene	ug/L	ND	5.0	
Xylene (Total)	ug/L	ND	10.0	
1,2-Dichloroethane-d4 (S)	%	103	79-120	
4-Bromofluorobenzene (S)	%	93	87-109	
Dibromofluoromethane (S)	%	104	85-115	
Toluene-d8 (S)	%	101	70-120	

LABORATORY CONTROL SAMPLE: 90596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	50	51.4	103	81-125	
1,2-Dichloroethane	ug/L	50	52.7	105	72-126	
3,3-Dimethyl-1-Butanol	ug/L	1000	1050	105	55-148	
Benzene	ug/L	50	53.1	106	78-128	
Diisopropyl ether	ug/L	50	61.2	122	74-131	
Ethanol	ug/L	2000	2270	114	53-150	
Ethyl-tert-butyl ether	ug/L	100	121	121	77-136	
Ethylbenzene	ug/L	50	50.6	101	80-127	
m&p-Xylene	ug/L	100	100	100	82-127	
Methyl-tert-butyl ether	ug/L	50	60.5	121	71-130	
Naphthalene	ug/L	50	65.4	131	52-136	
o-Xylene	ug/L	50	48.2	96	83-124	
tert-Amyl Alcohol	ug/L	1000	1200	120	50-150	
tert-Amylmethyl ether	ug/L	100	117	117	50-150	

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QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

LABORATORY CONTROL SAMPLE: 90596

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Alcohol	ug/L	500	653	131	50-150	
tert-Butyl Formate	ug/L	200	136	68	50-150	
Toluene	ug/L	50	51.9	104	76-126	
Xylene (Total)	ug/L	150	148	99	83-125	
1,2-Dichloroethane-d4 (S)	%			102	79-120	
4-Bromofluorobenzene (S)	%			96	87-109	
Dibromofluoromethane (S)	%			106	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90597 90598

Parameter	Units	9215496015 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
Benzene	ug/L	ND	50	50	41.6	44.4	83	89	74-136	6	
Toluene	ug/L	ND	50	50	41.1	43.8	82	87	73-131	6	
1,2-Dichloroethane-d4 (S)	%						101	100	79-120		
4-Bromofluorobenzene (S)	%						92	91	87-109		
Dibromofluoromethane (S)	%						105	103	85-115		
Toluene-d8 (S)	%						99	98	70-120		

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(704)875-9092

QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

QC Batch: OEXT/2688 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9215496008, 9215496009, 9215496010, 9215496011, 9215496012, 9215496013, 9215496014, 9215496015, 9215496016, 9215496017, 9215496018, 9215496019

METHOD BLANK: 90632

Associated Lab Samples: 9215496008, 9215496009, 9215496010, 9215496011, 9215496012, 9215496013, 9215496014, 9215496015, 9215496016, 9215496017, 9215496018, 9215496019

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	
1-Chloro-2-bromopropane (S)	%	112	60-140	

LABORATORY CONTROL SAMPLE & LCSD: 90633 90634

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.26	0.31	92	110	60-140	18	20	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90635 90636

Parameter	Units	9215496008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.29	0.27	100	94	60-140	6	
1-Chloro-2-bromopropane (S)	%						92	91	60-140		

SAMPLE DUPLICATE: 90637

Parameter	Units	9215496009 Result	Dup Result	RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND	0	
1-Chloro-2-bromopropane (S)	%		91	1	

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www.pacelabs.com

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

QC Batch: OEXT/2689 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9215496020, 9215496021, 9215496022, 9215496023

METHOD BLANK: 90644
Associated Lab Samples: 9215496020, 9215496021, 9215496022, 9215496023

Parameter	Units	Blank Result	Reporting Limit	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	
1-Chloro-2-bromopropane (S)	%	70	60-140	

LABORATORY CONTROL SAMPLE & LCSD: 90645 90646

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.29	0.25	0.26	88	92	60-140	4	20	
1-Chloro-2-bromopropane (S)	%				102	97	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 90647 90648

Parameter	Units	9215496020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.29	.29	0.22	0.23	78	80	60-140	3	
1-Chloro-2-bromopropane (S)	%						71	72	60-140		

SAMPLE DUPLICATE: 90649

Parameter	Units	9215496021 Result	Dup Result	RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND	0	
1-Chloro-2-bromopropane (S)	%		70	3	

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: Four Seasons/00120/CA:31420
Pace Project No.: 9215496

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1167946

Section A Required Client Information:

Company:	SCDHEC-UST
Address:	2600-Bull St. Columbia, SC 29201
Email To:	
Phone:	803-896-6240
Fax:	803-896-6245
Requested Due Date/TAT:	7 Days

Section B Required Project Information:

Report To:	D. Thomas
Copy To:	
Purchase Order No.:	587465
Project Name:	Four Seasons
Project Number:	00120 / CA: 31420

Section C Invoice Information:

Attention:	Finance
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	1315-1

REGULATORY AGENCY

- [ ] NPDES
- [ ] GROUND WATER
- [ ] DRINKING WATER
- [x] UST
- [ ] RCRA
- [ ] OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N) BTEX MN (8260B)	1,2DCA (8260B)	Oxygenates (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G	3/14/08	1150	—	—	-	6				6					X	X	X	X		Strong Odor 001
2	MW-2R				1115	—	—	-															002
3	MW-3				1140	—	—	-															003
4	MW-4				1210	—	—	-															004
5	MW-5				1545	—	—	-															005
6	MW-6				1620	—	—	-															Strong Odor 006
7	MW-7				1610	—	—	-															Mild Odor 007
8	MW-8				1300	—	—	-															008
9	MW-9				1440	—	—	-															009
10	MW-10				1105	—	—	-															Mild Odor 010
11	MW-11				1130	—	—	-															011
12	MW-12				1200	—	—	-															012

9215496

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	3/14/08	1900	[signature]	03/14/08	930	02	Y	W	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 3/14/08

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

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

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1167945

Section A Required Client Information:

Company:	SCDHEC-UST
Address:	2600 Bull St. Columbia, SC 29201
Email To:	
Phone:	803-896-6140
Fax:	803-896-6245
Requested Due Date/TAT:	7 Days

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	587465
Project Name:	Four Seasons
Project Number:	00120 / CA: 31420

Section C Invoice Information:

Attention:	Finance
Company Name:	
Address:	
Pace Quote Reference:	
Pace Project Manager:	
Pace Profile #:	

REGULATORY AGENCY

- [ ] NPDES
- [ ] GROUND WATER
- [ ] DRINKING WATER
- [x] UST
- [ ] RCRA
- [ ] OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): BTEXMIN (8260B) N; 1,2 DCA (8260B) N; Oxygenates (8260B) N; EDB (8011) N

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test	BTEXMIN (8260B)	1,2 DCA (8260B)	Oxygenates (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./Lab I.D.
1	MW-13	WT	G	3/14/08	1220	—	—	—	6				6						X	X	X	X		013
2	MW-14				1555	—	—	—																014
3	MW-15				1530	—	—	—																015
4	MW-16				1430	—	—	—																016
5	MW-17				1500	—	—	—																017
6	MW-18				1515	—	—	—																018
7	MW-19				1315	—	—	—																019
8	MW-20				1420	—	—	—																020
9	PW-1				1025	—	—	—																021
10	DW-1				1055	—	—	—																022
11	PW-2				1400	—	—	—																023
12																								

9215496

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
	Dalton Reames	3/14/08	1900	[signature]	03/15/08	930	2.2	Y	w	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Dalton Reames

SIGNATURE of SAMPLER: Dalton Reames

DATE Signed (MM/DD/YY): 3/14/08

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

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical

Sample Condition Upon Receipt

Client Name: Emerald Project # 9215496

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

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

Packing Material: ☐ Bubble Wrap ☑ Bubble Bags ☐ None ☐ Other_____

Thermometer Used T060 Type of Ice: (Wet) Blue None ☑ Samples on ice, cooling process has begun

Cooler Temperature 2.2 Biological Tissue is Frozen: Yes No (N/A)

Temp should be above freezing to 6°C

Optional	
Proj. Due Date:	N/A
Proj. Name:	N/A

Date and Initials of person examining contents: JEH 03/15/09

Comments:

Chain of Custody Present:	☑Yes ☐No ☐N/A	1.
Chain of Custody Filled Out:	☑Yes ☐No ☐N/A	2.
Chain of Custody Relinquished:	☑Yes ☐No ☐N/A	3.
Sampler Name & Signature on COC:	☑Yes ☐No ☐N/A	4.
Samples Arrived within Hold Time:	☑Yes ☐No ☐N/A	5.
Short Hold Time Analysis (<72hr):	☐Yes ☑No ☐N/A	6.
Rush Turn Around Time Requested:	☐Yes ☑No ☐N/A	7.
Sufficient Volume:	☑Yes ☐No ☐N/A	8.
Correct Containers Used:	☑Yes ☐No ☐N/A	9.
-Pace Containers Used:	☑Yes ☐No ☐N/A	
Containers Intact:	☑Yes ☐No ☐N/A	10.
Filtered volume received for Dissolved tests	☐Yes ☐No ☑N/A	11.
Sample Labels match COC:	☑Yes ☐No ☐N/A	12.
-Includes date/time/ID/Analysis Matrix:		
All containers needing preservation have been checked.	☑Yes ☐No ☐N/A	13.
All containers needing preservation are found to be in compliance with EPA recommendation.	☑Yes ☐No ☐N/A	On COC Item # 11 on Page 2 of 2 sample has a small air bubble for vials all 6
exceptions: VOA, coliform, TOC, O&G, WI-DRO (water)	☐Yes ☐No	Initial when completed
Samples checked for dechlorination:	☐Yes ~~☐No~~ ☑N/A	14.
Headspace in VOA Vials (>6mm):	☐Yes ☑No ☐N/A	15.
Trip Blank Present:	☐Yes ☐No ☑N/A	16.
Trip Blank Custody Seals Present	☐Yes ☐No ☑N/A	
Pace Trip Blank Lot # (if purchased): N/A		

Client Notification/ Resolution:

Field Data Required? Y / N / N/A

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

Project Manager Review: RW Date: 3/17/08

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

SITE ACTIVITY SUMMARY

UST PERMIT # 00120
FACILITY NAME Four Seasons
COUNTY Aiken
NAME OF SAMPLER Dalton Reames

Sample ID	sampled?	Date	Time	Depth of Well	Depth to Water	Depth to Product	FP Thickness	# gal purged	comments
MW-1	Y	3/14/08	1150	15-25'	23.76	—	—	—	Strong odor
MW-2R	Y		1115	15-30'	25.71	—	—	—	—
MW-3	Y		1140	17-27'	24.36	—	—	—	—
MW-4	Y		1210	17-27'	24.10	—	—	—	—
MW-5	Y		1545	20-30'	12.83	—	—	3.0	Clear - N/O
MW-6	Y		1620	9-15'	12.35	—	—	—	Strong Odor
MW-7	Y		1610	10-20'	17.77	—	—	—	Mild Odor
MW-8	Y		1300	5-15'	7.25	—	—	—	—
MW-9	Y		1440	10-20'	14.55	—	—	—	—
MW-10	Y		1105	15-30'	23.34	—	—	—	Mild odor
MW-11	Y		1130	15-30'	23.56	—	—	—	—
MW-12	Y		1200	15-30'	20.90	—	—	—	—
MW-13	Y		1230	15-30'	20.47	—	—	—	—
MW-14	Y		1555	9-24'	16.20	—	—	—	—
MW-15	Y		1530	5-15'	5.39	—	—	—	—
MW-16	Y		1430	4-14'	8.37	—	—	—	—
MW-17	Y		1500	5-15'	2.48	—	—	—	* See Below
MW-18	Y		1515	5-15'	3.96	—	—	3.0	Clear - N/O
MW-19	Y		1315	5-15'	6.63	—	—	—	—
MW-20	Y		1420	5-15'	7.56	—	—	—	—
PW-1	Y		1025	46'	24.46	—	—	5.0	Clear - N/O
DW-1	Y		1055	60'	26.50	—	—	5.0	N/O
DW-2	Y		1400	60'	10.60	—	—	5.0	Very Cloudy - N/O

* MW-17: Could not get the bailer to drop down casing in order to purge well before sampling. Could only get enough H_2O for samples; Milky w/ some orange.

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/14/08

Field Personnel: Dalton Reames

General Weather Conditions: Sunny/Warm

Ambient Air Temperature: _____ °C 72° F

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	09642	serial no.	103631
pH=4.0	/	standard	/
pH=7.0	/	standard	
pH=10.0	/	standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
[signature]	3/14/08 1900		

Facility Name: Four Seasons

Site ID#: 00120 **Monitoring Well #** MW-5

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): .166 feet

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:		feet
Depth to Free Product (DFP)	/	feet
Depth to Ground Water (DGW)	12.83	feet
Total Well Depth (TWD)	30.00	feet
Length of the water column (LWC=TWD-DGW)	17.17	feet

1 casing volume (CV=LWC X C)= 17.17 X .166 = 3.0 gals
3 casing volume (3 X CV)= 9.0 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 3.0 gals.
*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol 1.0	2nd Vol 1.0	3rd Vol 1.0	4th Vol	5th Vol	Post Sampling	
Time (military)	/	1542	1544	1545				
pH (s.u.)	↓	4.83	4.50	4.40				
Specific Conductivity (µmhos/cm)	↓	85.4	80.1	70.6				
Water Temperature (°C)	↓	22.0	21.3	20.9				
Dissolved Oxygen	N/A							
PID readings, if required	/							

Remarks: Clear - No Sampled @ 1545

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/14/08

Field Personnel: Dalton Reames

General Weather Conditions: M. Cloudy / Warm

Ambient Air Temperature: _____ °C 70° F

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	09642	serial no.	103631
pH=4.0	✓	standard	✓
pH=7.0	✓	standard	
pH=10.0	✓	standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Dalton	3/14/08		
KOW	1900		

Facility Name: Four Seasons

Site ID#: _____ **Monitoring Well #** MW-18

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): .166 feet

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:	—	feet
Depth to Free Product (DFP)	—	feet
Depth to Ground Water (DGW)	3.96	feet
Total Well Depth (TWD)	15.00	feet
Length of the water column (LWC=TWD-DGW)	11.04	feet

1 casing volume (CV=LWC X C)= 11.04 X .166 = 1.75 gals

3 casing volume (3 X CV)= 5.25 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 3.0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1.0 1st Vol	1.0 2nd Vol	1.0 3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1	1511	1513	1515				
pH (s.u.)	↓	5.60	5.33	5.21				
Specific Conductivity (µmhos/cm)	↓	52.8	54.8	60.0				
Water Temperature (°C)	↓	17.7	17.6	17.5				
Dissolved Oxygen	N/A							
PID readings, if required								

Remarks: N/O; Cloudy Sampled @ 1515

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/14/08

Field Personnel: Dalton Reames

General Weather Conditions: P. Cloudy / Cool

Ambient Air Temperature: _____ °C 50°F

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	09642	serial no.	103631
pH=4.0	✓	standard	—
pH=7.0	✓	standard	
pH=10.0	✓	standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
[signature]	3/14/08 1900		

Facility Name: Four Seasons

Site ID#: 00120 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): .166 feet

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:	—	feet
Depth to Free Product (DFP)	—	feet
Depth to Ground Water (DGW)	24.46	feet
Total Well Depth (TWD)	46.00	feet
Length of the water column (LWC=TWD-DGW)	21.54	feet

1 casing volume (CV=LWC X C)= 21.54 X .166 = 3.5 gals
3 casing volume (3 X CV)= 10.5 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 6.0 ~~9.0~~ gals.
*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol 2.0	2nd Vol 2.0	3rd Vol 1.0	4th Vol 1.0	5th Vol	Post Sampling	
Time (military)	1	1015	1020	1023	1025			
pH (s.u.)	↓	7.73	7.31	6.26	6.13			
Specific Conductivity (µmhos/cm)	↓	751.7	581.1	57.1	5.69			
Water Temperature (°C)	↓	22.7	22.5	22.3	22.3			
Dissolved Oxygen	N/A							
PID readings, if required	—							

Remarks: Clear - No Sample @ 1025

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/14/08

Field Personnel: Dalton Reames

General Weather Conditions: P. Cloudy / Mild

Ambient Air Temperature: _____ °C 52°F

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	09642	serial no.	103631
pH=4.0	✓	standard	✓
pH=7.0	✓	standard	
pH=10.0	✓	standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
Dalton Reames	3/14/08 1900		

Facility Name: Four Seasons

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): .166 feet

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:	—	feet
Depth to Free Product (DFP)	—	feet
Depth to Ground Water (DGW)	26.50	feet
Total Well Depth (TWD)	60.00	feet
Length of the water column (LWC=TWD-DGW)	33.50	feet

1 casing volume (CV=LWC X C)= 33.50 X .166 = 5.5 gals
3 casing volume (3 X CV)= 16.5 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 5.0 gals.
*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol 2.0	2nd Vol 2.0	3rd Vol 1.0	4th Vol	5th Vol	Post Sampling	
Time (military)		1047	1051	1054				
pH (s.u.)		6.33	6.52	6.56				
Specific Conductivity (µmhos/cm)		107.2	153.4	165.3				
Water Temperature (°C)		22.6	22.4	22.4				
Dissolved Oxygen	N/A							
PID readings, if required	—							

Remarks: N/O ; Dry @ 5.0 gals. Sampled @ 1055

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/14/08

Field Personnel: Dalton Reames

General Weather Conditions: M. Cloudy / Warm

Ambient Air Temperature: _____ °C 69°F

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	09642	serial no.	103631
pH=4.0	✓	standard	✓
pH=7.0	✓	standard	
pH=10.0	✓	standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
[signature]	3/14/08 1900		

Facility Name: Far Seasons

Site ID#: _____ **Monitoring Well #** DW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): .166 feet

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness: — feet
Depth to Free Product (DFP) — feet
Depth to Ground Water (DGW) 10.60 feet
Total Well Depth (TWD) 60.00 feet
Length of the water column (LWC=TWD-DGW) 49.40 feet
1 casing volume (CV=LWC X C)= 49.40 X .166 = 8.25 gals
3 casing volume (3 X CV)= 24.75 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 5.0 gals.
*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol 2.0	2nd Vol 2.0	3rd Vol 1.0	4th Vol	5th Vol	Post Sampling	
Time (military)	R	1352	1357	1400				
pH (s.u.)	↓	7.27	7.04	6.90				
Specific Conductivity (µmhos/cm)	↓	1051	1062	1048				
Water Temperature (°C)	↓	21.3	20.3	20.1				
Dissolved Oxygen	N/A							
PID readings, if required	—							

Remarks: Clear - No ; Very Cloudy (Grey-Brown) Sampled @ 1400

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

OCT 2 0 2010

UST DOCKET 20T

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071

Re: Bid # IFB-34007-6/3/08-EMW; PO# 4500011317
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. The packets contain the necessary approval for work to begin. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 4500011317 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
00120	Four Seasons Food and Fuel	Aiken	1	Monitoring Well Installation	60 Days	40305	$4,270.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. **Please note, if there are any changes in the established cost agreement amounts (e.g., additional water supply wells sampled, additional well footage, etc.) contact the site's project manager for technical and/or financial approval. Failure to do so prior to submittal of invoice may result in delay of payment.**

The Bureau grants pre-approval for transportation of drums of virgin petroleum contaminated soil and drums of groundwater from the referenced site to a permitted treatment facility. The contaminated soil and/or groundwater must be properly stored in labeled 55-gallon drums or equivalent containers.

The contaminated soil and/or groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. Please note, transportation of waste oil contaminated soil must receive pre-approval from the Division of Waste Assessment & Emergency Response.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. If you have any questions or need further assistance, please contact me at (803) 896-6633.

Sincerely,

Cathleen Ridgley

Cathleen Ridgley, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc.: Monitoring Well Approvals (MWA)
Approved Cost Agreements (ACA)
Information Packets

cc: Cathleen Ridgley, UST Program (w/out enc)
Technical Files (w/ copy of MWA, ACA, & Site Map)

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

UNDERGROUND STORAGE TANK DIVISION
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-896-6240

MEMORANDUM

TO: Bryan Shane, Midlands Environmental Consultants, Inc.

FROM: Justin Koon

RE: **NOTICE TO PROCEED**

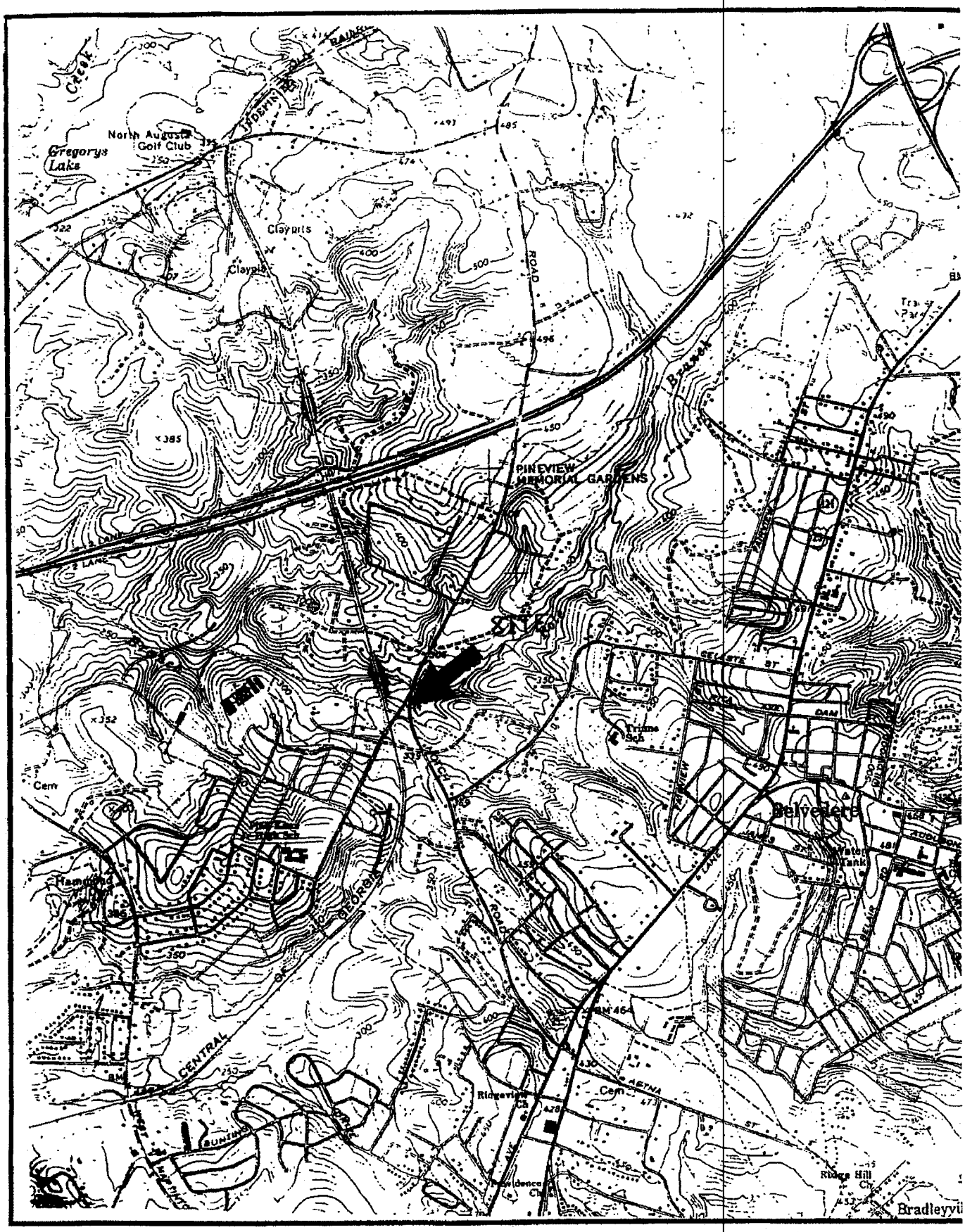
Facility Name: Four Seasons Food and Fuel

Permit Number: 00120

County: Aiken

Work To Be Completed: Install 2-2" wells in the locations shown on attached map. Abandon MW16. Approximately 30 days after installation return to site to collect samples. Have all samples analyzed for BTEX, Naph, and MTBE. The following wells should have oxy analyzed: MW1, MW7R, MW10, MW14, DW1, and RW1-RW4.

CA#: 40305



Creek
North Augusta Golf Club
Gregorys Lake
Claypits
Claypits
ROAD
Branch
PINEVIEW MEMORIAL GARDENS
STILL
Trinne Sch
Belvedere
Water Tank
Cem
Hammond
GEORGIA
CENTRAL
Ridgeview Ch
Cem
Ridge Hill Ch
Bradleyvi

H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

PROPERTY OWNER

RIGHT OF ENTRY - UST Permit #00120

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

I, Lynn Porter, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (SCDHEC), or a contractor selected by SCDHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility Four Seasons Food & Fuel 5 Phone: 803-819-1836

Street Address of Facility 2031 Pisgah Rd.

Town, City, District, Suburb North Augusta, SC 29841

Name of nearest intersecting street, road, highway, alley Five Notch Rd

Is this facility within the city limits? (yes or no) Yes

Is this facility serviced by a public water or sewer utility? (yes or no) Yes, If no, please provide the name of a person we can contact that can assist in the location of private water and septic tank lines Name _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) Yes(3), if yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____, Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____, if yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.

NAME of property owner (Please Print): George McKie

Phone Number (home) _____ (work) 803-642-4103

Current Mailing Address Po Box 6680 Aiken, S.C 29804

Signature of Property Owner: (Lease)

Witness: Beverly Smoot

Date: 8 Month 25 Day 03 Year

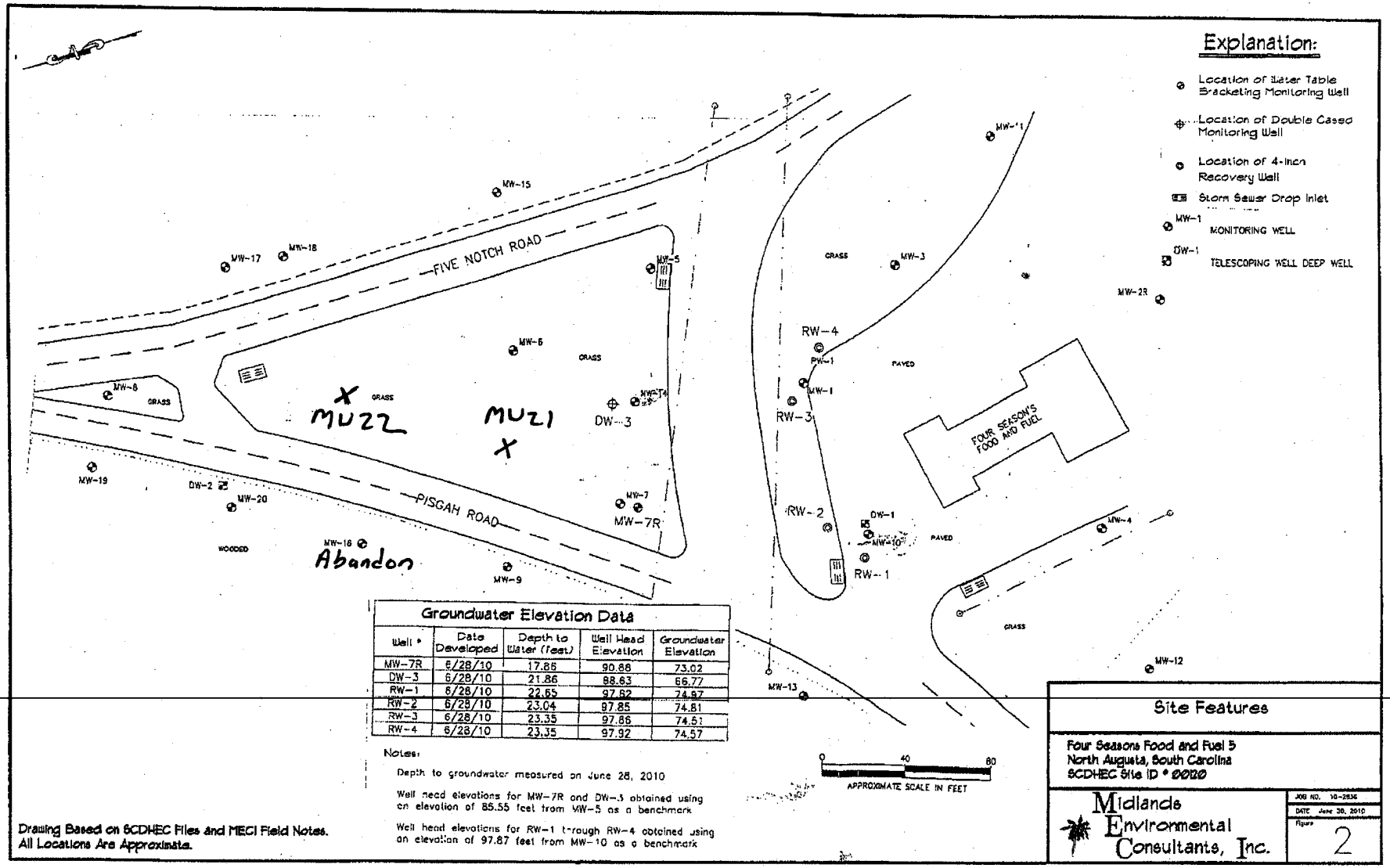
RECEIVED
AUG 25 2003
Underground Storage Tank Program

Table 1
Well Construction Details, Groundwater Elevation Data
Four Seasons #15, North Augusta, SC - Facility # 00120
Consultech Project C-06-08-045

Monitoring Well	Date	Well Depth	Depth of Screen Below Ground Surface	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation
MW-1	10/17/06	25.0	15'-25'	98.37	24.50	24.51	73.86
MW-2R	10/17/06	30.6	15'-30'	101.75		29.11	72.64
MW-3	10/17/06	27.0	17'-27'	99.70		25.27	74.43
MW-4	10/17/06	27.0	17'-27'	100.37		25.02	75.35
MW-5	10/17/06	27.0	20'-30'	85.55		25.02	60.53
MW-6	10/17/06	19.0	9'-19'	83.48		13.51	69.97
MW-7	10/17/06	19.0	10'-20'	90.89		18.60	72.29
MW-8	10/17/06	13.0	5'-15'	71.39		7.50	63.89
MW-9	10/17/06	20.0	10'-20'	86.69		15.61	71.08
MW-10	10/17/06	30.0	15'-30'	97.87		24.39	73.48
MW-11	10/17/06	30.0	15'-30'	98.96		24.19	74.77
MW-12	10/17/06	30.0	15'-30'	96.72		22.10	74.62
MW-13	10/17/06	29.0	15'-30'	94.97		21.74	73.23
MW-14	10/17/06	23.0	9'-24'	88.52		16.95	71.57
MW-15	10/18/06	14.6	5'-15'	77.06		6.43	70.63
MW-16	10/17/06	14.0	4'-14'	86.69		9.60	77.09
MW-17	10/18/06	13.0	5'-15'	68.79		2.77	66.02
MW-18	10/18/06	14.0	5'-15'	69.65		4.36	65.29
MW-19	10/18/06	14.0	5'-15'	70.93		7.54	63.39
MW-20	10/18/06	14.0	5'-15'	75.17		8.48	66.69
PW-1	10/17/06	46.0	41'-46'	98.41		25.22	73.19
DW-1	10/17/06	56.0	55'-60'	98.29		15.40	82.89
DW-2	10/17/06	55.0	55'-60'	75.18		9.23	65.95

All measurements reported in feet

MW7R 10'-30'
DW3 55'-60'
RW1 15'-30'
RW2 15'-30'
RW3 15'-30'
RW4 15'-30'



Groundwater Elevation Data

Well #	Date Developed	Depth to Water (feet)	Well Head Elevation	Groundwater Elevation
MW-7R	6/28/10	17.86	90.88	73.02
DW-3	6/28/10	21.86	88.63	66.77
RW-1	6/28/10	22.65	97.62	74.97
RW-2	6/28/10	23.04	97.85	74.81
RW-3	6/28/10	23.35	97.86	74.51
RW-4	6/28/10	23.35	97.92	74.57

Notes:

Depth to groundwater measured on June 28, 2010

Well head elevations for MW-7R and DW-3 obtained using an elevation of 85.55 feet from MW-5 as a benchmark

Well head elevations for RW-1 through RW-4 obtained using an elevation of 97.87 feet from MW-10 as a benchmark

Drawing Based on SCDHEC Files and MECI Field Notes.
All Locations Are Approximate.

Site Features

Four Seasons Food and Fuel 5
North Augusta, South Carolina
SCDHEC Site ID # 00120

Midlands Environmental Consultants, Inc.

JOB NO. 10-2836
DATE June 30, 2010
Figure 2

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Approval

Approval is hereby granted to: **Midlands Environmental Consultants, Inc.**

On behalf of: **Jackson Petroleum**

Facility: **Four Seasons Food and Fuel**
2031 Pisgah Road, N Augusta, SC

UST Permit #: **00120**

County: **Aiken**

This approval is for the installation of two (2) new wells. The monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

5. If any of the information provided to the Department changes, notification to the project manager (tel:803-896-6649 or e-mail: koonjt@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

Date of Issuance: 10/15/2010 **Approval:** UMW-23947

Justin Koon, Engineer Associate
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Approved Cost Agreement 40305

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

KOONJT

PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB					
		A EQUIPMENT	1.0000	100.00	100.00
		B PERSONNEL	3.0000	100.00	300.00
08 ABANDONMENT					
		ABANDONMENT	15.0000	4.00	60.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	50.0000	20.00	1,000.00
10 SAMPLE COLLECTION					
		A GROUND WATER	7.0000	25.00	175.00
		D GROUNDWATER NO-PURGE	21.0000	25.00	525.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	28.0000	30.00	840.00
		F EDB	11.0000	28.00	308.00
		P 8 OXYGENATES	11.0000	42.00	462.00
16 SUBSEQUENT SURVEY					
		SUBSEQUENT SURVEY	1.0000	50.00	50.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	2.0000	50.00	100.00
		C SOIL (TREATMENT/DISPOSAL)	5.0000	50.00	250.00
23 EFR					
		D SITE RECONNAISSANCE	1.0000	100.00	100.00
			Total Amount		4,270.00

Midlands Environmental Consultants, Inc.

April 4, 2011

UST DOCKET

UST APR 0 8 2011 PROGRAM

Mr. Justin Koon, Engineer Associate
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Report of Monitoring Well Installation, Monitoring Well Abandonment, Groundwater Sampling, and Chemical Analyses
Four Seasons Food and Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120, CA # 40305
MECI Project Number 10-3064
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Koon,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Monitoring Well Installation, Monitoring Well Abandonment, Groundwater Sampling, and Chemical Analyses for the referenced site. This report describes assessment activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

PROJECT INFORMATION

The subject site (Four Season Food and Fuel) is located at 2031 Pisgah Road, at the intersection of Five Notch Road and Pisgah Road in North Augusta, Aiken County, South Carolina (see Figure 1). The subject site currently consists of a 1.59 acre property containing a one story buildings, canopy, and fuel dispensers. Five Notch Road borders the site to the east, beyond which are residential properties. West of the site is bordered by Pisgah Road, beyond which are wooded properties and residential properties. North of the site is a large grassy median that is currently owned by the City of North Augusta. South of the site is bordered by a commercial property that is currently occupied by a car wash. Three underground storage tanks (UST) were formerly maintained at the subject property. The subject site previously maintained three 4,000 gallon gasoline UST's. These UST's were removed in January of 1999. A release of petroleum product from the UST's was reported and confirmed in November of 1997. Currently the subject site maintains one 12,000 gallon multiple petroleum UST.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

The above information is based on reports and correspondence obtained from SCDHEC files.

FIELD EXPLORATION

Field exploration conducted at the site included:

- construction of two single cased watertable bracketing monitoring wells,
- abandonment of one monitoring well,
- groundwater sampling; chemical analyses: and,
- subsequent survey to locate the newly installed wells.

The monitoring well location was selected based on SCDHEC project manager instructions, existing site conditions, and drilling accessibility.

MONITORING WELL INSTALLATION

On February 16, 2011 two single cased monitoring wells were installed at the subject site. These wells were installed by Geologic Exploration, of Statesville, North Carolina (S.C. Driller Certification: Johnny Burr # D 01740). These single cased monitoring wells were installed using a ATV-mounted drilling rig employing 6.0-inch outer diameter solid flight augers to construct the borehole. These wells were installed to better define the contaminant plume. The following table presents new well installation details:

Well Number	Screened Interval (ft)	Total Depth (ft)
MW-21	9.0-19.0	19.0
MW-22	6.0-16.0	16.0

The soils encountered during drilling activities predominately consisted of clayey medium to coarse grained sands and medium to coarse grained sandy clays of the Costal Plain Physiographic Province and medium to coarse grained sandy clays of the Piedmont Physiographic Province. The site is located near the transition from the Piedmont Physiographic Province to the Coastal Plain Physiographic Province. In the area of this transition zone, termed the "fall line", veneers of Coastal Plain sedimentary rocks may overlay crystalline and/or metamorphic rocks of the Piedmont. In some areas, erosion has resulted in isolation of surficial sedimentary rocks, such that, at the surface, they appear surrounded by Piedmont rocks. Locally, the Coastal Plain sediments consist of silty sands or sandy clays of the Middendorf Formation. These sediments were deposited in the Cretaceous Period during successive advances and retreats of the ocean. This formation contains numerous seams and lenses of kaolinitic clays which often result in "perched" water conditions and a variable, groundwater regime that is difficult to interpret.

Representative portions of soil samples were screened with an Photo Ionization Detector (PID) and classified by MECI personnel. Test boring records showing soil descriptions and screening result are attached.

Based on PID readings and lack on access to spread soils onsite, soil cuttings were transported to Richland Landfill/Waste Management in Elgin, SC by MECI. A total of 0.39 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Following completion of the monitoring wells, the wells were developed by bailing until they were determined to be functioning properly and turbidity was reduced. Test Boring Records showing soil descriptions and monitoring well installation details are attached. The drummed purge water was treated by MECI personnel using a granular activated carbon drum. A total of one (1) drum of purge/development water was disposed of in this manner. A disposal manifest for the drummed purge water is attached at the end of this report.

MONITORING WELL ABANDONMENT

On February 16, 2011 one monitoring well was abandoned according to South Carolina Well Standards and Regulations R.61-71.H. The well abandonment was conducted under the direction of Mr. Johnny Burr (SC Driller's License # D 01740) of Geologic Exploration Inc. of Statesville, NC. The monitoring well was abandoned with portland bentonite slurry utilizing the tremie method. A total of 14.0 ft of monitoring well footage was abandoned. Water Well Records for the abandoned well are attached. The following table presents select well abandonment details.

Well Number	Well Diameter (in)	Total Depth (ft)
MW-16	**2"**	14.0

SITE SURVEY

Following the well installation, a subsequent survey was conducted by MECI personnel, utilizing a fiberglass rod, level, and tape to determine the horizontal and vertical position of the newly installed monitoring wells. Elevations were based on site datum provided by SCDHEC. See Figure 3 for Top of Casing elevations for the newly installed wells.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSES

On March 23, 2011, MECI personnel collected groundwater samples from twenty seven (27) monitoring wells at the subject site. Monitoring wells MW-13 and MW-19 were not located during assessment activities. Based on a request by SCDHEC personnel, not all of the wells were purged prior to sampling. Where applicable, purging was completed by bailing at least three well volumes of water from the well or until pH, conductivity, dissolved oxygen stabilized to within 10%, whichever occurred first. Field measurements of pH, conductivity, dissolved oxygen, dissolved carbon dioxide, and water temperature were obtained before well sampling process. Monitoring well MW-1 contained noticeable petroleum sheen and field measurements were not obtained prior to sample collection. Table 1 presents the results of the field measurements obtained. The wells were sampled in accordance with SCDHEC guidelines.

Groundwater samples obtained were sent to Pace Analytical Services, Inc. of Huntersville, NC (SCDHEC Laboratory Certification #99006) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
				Analyte Sampled									
MW-1		X		X	X		X						
MW-2R		X		X									
MW-3		X		X									
MW-4		X		X									
MW-5		X		X									
MW-6		X		X									
MW-7R		X		X	X		X						
MW-8	X			X									
MW-9		X		X									
MW-10		X		X	X		X						
MW-11		X		X									
MW-12		X		X									
MW-14		X		X	X		X						
MW-15		X		X									
MW-17		X		X									
MW-18	X			X									
MW-20		X		X									
MW-21	X			X	X		X						
MW-22	X			X	X		X						
DW-1	X			X	X		X						
DW-2	X			X									
DW-3	X			X									
RW-1		X		X	X		X						
RW-2		X		X	X		X						
RW-3		X		X	X		X						
RW-4		X		X	X		X						
PW-1	X			X									

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons

The results of the laboratory analyses are summarized in Table 2, Table 3, and presented in the attached laboratory reports.

GROUNDWATER ANALYTICAL RESULTS

As discussed above, groundwater samples obtained from the monitoring wells were analyzed for dissolved phase petroleum constituents. The analytical results indicate petroleum impact to the local groundwater with the highest dissolved concentrations detected in the area of monitoring well RW-3. The analytical results indicate dissolved total BTEX concentrations ranging from levels below detection limits (BDL) to 81,070J micrograms per liter in RW-3. The analytical results indicate

micrograms per liter in monitoring well MW-6. The results of the analyses for each monitoring well and specific parameters are listed on Table 2, Table 3, and are provided in the attached laboratory reports.

ASSESSMENT SUMMARY

Groundwater elevation data for the March 23, 2011, gauging events was plotted, and points of equal elevation were interpolated between the monitoring wells. The apparent groundwater flow is in a northeastern direction toward the Pole Branch. A groundwater contour map of the surficial aquifer was thus prepared and is presented on Figure 3.

The analytical results indicate petroleum impact to the local groundwater with the highest dissolved concentrations detected in the area of monitoring well RW-3. The analytical results indicate dissolved total BTEX concentrations ranging from levels below detection limits (BDL) to 81,070J micrograms per liter in RW-3. The analytical results indicate dissolved MTBE concentrations ranging from levels below detection limits (BDL) to 6,100 micrograms per liter in monitoring well MW-6. The results of the analyses for each monitoring well and specific parameters are listed on Table 2, Table 3 and in the attached laboratory reports. Figure 4 depicts graphically the concentrations of Total BTEX (indicator for plume migration) dissolved in the groundwater at the site. Figure 5 depicts graphically the concentrations of MTBE dissolved in the groundwater at the site.

During assessment activities monitoring well MW-13 was not located due to new road construction. It is MECI's opinion that MW-13 needs to be replaced to further monitor the side gradient extent of the contaminant plume. Furthermore, during sampling activities, it was observed that the casing of MW-17 was damaged and is in need of repairing. Based on current analytical data from sampling event it appears that the contaminant plume is defined. Additionally, MECI recommends a series of Aggressive Fluid Vapor Recovery (AFVR) events should be conducted to reduce dissolved CoC concentrations at the source.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessment and waste management projects of this type. Our evaluation of site conditions has been based on our understanding of the site, project information provided to us, and data obtained in our exploration. The general subsurface conditions utilized in our evaluation have been based on interpretation of subsurface data between borings. Contents of this report is intended for the sole use by the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Bryan T. Shane, P.G.
Principal Geologist

Attachments

TABLES

TABLE 1

FIELD PARAMETERS
MARCH 23, 2011 SAMPLING EVENT
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 10-3064
SCDHEC SITE ID NUMBER 00120

Well Number	Sample Date	Dissolved CO_2 (mg/l)	Dissolved Oxygen (mg/l)	Temperature (^{o} Celsius)	pH (Initial)	pH (Final)	Conductivity (Initial)	Conductivity (Final)	Screened Interval (ft BGS)	Depth to Water (ft)	Well-head Elevation	Groundwater Elevation
MW-1	03/23/11	140	SHEEN	SHEEN	SHEEN	SHEEN	SHEEN	SHEEN	15-25	23.50	98.37	74.87
MW-2R	03/23/11	100	0.75	20.0	5.84	NT	239.5	NT	15-30	25.00	101.75	76.75
MW-3	03/23/11	95	1.76	21.1	5.14	NT	55.2	NT	17-27	23.95	99.70	75.75
MW-4	03/23/11	85	5.00	19.9	5.71	NT	46.6	NT	17-27	23.59	100.37	76.78
MW-5	03/23/11	50	4.95	18.1	9.72	NT	132.0	NT	10-20	12.69	85.55	72.86
MW-6	03/23/11	200+	0.90	19.0	5.54	NT	55.6	NT	9-19	12.31	83.48	71.17
MW-7R	03/23/11	100	0.67	20.1	5.45	NT	61.6	NT	10-30	17.84	90.88	73.04
MW-8	03/23/11	150	1.69	16.1	6.90	5.70	52.3	45.6	5-15	7.64	71.39	63.75
MW-9	03/23/11	55	4.46	18.5	5.11	NT	63.2	NT	10-20	14.70	86.69	71.99
MW-10	03/23/11	100	0.97	21.8	6.10	NT	71.0	NT	15-30	23.09	97.87	74.78
MW-11	03/23/11	80	4.27	20.0	6.80	NT	60.1	NT	15-30	22.99	98.96	75.97
MW-12	03/23/11	65	5.04	19.3	5.28	NT	82.7	NT	15-30	20.45	96.72	76.27
MW-13	03/23/11	NL	NL	NL	NL	NL	NL	NL	15-30	NL	94.97	NL
MW-14	03/23/11	115	0.45	19.6	5.58	NT	51.1	NT	9-24	16.30	88.52	72.22
MW-15	03/23/11	45	2.46	18.1	5.59	NT	39.2	NT	5-15	5.20	77.06	71.86

Notes:
1. mg/l = milligrams per liter.
2. Groundwater depths were measured from the top of the PVC riser pipe.
3. Final groundwater levels measured 03/23/11.
4. NT = Not Tested
5. NL = Not Located
6. Abandoned = Well has been Abandoned
7. Dissolved oxygen, dissolved carbon dioxide, initial pH, initial conductivity, and temperature measurements obtained on 03/23/11.
8. Elevations based on assumed site datum.
9. SHEEN = Petroleum Sheen Present
10. BGS = Below Ground Surface

TABLE 1
PAGE 2 OF 2
FIELD PARAMETERS
MARCH 23, 2011 SAMPLING EVENT
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 10-3064
SCDHEC SITE ID NUMBER 00120

Well Number	Sample Date	Dissolved CO_2 (mg/l)	Dissolved Oxygen (mg/l)	Temperature (^{o} Celsius)	pH (Initial)	pH (Final)	Conductivity (Initial)	Conductivity (Final)	Screened Interval (ft BGS)	Depth to Water (ft)	Well-head Elevation	Groundwater Elevation
MW-16	03/23/11	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned
MW-17	03/23/11	60	4.97	15.3	5.15	NT	46.4	NT	5-15	2.78	68.79	66.01
MW-18	03/23/11	70	3.76	15.5	5.11	5.14	42.8	44.0	5-15	2.13	69.65	67.52
MW-19	03/23/11	NL	NL	NL	NL	NL	NL	NL	5-15	NL	70.93	NL
MW-20	03/23/11	190	2.49	16.0	5.11	NT	106.0	NT	5-15	7.88	75.17	67.29
MW-21	03/23/11	75	1.31	19.3	5.23	5.22	47.8	47.7	9-19	11.85	83.66	71.81
MW-22	03/23/11	160	0.74	17.6	5.43	5.06	54.1	49.0	6-16	9.00	79.28	70.28
DW-1	03/23/11	10	3.14	22.6	8.82	7.91	108.4	120.2	55-60	22.15	98.29	76.14
DW-2	03/23/11	30	4.00	17.0	6.36	5.97	71.7	63.7	55-60	12.43	75.18	62.75
DW-3	03/23/11	<5	1.27	20.5	11.81	12.01	1,885	2,347	55-60	17.49	88.63	71.14
RW-1	03/23/11	95	0.61	22.4	7.24	NT	97.3	NT	15-30	22.78	97.62	74.84
RW-2	03/23/11	105	0.70	21.4	5.86	NT	67.8	NT	15-30	23.15	97.85	74.70
RW-3	03/23/11	105	0.69	21.7	5.42	NT	45.5	NT	15-30	23.46	97.86	74.40
RW-4	03/23/11	140	0.62	21.4	5.20	NT	47.3	NT	15-30	23.48	97.92	74.44
PW-1	03/23/11	30	4.18	22.3	5.42	5.22	54.9	53.3	41-46	24.20	98.41	74.21

Notes:

1. mg/l = milligrams per liter.
2. Groundwater depths were measured from the top of the PVC riser pipe.
3. Final groundwater levels measured 03/23/11.
4. NT = Not Tested
5. NL = Not Located
6. Abandoned = Well has been Abandoned
7. Dissolved oxygen, dissolved carbon dioxide, initial pH, initial conductivity, and temperature measurements obtained on 03/23/11.
8. Elevations based on assumed site datum.
9. SHEEN = Petroleum Sheen Present
10. BGS = Below Ground Surface

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
MARCH 23, 2011 SAMPLING EVENT
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 10-3064
SCDHEC ID NUMBER 00120

Well Number	Sample Date	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	1,2 DCA (µg/l)	EDB (µg/l)
MW-1	03/23/11	**1,130**	**34,600**	**1,420**	**7,840**	**44,990**	**950J**	**475J**	<1,000	**0.068**
MW-2R	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-3	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-4	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-5	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-6	03/23/11	**477**	**7,360**	**500**	**2,710**	**11,047**	**4,740**	**152J**	NT	NT
MW-7R	03/23/11	**984**	**11,900**	**501**	**2,420**	**15,805**	**6,100**	**125**	<50.0	<0.019
MW-8	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-9	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-10	03/23/11	**4,200**	**61,300**	<2,500	**5,040**	**70,540**	<2,500	<2,500	<2,500	**0.71**
MW-11	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-12	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-13	03/23/11	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-14	03/23/11	**804**	**14,100**	**676**	**4,140**	**19,720**	**1,530**	<500	<500	**0.28**
MW-15	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT

Notes:
1. BDL = Below Practical Quantitative Limits
2. µg/l = micrograms per liter
3. mg/l = milligrams per liter
4. MTBE = Methyl-Tertiary-Butyl Ether
5. See Appendix for Laboratory Detection Limits
6. NT = Not Tested
7. 1,2 DCA = 1,2-Dichloroethane
8. EDB = Ethylene Dibromide
9. NL = Not Located
10. Abandoned = Well has been Abandoned
11. "J" Values used in Total BTEX Calculations
12. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).

TABLE 2

GROUNDWATER ANALYTICAL RESULTS
MARCH 23, 2011 SAMPLING EVENT
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 10-3064
SCDHEC ID NUMBER 00120

Well Number	Sample Date	Benzene (µg/l)	Toluene (µg/l)	Ethylbenzene (µg/l)	Total Xylenes (µg/l)	Total BTEX (µg/l)	MTBE (µg/l)	Naphthalene (µg/l)	1,2 DCA (µg/l)	EDB (µg/l)
MW-16	03/23/11	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned
MW-17	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-18	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-19	03/23/11	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-20	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT
MW-21	03/23/11	<5.0	**1.7J**	<5.0	**3.4J**	**5.1J**	**35.4**	<5.0	<5.0	<0.038
MW-22	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
DW-1	03/23/11	**2.1J**	**78.8**	**6.6**	**58.7**	**146.2J**	<5.0	**11.8**	<5.0	<0.020
DW-2	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	**1.9J**	<5.0	NT	NT
DW-3	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	**2.1J**	<5.0	NT	NT
RW-1	03/23/11	**1,330J**	**39,800**	**1,190J**	**6,260**	**48,580J**	**991J**	<2,500	<2,500	**0.079**
RW-2	03/23/11	**969J**	**32,800**	**902J**	**5,150**	**39,821J**	**430J**	<1,250	<1,250	**0.062**
RW-3	03/23/11	**2,120J**	**66,800**	**2,050J**	**10,100**	**81,070J**	**2,270J**	<2,500	<2,500	**0.25**
RW-4	03/23/11	**178**	**934**	**17.6**	**538**	**1,667.6**	**30.4**	**7.8**	<5.0	<0.020
PW-1	03/23/11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	NT	NT

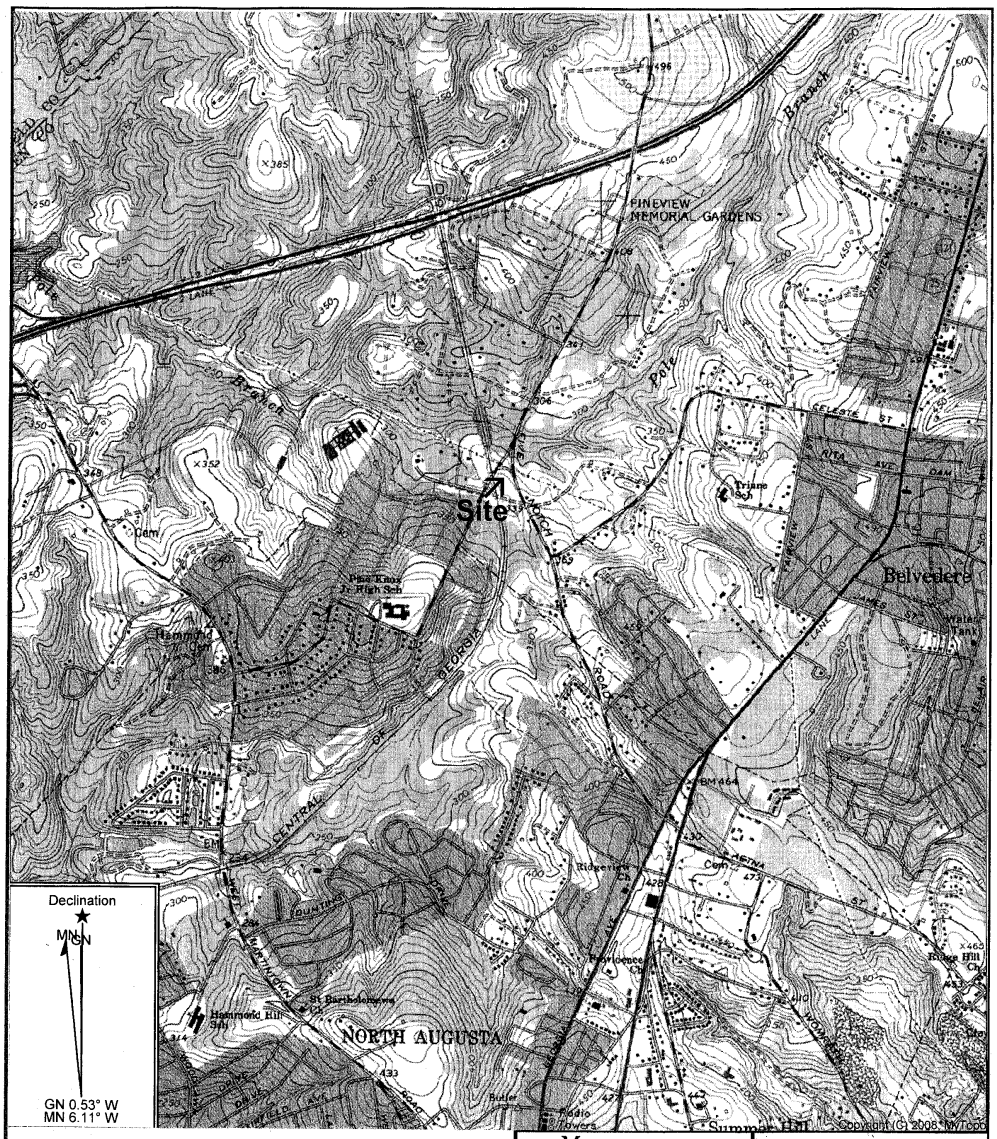
Notes:
1. BDL = Below Practical Quantitative Limits
2. µg/l = micrograms per liter
3. mg/l = milligrams per liter
4. MTBE = Methyl-Tertiary-Butyl Ether
5. See Appendix for Laboratory Detection Limits
6. NT = Not Tested
7. 1,2 DCA = 1,2-Dichloroethane
8. EDB = Ethylene Dibromide
9. NL = Not Located
10. Abandoned = Well has been Abandoned
11. "J" Values used in Total BTEX Calculations
12. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).

TABLE 3
GROUNDWATER ANALYTICAL RESULTS (OXYGENATES)
MARCH 23, 2011 SAMPLING EVENT
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 10-3064
SCDHEC SITE ID NUMBER 00120

Well Number	Sample Date	tert-Amyl alcohol (µg/l)	tert-Amyl methyl ether (µg/l)	3,3-Dimethyl-1-butanol (µg/l)	tert Butyl Alcohol (µg/l)	tert-Butyl Formate (µg/l)	Diisopropyl ether (µg/l)	Ethanol (µg/l)	Ethyl tert-butyl ether (µg/l)
MW-1	03/23/11	<20,000	<2,000	<20,000	<20,000	<10,000	<1,000	<40,000	<2,000
MW-7R	03/23/11	**8,340**	<100	<1,000	**6,520**	<500	**19.8J**	<2,000	<100
MW-10	03/23/11	**147,000**	<5,000	<50,000	**93,000**	<25,000	<2,500	<100,000	<5,000
MW-14	03/23/11	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
MW-21	03/23/11	**139**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-22	03/23/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
DW-1	03/23/11	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
RW-1	03/23/11	<50,000	<5,000	<50,000	<50,000	<25,000	<2,500	<100,000	<5,000
RW-2	03/23/11	<25,000	<2,500	<25,000	<25,000	<12,500	<1,250	<50,000	<2,500
RW-3	03/23/11	<50,000	<5,000	<50,000	<50,000	<25,000	<2,500	<100,000	<5,000
RW-4	03/23/11	**453**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:
1. µg/l = micrograms per liter
2. NT = Not Tested
3. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).

FIGURES



GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: North Augusta, South Carolina
USGS 7.5 Min. Quad
Countour Interval – 10 Feet

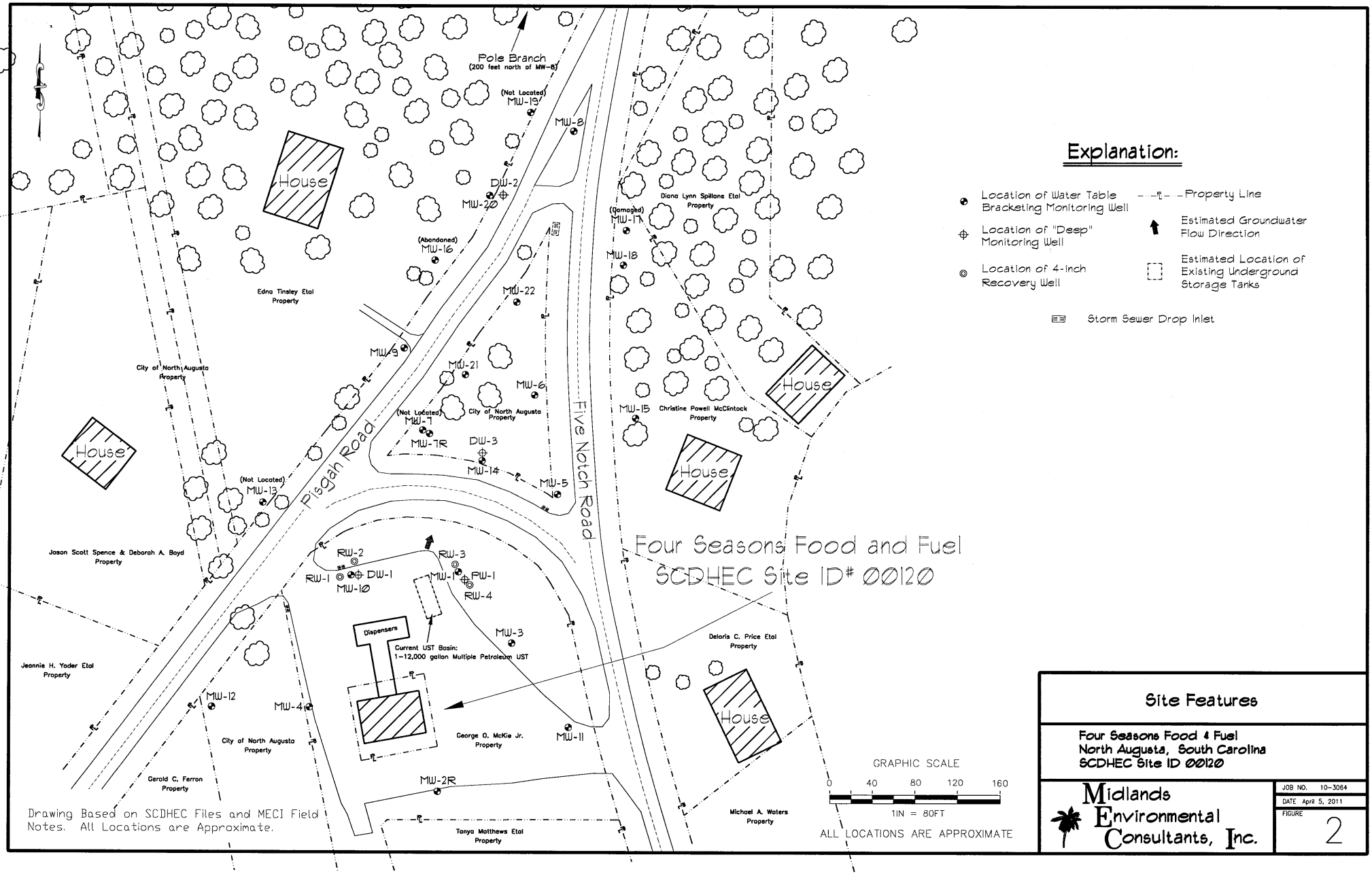
Midlands Environmental Consultants, Inc.

Site Location

Four Seasons Food and Fuel
2031 Pisgah Road, North Augusta, SC
SCDHEC Site ID# 00120

Figure 1

MECI 10-3064



Explanation:

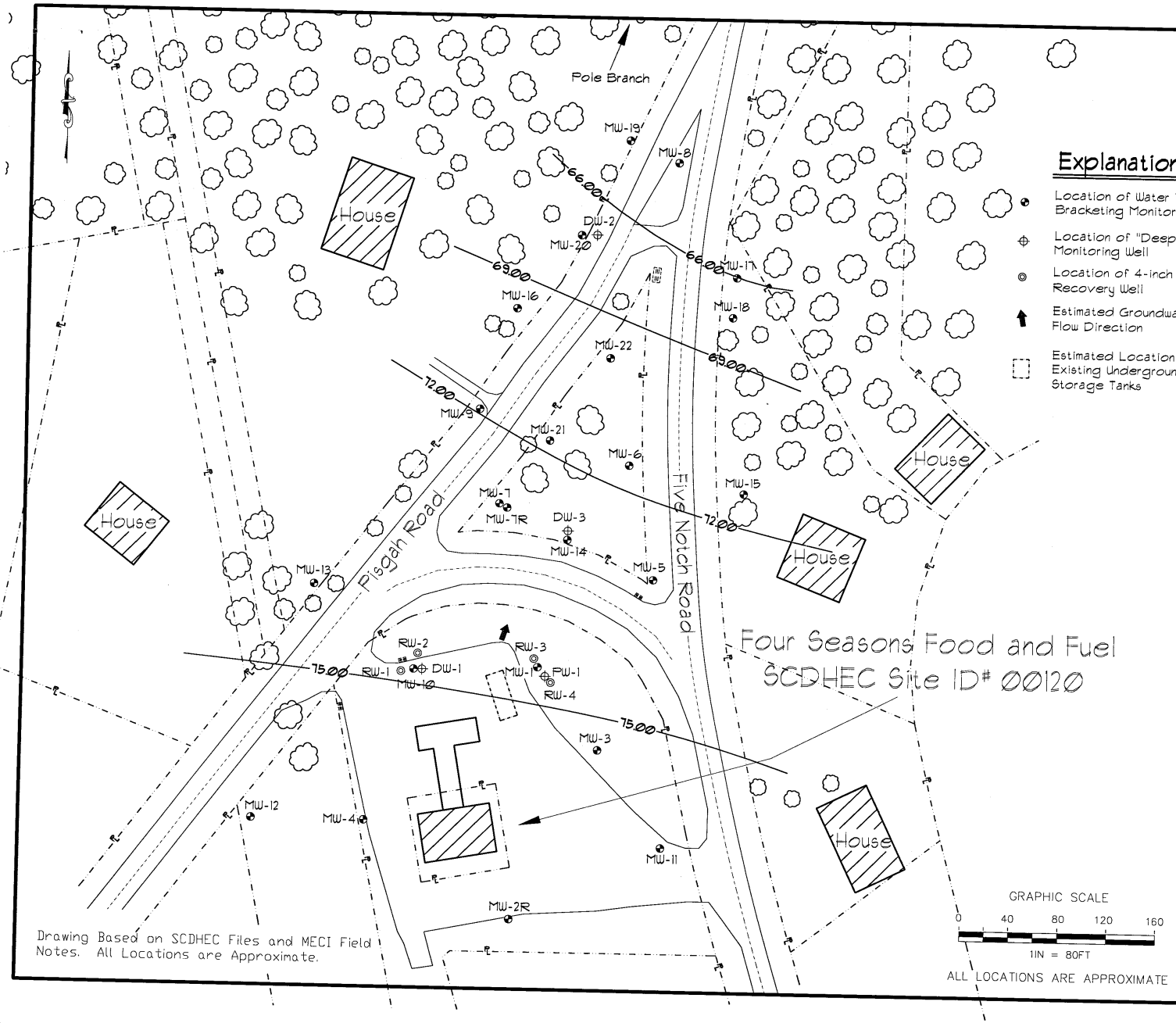
- Location of Water Table Bracketing Monitoring Well
- Location of "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Property Line
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- Storm Sewer Drop Inlet

Site Features

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 10-3064
DATE April 5, 2011
FIGURE 2



Drawing Based on SCDHEC Files and MECI Field Notes. All Locations are Approximate.

Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks

——— Groundwater Elevation Contour (feet)

Groundwater Elevation Data

Well #	Depth to Water (ft)	Well Head Elevation	Groundwater Elevation
MW-1	23.50	98.37	74.87
MW-2R	25.00	101.75	76.75
MW-3	23.95	99.70	75.75
MW-4	23.59	100.37	76.78
MW-5	12.69	85.55	72.86
MW-6	12.31	83.48	71.17
MW-7R	17.84	90.88	73.04
MW-8	7.64	71.39	63.75
MW-9	14.70	86.69	71.99
MW-10	23.09	97.87	74.78
MW-11	22.99	98.96	75.97
MW-12	20.45	96.72	76.27
MW-13	NL	94.97	NL
MW-14	16.30	88.52	72.22
MW-15	5.20	77.06	71.86
MW-16	Abandoned	Abandoned	Abandoned
MW-17	2.78	68.79	66.01
MW-18	2.13	69.65	67.52
MW-19	NL	70.93	NL
MW-20	7.88	75.17	67.29
MW-21	11.85	83.66	71.81
MW-22	9.00	79.28	70.28
DW-1	22.15	98.29	76.14
DW-2	12.43	75.18	62.75
DW-3	17.49	88.63	71.14
RW-1	22.78	97.62	74.84
RW-2	23.15	97.85	74.70
RW-3	23.46	97.86	74.40
RW-4	23.48	97.92	74.44
PW-1	24.20	98.41	74.21

Notes:

Depth to groundwater measured on March 23, 2011.

Contour Interval = 3.00 feet

Site Datum Based on Assumed Spot Elevation.

NL = Not Located

"Deep" monitoring wells not used in contouring.

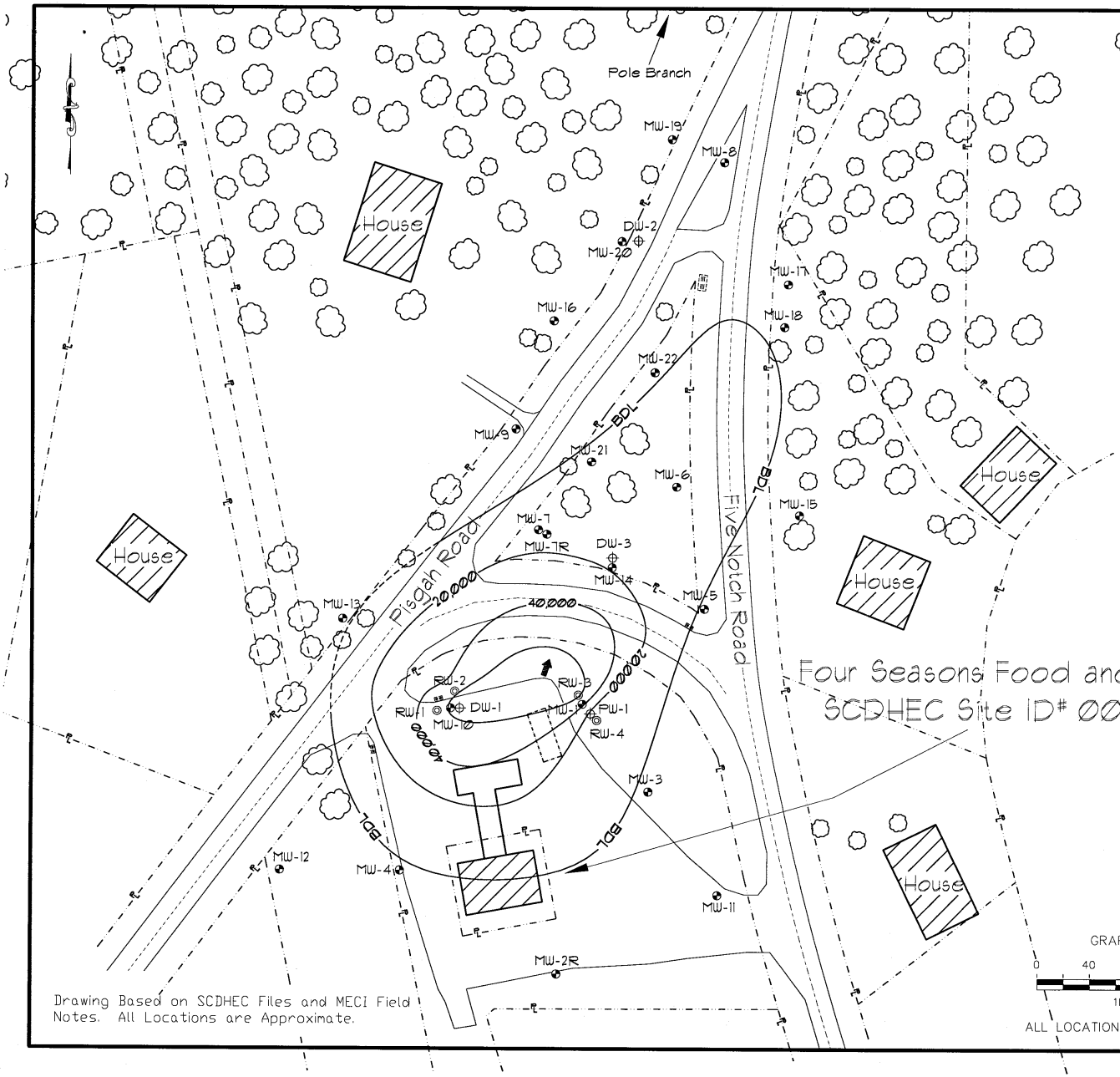
Groundwater Contours Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

Groundwater Contour Map

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 10-3064
DATE April 5, 2011
FIGURE 3



Drawing Based on SCDHEC Files and MECI Field Notes. All Locations are Approximate.

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

ALL LOCATIONS ARE APPROXIMATE

Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- Total BTEX Concentration Isopleth (ug/l)

COC Concentration Data

Sample #	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	12 DCA (ug/l)	EDB (ug/l)
MW-1	1,130	34,600	1,420	7,840	44,990	950J	475J	<1,000	0.068
MW-2R	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-3	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-4	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-5	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-6	477	7,360	500	2,710	11,047	4,740	152J	<5.0	NT
MW-7R	984	11,900	501	2,420	15,805	6,100	125	<50.0	<0.019
MW-8	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-9	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-10	4,200	61,300	<2,500	5,040	70,540	<2,500	<2,500	<2,500	0.71
MW-11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-12	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-13	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-14	804	14,100	676	4,140	19,720	1,530	<500	<500	0.28
MW-15	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-16	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned
MW-17	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-18	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-19	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-20	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-21	<5.0	1.7J	<5.0	3.4J	5.1J	35.4	<5.0	<5.0	<0.038
MW-22	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
DW-1	2.1J	78.8	6.6	58.7	146.2J	<5.0	11.8	<5.0	<0.020
DW-2	<5.0	<5.0	<5.0	<10.0	BDL	1.9J	<5.0	<5.0	NT
DW-3	<5.0	<5.0	<5.0	<10.0	BDL	2.1J	<5.0	<5.0	NT
RW-1	1,330J	39,800	1,190J	6,260	48,580J	991J	<2,500	<2,500	0.079
RW-2	969J	32,800	902J	5,150	39,821J	430J	<1,250	<1,250	0.062
RW-3	2,120J	66,800	2,050J	10,100	81,070J	2,270J	<2,500	<2,500	0.25
RW-4	178	934	17.6	538	1,667.6	30.4	7.8	<5.0	<0.020
PW-1	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT

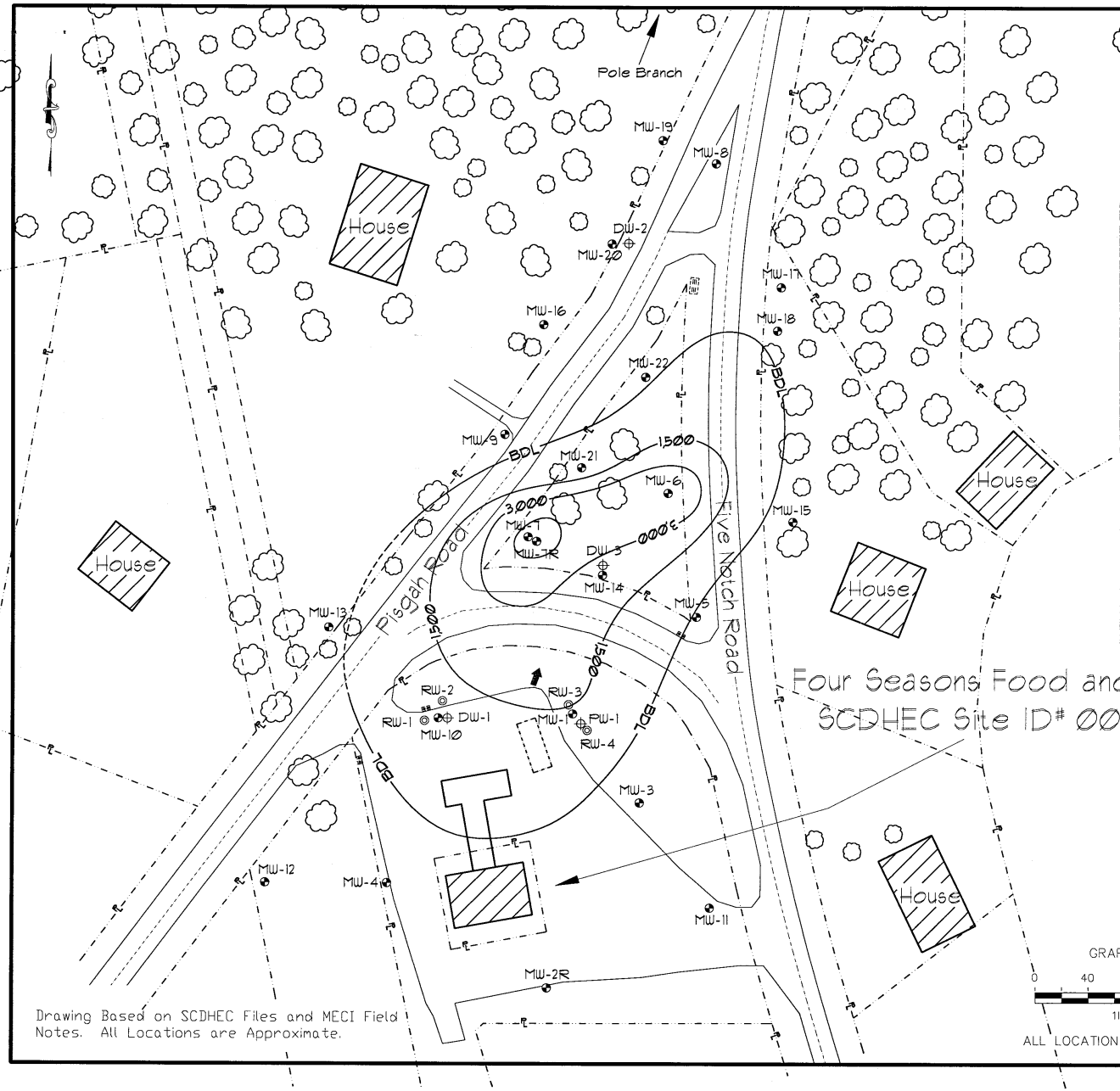
Notes:
- Groundwater samples collected on March 23, 2011.
- Isopleth Interval = 20,000 ug/l
- BDL = Below Detection Limits
- "J" Values included in Total BTEX Calculations
- NT = Not Tested
- NL = Not Located
- "Deep" monitoring wells not used in contouring.
- Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

Total BTEX Isopleth Map

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 10-3064
DATE April 5, 2011
FIGURE 4



Drawing Based on SCDHEC Files and MECI Field Notes. All Locations are Approximate.

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

ALL LOCATIONS ARE APPROXIMATE

Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- MTBE Concentration Isopleth (ug/l)

COC Concentration Data

Sample #	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
MW-1	1,130	34,600	1,420	7,840	44,990	950J	475J	<1,000	0.068
MW-2R	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-3	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-4	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-5	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-6	477	7,360	500	2,710	11,047	4,740	152J	<5.0	NT
MW-7R	984	11,900	501	2,420	15,805	6,100	125	<50.0	<0.019
MW-8	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-9	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-10	4,200	61,300	<2,500	5,040	70,540	<2,500	<2,,500	<2,500	0.71
MW-11	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-12	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-13	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-14	804	14,100	676	4,140	19,720	1,530	<500	<500	0.28
MW-15	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-16	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned	Abandoned
MW-17	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-18	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-19	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-20	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT
MW-21	<5.0	1.7J	<5.0	3.4J	5.1J	35.4	<5.0	<5.0	<0.038
MW-22	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
DW-1	2.1J	78.8	6.6	58.7	146.2J	<5.0	11.8	<5.0	<0.020
DW-2	<5.0	<5.0	<5.0	<10.0	BDL	1.9J	<5.0	<5.0	NT
DW-3	<5.0	<5.0	<5.0	<10.0	BDL	2.1J	<5.0	<5.0	NT
RW-1	1,330J	39,800	1,190J	6,260	48,580J	991J	<2,500	<2,500	0.079
RW-2	969J	32,800	902J	5,150	39,821J	430J	<1,250	<1,250	0.062
RW-3	2,120J	66,800	2,050J	10,100	81,070J	2,270J	<2,500	<2,500	0.25
RW-4	178	934	17.6	538	1,667.6	30.4	7.8	<5.0	<0.020
PW-1	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT

Notes: Groundwater samples collected on March 23, 2011.

Isopleth Interval = 1,500 ug/l

BDL = Below Detection Limits

"J" Values included in Total BTEX Calculations

NT = Not Tested

NL = Not Located

"Deep" monitoring wells not used in contouring.

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

MTBE Isopleth Map

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 10-3064

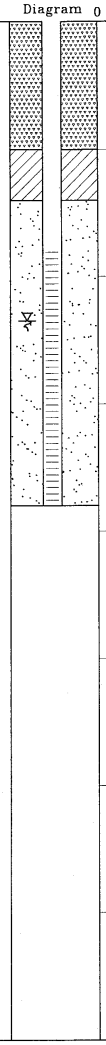
DATE April 5, 2011

FIGURE 5

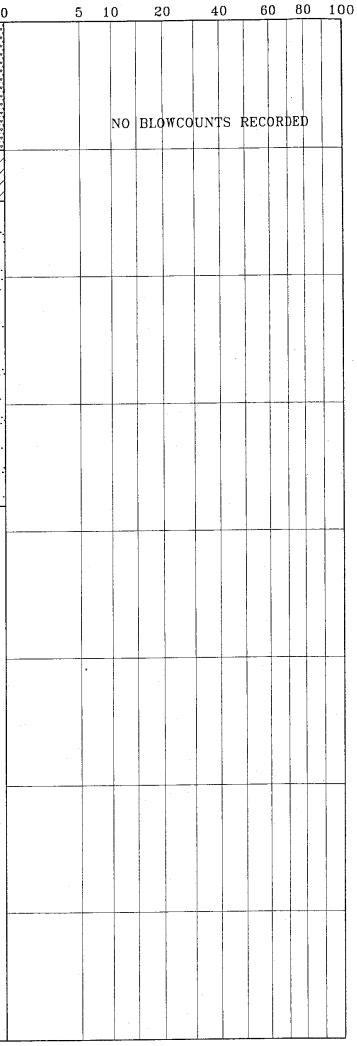
TEST BORING AND MONITORING WELL INSTALLATION RECORD

Depth (Feet)	Description	PID PPM
	Grass and Topsoil	
	COASTAL PLAIN SEDIMENT: Red, Clayey Fine to Medium SAND	
5		27.4
	White and Tan, Fine to Medium SAND	
10		17.1
	White and Tan, Clayey Medium to Coarse SAND with Rock Fragments	
15		5.8
		3.5
20	Boring Terminated at 19.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 19.0 Feet BGS. Groundwater Measured at 11.85 Feet Below Top of Casing on 3/23/11.	
25		
30		
35		

Well Diagram



Penetration Blows Per Foot



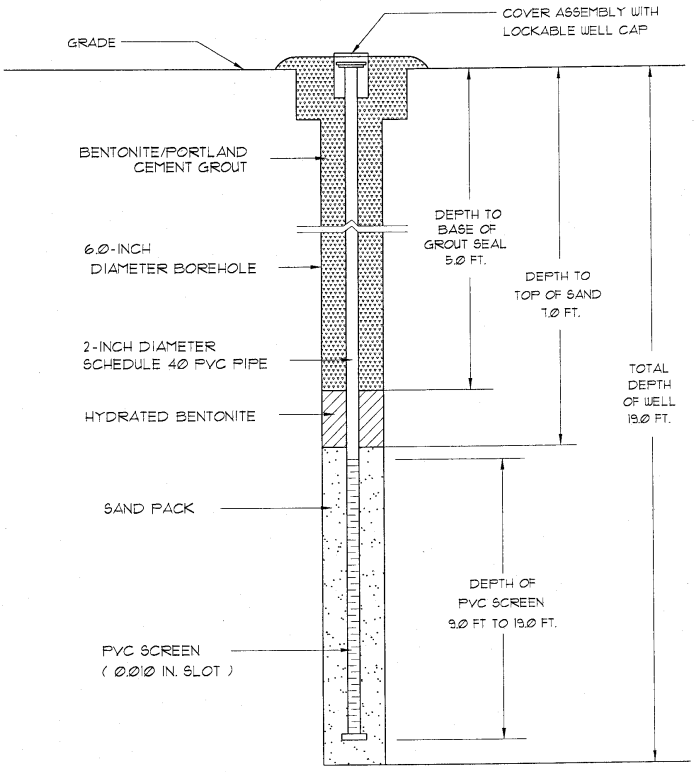
TEST BORING RECORD
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-3064

Boring Number:	MW-21
Date Drilled:	2/16/11
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Kelly

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-3064

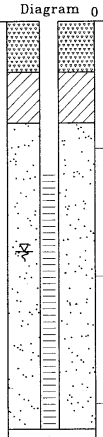


Well Number:	MW-21
Date Drilled:	2/16/11
Drilled By:	Geologic Exploration Inc.
Driller: J. Burr	S.C. I.D. #:D 01740
Logged By:	B. Kelly

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM
	Grass and Topsoil	
	COASTAL PLAIN SEDIMENT: Brown and Orange, Clayey Fine to Medium SAND	
5	Gray, Medium to Coarse SAND	ND
10	Gray and Tan, Clayey Medium to Coarse SAND	7.6
15	Tan, Fine to Medium Sandy CLAY	4.0 2.4
	Boring Terminated at 16.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 16.0 Feet BGS. Groundwater Measured at 9.00 Feet Below Top of Casing on 3/23/11.	
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

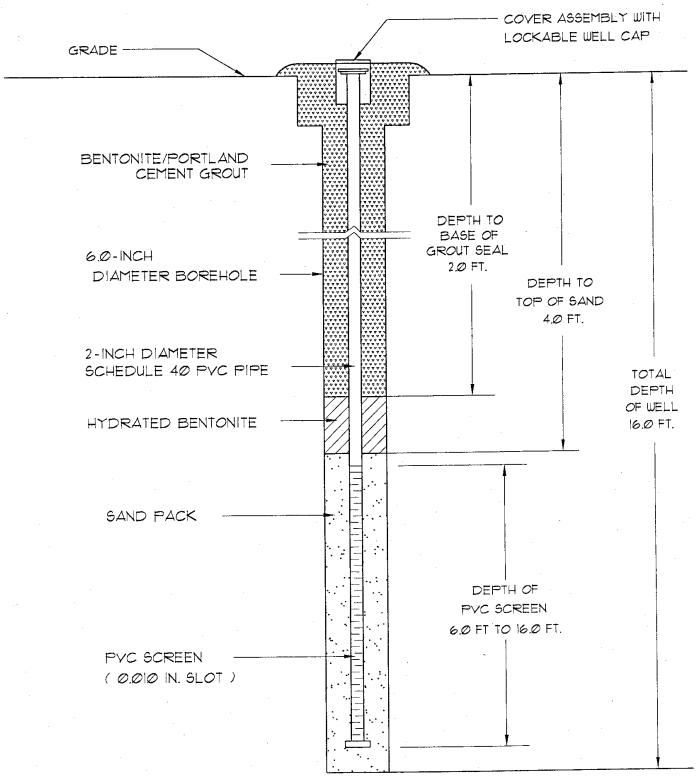
TEST BORING RECORD
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-3064

Boring Number:	MW-22
Date Drilled:	2/16/11
Drilled By:	Geologic Exploration Inc.
Logged By:	B. Kelly

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax. 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 10-3064



Well Number:	MW-22
Date Drilled:	2/16/11
Drilled By:	Geologic Exploration Inc.
Driller: J. Burr	S.C. I.D. #:D 01740
Logged By:	B. Kelly

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: CITY OF NORTH AUGUSTA (last) (first)
Address: 100 GEORGIA AVENUE
City: N AUGUSTA State: SC Zip: 29841
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: NORTH AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED CLAY	2.0	2.0
ORANGE CLAY	8.0	10.0
WHITE SANDY CLAY	9.0	19.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-21 BENTONITE SEAL FROM 5.0 TO 7.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 02/16/11
19.0 ft. Date Completed: 02/16/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 9.0 ft. depth
_____ in. to _____ ft. depth
Height: Above☐ Below☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 9.0 ft. and 19.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 12.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 7.0 ft. to 19.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 5.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: JOHNNY BURR **CERT. NO.:** 01740
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Johny Burr Date: 02/18/11
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

DHEC
PROMOTE. PROTECT. PROSPER.

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: CITY OF NORTH AUGUSTA (last) (first)
Address: 100 GEORGIA AVENUE
City: N AUGUSTA State: SC Zip: 29841
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: NORTH AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED CLAY	2.0	2.0
ORANGE CLAY	8.0	10.0
WHITE SANDY CLAY	6.0	16.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-22 BENTONITE SEAL FROM 2.0 TO 4.0 FT.

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other AUGER

7. PERMIT NUMBER: 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 02/16/11
16.0 ft. Date Completed: 02/16/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 6.0 ft. depth
_____ in. to _____ ft. depth
Height: Above ☐ Below ☐
Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 INCH
Slot/Gauge: .010 Length: 10.0 FEET
Set Between: 6.0 ft. and 16.0 ft. NOTE: MULTIPLE SCREENS
_____ ft. and _____ ft. USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL 10.0 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 4.0 ft. to 16.0 ft.
Effective size 1.43 Uniformity Coefficient 1.30

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 2.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: JOHNNY BURR **CERT. NO.:** 01740
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
Telephone No.: 704-872-7686 Fax No.: 704-872-0248

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Johny Burr Date: 02/18/11
Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE. PROTECT. PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SCDOT - ENGINEERING DISTRICT 7 (last) (first)
Address: PO BOX 2010
City: AIKEN State: SC Zip: 29802
Telephone: Work: Home:

2. LOCATION OF WELL: SC **COUNTY:** AIKEN
Name: FOUR SEASONS FOOD & FUEL
Street Address: 2031 PISGAH ROAD
City: NORTH AUGUSTA Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 14.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
WELL ABANDONED BY		
GEOLOGIC EXPLORATION, INC.		
ON 02/16/11 VIA TREMIE PIPE		
WITH PORTLAND BENTONITE		
SLURRY.		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-16
2.25 GALLONS PORTLAND
BENTONITE SLURRY

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 02/16/11
14.0 ft. Date Completed: 02/16/11

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2 INCH
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
____ in. to ____ ft. depth
____ in. to ____ ft. depth
Height: Above ☐ Below ☐
Surface ____ ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: ____ Diam.: ____
Slot/Gauge: ____ Length: ____
Set Between: ____ ft. and ____ ft. **NOTE: MULTIPLE SCREENS**
____ ft. and ____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL ____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: ____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ____ ft. to ____ ft.
Effective size ____ Uniformity Coefficient ____

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other ____
Depth: From ____ ft. to ____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type ____
Well Disinfected ☐ Yes ☐ No Type: ____ Amount: ____

18. PUMP: Date installed: ____ Not installed ☐
Mfr. Name: ____ Model No.: ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: JOHNNY BURR **CERT. NO.:** 01740
Address: (Print) 176 COMMERCE BLVD
STATESVILLE, NC 28625
Level: A ☐ B ☐ C ☐ D ☑ (circle one)
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Well Driller

If D Level Driller, provide supervising driller's name:
MARK GETTYS

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

ANALYTICAL RESULTS

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

April 04, 2011

Mr. Bryan Shane
Midlands Environmental
PO Box 854
Lexington, SC 29071

RE: Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Dear Mr. Shane:
Enclosed are the analytical results for sample(s) received by the laboratory on March 24, 2011. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

Report revised April 4, 2011 to include Toluene and MTBE.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Kevin Godwin for
Renee Spencer
renee.spencer@pacelabs.com
Project Manager

Enclosures

cc: Mr. Jeff Coleman, Midlands Environmental

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
Louisiana/LELAP Certification #: 04034
New Jersey Certification #: NC012
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
Pennsylvania Certification #: 68-00784
South Carolina Certification #: 99006001
South Carolina Drinking Water Cert. #: 99006003
Virginia Certification #: 00213
Connecticut Certification #: PH-0104
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
Louisiana DHH Drinking Water # LA 100031
West Virginia Certification #: 357

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SAMPLE SUMMARY

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9290601001	**MW-1**	Water	03/23/11 14:00	03/24/11 15:05
9290601002	**MW-7R**	Water	03/23/11 11:15	03/24/11 15:05
9290601003	**MW-10**	Water	03/23/11 12:45	03/24/11 15:05
9290601004	**MW-14**	Water	03/23/11 11:30	03/24/11 15:05
9290601005	**MW-21**	Water	03/23/11 11:00	03/24/11 15:05
9290601006	**MW-22**	Water	03/23/11 10:55	03/24/11 15:05
9290601007	**DW-1**	Water	03/23/11 12:40	03/24/11 15:05
9290601008	**RW-1**	Water	03/23/11 12:30	03/24/11 15:05
9290601009	**RW-2**	Water	03/23/11 12:55	03/24/11 15:05
9290601010	**RW-3**	Water	03/23/11 14:05	03/24/11 15:05
9290601011	**RW-4**	Water	03/23/11 14:00	03/24/11 15:05
9290601012	**MW-2R**	Water	03/23/11 13:20	03/24/11 15:05
9290601013	**MW-3**	Water	03/23/11 13:35	03/24/11 15:05
9290601014	**MW-4**	Water	03/23/11 13:10	03/24/11 15:05
9290601015	**MW-5**	Water	03/23/11 11:45	03/24/11 15:05
9290601016	**MW-6**	Water	03/23/11 09:35	03/24/11 15:05
9290601017	**MW-8**	Water	03/23/11 10:35	03/24/11 15:05
9290601018	**MW-9**	Water	03/23/11 11:05	03/24/11 15:05
9290601019	**MW-11**	Water	03/23/11 13:30	03/24/11 15:05
9290601020	**MW-12**	Water	03/23/11 13:15	03/24/11 15:05
9290601021	**MW-15**	Water	03/23/11 14:20	03/24/11 15:05
9290601022	**MW-17**	Water	03/23/11 10:10	03/24/11 15:05
9290601023	**MW-18**	Water	03/23/11 10:20	03/24/11 15:05
9290601024	**MW-20**	Water	03/23/11 10:00	03/24/11 15:05
9290601025	**DW-2**	Water	03/23/11 10:00	03/24/11 15:05
9290601026	**DW-3**	Water	03/23/11 11:40	03/24/11 15:05
9290601027	**PW-1**	Water	03/23/11 13:55	03/24/11 15:05

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SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9290601001	MW-1	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601002	MW-7R	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601003	MW-10	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601004	MW-14	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601005	MW-21	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601006	MW-22	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601007	DW-1	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601008	RW-1	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601009	RW-2	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601010	RW-3	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601011	RW-4	EPA 8011	RES	2	PASI-C
		EPA 8260	BLC	21	PASI-C
9290601012	MW-2R	EPA 8260	DLK	12	PASI-C
9290601013	MW-3	EPA 8260	DLK	12	PASI-C
9290601014	MW-4	EPA 8260	DLK	12	PASI-C
9290601015	MW-5	EPA 8260	DLK	12	PASI-C
9290601016	MW-6	EPA 8260	DLK	12	PASI-C
9290601017	MW-8	EPA 8260	DLK	12	PASI-C
9290601018	MW-9	EPA 8260	DLK	12	PASI-C
9290601019	MW-11	EPA 8260	DLK	12	PASI-C
9290601020	MW-12	EPA 8260	DLK	12	PASI-C
9290601021	MW-15	EPA 8260	DLK	12	PASI-C
9290601022	MW-17	EPA 8260	DLK	12	PASI-C
9290601023	MW-18	EPA 8260	DLK	12	PASI-C
9290601024	MW-20	EPA 8260	DLK	12	PASI-C
9290601025	DW-2	EPA 8260	DLK	12	PASI-C
9290601026	DW-3	EPA 8260	DLK	12	PASI-C

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
9290601027	**PW-1**	EPA 8260	DLK	12	PASI-C

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-1 **Lab ID: 9290601001** Collected: 03/23/11 14:00 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.068**	ug/L	0.020	0.020	1	03/25/11 15:31	03/26/11 16:32	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	03/25/11 15:31	03/26/11 16:32	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	20000	15400	200		03/30/11 08:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	680	200		03/30/11 08:57	994-05-8	
Benzene	**1130**	ug/L	1000	340	200		03/30/11 08:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	6420	200		03/30/11 08:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	11500	200		03/30/11 08:57	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	1460	200		03/30/11 08:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	360	200		03/30/11 08:57	107-06-2	
Diisopropyl ether	ND	ug/L	1000	340	200		03/30/11 08:57	108-20-3	
Ethanol	ND	ug/L	40000	27600	200		03/30/11 08:57	64-17-5	
Ethylbenzene	**1420**	ug/L	1000	320	200		03/30/11 08:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	720	200		03/30/11 08:57	637-92-3	
Methyl-tert-butyl ether	**950J**	ug/L	1000	340	200		03/30/11 08:57	1634-04-4	
Naphthalene	**475J**	ug/L	1000	400	200		03/30/11 08:57	91-20-3	
Toluene	**34600**	ug/L	1000	320	200		03/30/11 08:57	108-88-3	
Xylene (Total)	**7840**	ug/L	2000	540	200		03/30/11 08:57	1330-20-7	
m&p-Xylene	**5380**	ug/L	2000	620	200		03/30/11 08:57	179601-23-1	
o-Xylene	**2460**	ug/L	1000	320	200		03/30/11 08:57	95-47-6	
Dibromofluoromethane (S)	97	%	70-130		200		03/30/11 08:57	1868-53-7	
Toluene-d8 (S)	97	%	70-130		200		03/30/11 08:57	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		200		03/30/11 08:57	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130		200		03/30/11 08:57	17060-07-0	

Sample: MW-7R **Lab ID: 9290601002** Collected: 03/23/11 11:15 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	03/25/11 15:32	03/26/11 16:53	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	03/25/11 15:32	03/26/11 16:53	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**8340**	ug/L	1000	768	10		03/30/11 09:15	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		03/30/11 09:15	994-05-8	
Benzene	**984**	ug/L	50.0	17.0	10		03/30/11 09:15	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		03/30/11 09:15	624-95-3	
tert-Butyl Alcohol	**6520**	ug/L	1000	577	10		03/30/11 09:15	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		03/30/11 09:15	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		03/30/11 09:15	107-06-2	
Diisopropyl ether	**19.8J**	ug/L	50.0	17.0	10		03/30/11 09:15	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		03/30/11 09:15	64-17-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-7R **Lab ID: 9290601002** Collected: 03/23/11 11:15 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**501**	ug/L	50.0	16.0	10		03/30/11 09:15	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		03/30/11 09:15	637-92-3	
Methyl-tert-butyl ether	**6100**	ug/L	500	170	100		03/31/11 13:35	1634-04-4	
Naphthalene	**125**	ug/L	50.0	20.0	10		03/30/11 09:15	91-20-3	
Toluene	**11900**	ug/L	500	160	100		03/31/11 13:35	108-88-3	
Xylene (Total)	**2420**	ug/L	100	27.0	10		03/30/11 09:15	1330-20-7	
m&p-Xylene	**1680**	ug/L	100	31.0	10		03/30/11 09:15	179601-23-1	
o-Xylene	**748**	ug/L	50.0	16.0	10		03/30/11 09:15	95-47-6	
Dibromofluoromethane (S)	96	%	70-130		10		03/30/11 09:15	1868-53-7	
Toluene-d8 (S)	100	%	70-130		10		03/30/11 09:15	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		10		03/30/11 09:15	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		10		03/30/11 09:15	17060-07-0	

Sample: MW-10 **Lab ID: 9290601003** Collected: 03/23/11 12:45 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.71**	ug/L	0.020	0.020	1	03/28/11 14:52	03/29/11 04:47	106-93-4	
1-Chloro-2-bromopropane (S)	111	%	60-140		1	03/28/11 14:52	03/29/11 04:47	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**147000**	ug/L	50000	38400	500		03/30/11 09:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	5000	1700	500		03/30/11 09:33	994-05-8	
Benzene	**4200**	ug/L	2500	850	500		03/30/11 09:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	50000	16000	500		03/30/11 09:33	624-95-3	
tert-Butyl Alcohol	**93000**	ug/L	50000	28800	500		03/30/11 09:33	75-65-0	
tert-Butyl Formate	ND	ug/L	25000	3650	500		03/30/11 09:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	2500	900	500		03/30/11 09:33	107-06-2	
Diisopropyl ether	ND	ug/L	2500	850	500		03/30/11 09:33	108-20-3	
Ethanol	ND	ug/L	100000	68900	500		03/30/11 09:33	64-17-5	
Ethylbenzene	ND	ug/L	2500	800	500		03/30/11 09:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5000	1800	500		03/30/11 09:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	2500	850	500		03/30/11 09:33	1634-04-4	
Naphthalene	ND	ug/L	2500	1000	500		03/30/11 09:33	91-20-3	
Toluene	**61300**	ug/L	2500	800	500		03/30/11 09:33	108-88-3	
Xylene (Total)	**5040**	ug/L	5000	1350	500		03/30/11 09:33	1330-20-7	
m&p-Xylene	**3410J**	ug/L	5000	1550	500		03/30/11 09:33	179601-23-1	
o-Xylene	**1630J**	ug/L	2500	800	500		03/30/11 09:33	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		500		03/30/11 09:33	1868-53-7	
Toluene-d8 (S)	97	%	70-130		500		03/30/11 09:33	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		500		03/30/11 09:33	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130		500		03/30/11 09:33	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-14 **Lab ID: 9290601004** Collected: 03/23/11 11:30 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.28**	ug/L	0.020	0.020	1	03/28/11 14:53	03/29/11 05:47	106-93-4	
1-Chloro-2-bromopropane (S)	99	%	60-140		1	03/28/11 14:53	03/29/11 05:47	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		03/30/11 09:51	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	340	100		03/30/11 09:51	994-05-8	
Benzene	**804**	ug/L	500	170	100		03/30/11 09:51	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	3210	100		03/30/11 09:51	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	5770	100		03/30/11 09:51	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	730	100		03/30/11 09:51	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	180	100		03/30/11 09:51	107-06-2	
Diisopropyl ether	ND	ug/L	500	170	100		03/30/11 09:51	108-20-3	
Ethanol	ND	ug/L	20000	13800	100		03/30/11 09:51	64-17-5	
Ethylbenzene	**676**	ug/L	500	160	100		03/30/11 09:51	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	360	100		03/30/11 09:51	637-92-3	
Methyl-tert-butyl ether	**1530**	ug/L	500	170	100		03/30/11 09:51	1634-04-4	
Naphthalene	ND	ug/L	500	200	100		03/30/11 09:51	91-20-3	
Toluene	**14100**	ug/L	500	160	100		03/30/11 09:51	108-88-3	
Xylene (Total)	**4140**	ug/L	1000	270	100		03/30/11 09:51	1330-20-7	
m&p-Xylene	**2790**	ug/L	1000	310	100		03/30/11 09:51	179601-23-1	
o-Xylene	**1350**	ug/L	500	160	100		03/30/11 09:51	95-47-6	
Dibromofluoromethane (S)	97	%	70-130		100		03/30/11 09:51	1868-53-7	
Toluene-d8 (S)	96	%	70-130		100		03/30/11 09:51	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		100		03/30/11 09:51	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		100		03/30/11 09:51	17060-07-0	

Sample: MW-21 **Lab ID: 9290601005** Collected: 03/23/11 11:00 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.038	0.038	1	03/28/11 14:53	03/29/11 06:08	106-93-4	
1-Chloro-2-bromopropane (S)	93	%	60-140		1	03/28/11 14:53	03/29/11 06:08	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**139**	ug/L	100	76.8	1		03/30/11 08:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/30/11 08:02	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/30/11 08:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/30/11 08:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/30/11 08:02	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/30/11 08:02	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/30/11 08:02	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/30/11 08:02	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/30/11 08:02	64-17-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-21 **Lab ID: 9290601005** Collected: 03/23/11 11:00 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/30/11 08:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/30/11 08:02	637-92-3	
Methyl-tert-butyl ether	**35.4**	ug/L	5.0	1.7	1		03/30/11 08:02	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/30/11 08:02	91-20-3	
Toluene	**1.7J**	ug/L	5.0	1.6	1		03/30/11 08:02	108-88-3	
Xylene (Total)	**3.4J**	ug/L	10.0	2.7	1		03/30/11 08:02	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/30/11 08:02	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/30/11 08:02	95-47-6	
Dibromofluoromethane (S)	91	%	70-130		1		03/30/11 08:02	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		03/30/11 08:02	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		1		03/30/11 08:02	460-00-4	
1,2-Dichloroethane-d4 (S)	87	%	70-130		1		03/30/11 08:02	17060-07-0	

Sample: MW-22 **Lab ID: 9290601006** Collected: 03/23/11 10:55 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	03/28/11 14:53	03/29/11 06:28	106-93-4	
1-Chloro-2-bromopropane (S)	94	%	60-140		1	03/28/11 14:53	03/29/11 06:28	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/30/11 08:20	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/30/11 08:20	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		03/30/11 08:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/30/11 08:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/30/11 08:20	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/30/11 08:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/30/11 08:20	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/30/11 08:20	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/30/11 08:20	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/30/11 08:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/30/11 08:20	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/30/11 08:20	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/30/11 08:20	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/30/11 08:20	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/30/11 08:20	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/30/11 08:20	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/30/11 08:20	95-47-6	
Dibromofluoromethane (S)	98	%	70-130		1		03/30/11 08:20	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		03/30/11 08:20	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		03/30/11 08:20	460-00-4	
1,2-Dichloroethane-d4 (S)	92	%	70-130		1		03/30/11 08:20	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: DW-1 **Lab ID: 9290601007** Collected: 03/23/11 12:40 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/28/11 14:53	03/29/11 06:48	106-93-4	
1-Chloro-2-bromopropane (S)	93	%	60-140		1	03/28/11 14:53	03/29/11 06:48	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		03/30/11 07:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/30/11 07:26	994-05-8	
Benzene	**2.1J**	ug/L	5.0	1.7	1		03/30/11 07:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/30/11 07:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/30/11 07:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/30/11 07:26	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/30/11 07:26	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/30/11 07:26	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/30/11 07:26	64-17-5	
Ethylbenzene	**6.6**	ug/L	5.0	1.6	1		03/30/11 07:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/30/11 07:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/30/11 07:26	1634-04-4	
Naphthalene	**11.8**	ug/L	5.0	2.0	1		03/30/11 07:26	91-20-3	
Toluene	**78.8**	ug/L	5.0	1.6	1		03/30/11 07:26	108-88-3	
Xylene (Total)	**58.7**	ug/L	10.0	2.7	1		03/30/11 07:26	1330-20-7	
m&p-Xylene	**26.7**	ug/L	10.0	3.1	1		03/30/11 07:26	179601-23-1	
o-Xylene	**32.1**	ug/L	5.0	1.6	1		03/30/11 07:26	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		1		03/30/11 07:26	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		03/30/11 07:26	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		03/30/11 07:26	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		1		03/30/11 07:26	17060-07-0	

Sample: RW-1 **Lab ID: 9290601008** Collected: 03/23/11 12:30 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.079**	ug/L	0.020	0.020	1	03/28/11 14:53	03/29/11 07:08	106-93-4	C3
1-Chloro-2-bromopropane (S)	115	%	60-140		1	03/28/11 14:53	03/29/11 07:08	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	50000	38400	500		03/30/11 10:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	5000	1700	500		03/30/11 10:09	994-05-8	
Benzene	**1330J**	ug/L	2500	850	500		03/30/11 10:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	50000	16000	500		03/30/11 10:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	50000	28800	500		03/30/11 10:09	75-65-0	
tert-Butyl Formate	ND	ug/L	25000	3650	500		03/30/11 10:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	2500	900	500		03/30/11 10:09	107-06-2	
Diisopropyl ether	ND	ug/L	2500	850	500		03/30/11 10:09	108-20-3	
Ethanol	ND	ug/L	100000	68900	500		03/30/11 10:09	64-17-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: RW-1 **Lab ID: 9290601008** Collected: 03/23/11 12:30 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**1190J**	ug/L	2500	800	500		03/30/11 10:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5000	1800	500		03/30/11 10:09	637-92-3	
Methyl-tert-butyl ether	**991J**	ug/L	2500	850	500		03/30/11 10:09	1634-04-4	
Naphthalene	ND	ug/L	2500	1000	500		03/30/11 10:09	91-20-3	
Toluene	**39800**	ug/L	2500	800	500		03/30/11 10:09	108-88-3	
Xylene (Total)	**6260**	ug/L	5000	1350	500		03/30/11 10:09	1330-20-7	
m&p-Xylene	**4330J**	ug/L	5000	1550	500		03/30/11 10:09	179601-23-1	
o-Xylene	**1930J**	ug/L	2500	800	500		03/30/11 10:09	95-47-6	
Dibromofluoromethane (S)	93	%	70-130		500		03/30/11 10:09	1868-53-7	
Toluene-d8 (S)	96	%	70-130		500		03/30/11 10:09	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		500		03/30/11 10:09	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		500		03/30/11 10:09	17060-07-0	

Sample: RW-2 **Lab ID: 9290601009** Collected: 03/23/11 12:55 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.062**	ug/L	0.020	0.020	1	03/28/11 14:54	03/29/11 07:49	106-93-4	
1-Chloro-2-bromopropane (S)	117	%	60-140		1	03/28/11 14:54	03/29/11 07:49	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	25000	19200	250		03/30/11 10:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	850	250		03/30/11 10:27	994-05-8	
Benzene	**969J**	ug/L	1250	425	250		03/30/11 10:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	8020	250		03/30/11 10:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	14400	250		03/30/11 10:27	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	1820	250		03/30/11 10:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	1250	450	250		03/30/11 10:27	107-06-2	
Diisopropyl ether	ND	ug/L	1250	425	250		03/30/11 10:27	108-20-3	
Ethanol	ND	ug/L	50000	34400	250		03/30/11 10:27	64-17-5	
Ethylbenzene	**902J**	ug/L	1250	400	250		03/30/11 10:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	900	250		03/30/11 10:27	637-92-3	
Methyl-tert-butyl ether	**430J**	ug/L	1250	425	250		03/30/11 10:27	1634-04-4	
Naphthalene	ND	ug/L	1250	500	250		03/30/11 10:27	91-20-3	
Toluene	**32800**	ug/L	1250	400	250		03/30/11 10:27	108-88-3	
Xylene (Total)	**5150**	ug/L	2500	675	250		03/30/11 10:27	1330-20-7	
m&p-Xylene	**3590**	ug/L	2500	775	250		03/30/11 10:27	179601-23-1	
o-Xylene	**1560**	ug/L	1250	400	250		03/30/11 10:27	95-47-6	
Dibromofluoromethane (S)	97	%	70-130		250		03/30/11 10:27	1868-53-7	
Toluene-d8 (S)	99	%	70-130		250		03/30/11 10:27	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		250		03/30/11 10:27	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		250		03/30/11 10:27	17060-07-0	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: RW-3 **Lab ID: 9290601010** Collected: 03/23/11 14:05 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.25**	ug/L	0.021	0.021	1	03/28/11 14:54	03/29/11 08:09	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	03/28/11 14:54	03/29/11 08:09	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	50000	38400	500		03/30/11 10:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	5000	1700	500		03/30/11 10:46	994-05-8	
Benzene	**2120J**	ug/L	2500	850	500		03/30/11 10:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	50000	16000	500		03/30/11 10:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	50000	28800	500		03/30/11 10:46	75-65-0	
tert-Butyl Formate	ND	ug/L	25000	3650	500		03/30/11 10:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	2500	900	500		03/30/11 10:46	107-06-2	
Diisopropyl ether	ND	ug/L	2500	850	500		03/30/11 10:46	108-20-3	
Ethanol	ND	ug/L	100000	68900	500		03/30/11 10:46	64-17-5	
Ethylbenzene	**2050J**	ug/L	2500	800	500		03/30/11 10:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5000	1800	500		03/30/11 10:46	637-92-3	
Methyl-tert-butyl ether	**2270J**	ug/L	2500	850	500		03/30/11 10:46	1634-04-4	
Naphthalene	ND	ug/L	2500	1000	500		03/30/11 10:46	91-20-3	
Toluene	**66800**	ug/L	2500	800	500		03/30/11 10:46	108-88-3	
Xylene (Total)	**10100**	ug/L	5000	1350	500		03/30/11 10:46	1330-20-7	
m&p-Xylene	**7060**	ug/L	5000	1550	500		03/30/11 10:46	179601-23-1	
o-Xylene	**3010**	ug/L	2500	800	500		03/30/11 10:46	95-47-6	
Dibromofluoromethane (S)	99	%	70-130		500		03/30/11 10:46	1868-53-7	
Toluene-d8 (S)	98	%	70-130		500		03/30/11 10:46	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		500		03/30/11 10:46	460-00-4	
1,2-Dichloroethane-d4 (S)	88	%	70-130		500		03/30/11 10:46	17060-07-0	

Sample: RW-4 **Lab ID: 9290601011** Collected: 03/23/11 14:00 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	03/28/11 14:54	03/29/11 08:29	106-93-4	
1-Chloro-2-bromopropane (S)	100	%	60-140		1	03/28/11 14:54	03/29/11 08:29	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**453**	ug/L	100	76.8	1		03/30/11 07:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		03/30/11 07:44	994-05-8	
Benzene	**178**	ug/L	5.0	1.7	1		03/30/11 07:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		03/30/11 07:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		03/30/11 07:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		03/30/11 07:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		03/30/11 07:44	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		03/30/11 07:44	108-20-3	
Ethanol	ND	ug/L	200	138	1		03/30/11 07:44	64-17-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: RW-4 **Lab ID: 9290601011** Collected: 03/23/11 14:00 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Oxygenates	Analytical Method: EPA 8260								
Ethylbenzene	**17.6**	ug/L	5.0	1.6	1		03/30/11 07:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		03/30/11 07:44	637-92-3	
Methyl-tert-butyl ether	**30.4**	ug/L	5.0	1.7	1		03/30/11 07:44	1634-04-4	
Naphthalene	**7.8**	ug/L	5.0	2.0	1		03/30/11 07:44	91-20-3	
Toluene	**934**	ug/L	50.0	16.0	10		03/30/11 11:04	108-88-3	
Xylene (Total)	**538**	ug/L	10.0	2.7	1		03/30/11 07:44	1330-20-7	
m&p-Xylene	**344**	ug/L	10.0	3.1	1		03/30/11 07:44	179601-23-1	
o-Xylene	**194**	ug/L	5.0	1.6	1		03/30/11 07:44	95-47-6	
Dibromofluoromethane (S)	94	%	70-130		1		03/30/11 07:44	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		03/30/11 07:44	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		1		03/30/11 07:44	460-00-4	
1,2-Dichloroethane-d4 (S)	86	%	70-130		1		03/30/11 07:44	17060-07-0	

Sample: MW-2R **Lab ID: 9290601012** Collected: 03/23/11 13:20 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 03:45	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 03:45	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 03:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 03:45	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 03:45	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 03:45	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 03:45	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 03:45	95-47-6	
4-Bromofluorobenzene (S)	96	%	70-130		1		03/26/11 03:45	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		03/26/11 03:45	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		03/26/11 03:45	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/26/11 03:45	2037-26-5	

Sample: MW-3 **Lab ID: 9290601013** Collected: 03/23/11 13:35 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 04:03	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 04:03	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 04:03	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 04:03	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 04:03	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 04:03	1330-20-7	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-3 **Lab ID: 9290601013** Collected: 03/23/11 13:35 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 04:03	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 04:03	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		03/26/11 04:03	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		03/26/11 04:03	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		03/26/11 04:03	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		03/26/11 04:03	2037-26-5	

Sample: MW-4 **Lab ID: 9290601014** Collected: 03/23/11 13:10 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 04:22	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 04:22	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 04:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 04:22	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 04:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 04:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 04:22	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 04:22	95-47-6	
4-Bromofluorobenzene (S)	96	%	70-130		1		03/26/11 04:22	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		03/26/11 04:22	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/26/11 04:22	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/26/11 04:22	2037-26-5	

Sample: MW-5 **Lab ID: 9290601015** Collected: 03/23/11 11:45 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 04:41	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 04:41	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 04:41	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 04:41	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 04:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 04:41	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 04:41	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 04:41	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		03/26/11 04:41	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		03/26/11 04:41	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/26/11 04:41	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/26/11 04:41	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-6 **Lab ID: 9290601016** Collected: 03/23/11 09:35 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	**477**	ug/L	250	85.0	50		03/26/11 04:59	71-43-2	
Ethylbenzene	**500**	ug/L	250	80.0	50		03/26/11 04:59	100-41-4	
Methyl-tert-butyl ether	**4740**	ug/L	250	85.0	50		03/26/11 04:59	1634-04-4	
Naphthalene	**152J**	ug/L	250	100	50		03/26/11 04:59	91-20-3	
Toluene	**7360**	ug/L	250	80.0	50		03/26/11 04:59	108-88-3	
Xylene (Total)	**2710**	ug/L	500	135	50		03/26/11 04:59	1330-20-7	
m&p-Xylene	**1900**	ug/L	500	155	50		03/26/11 04:59	179601-23-1	
o-Xylene	**810**	ug/L	250	80.0	50		03/26/11 04:59	95-47-6	
4-Bromofluorobenzene (S)	96	%	70-130		50		03/26/11 04:59	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		50		03/26/11 04:59	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		50		03/26/11 04:59	17060-07-0	
Toluene-d8 (S)	100	%	70-130		50		03/26/11 04:59	2037-26-5	

Sample: MW-8 **Lab ID: 9290601017** Collected: 03/23/11 10:35 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 05:18	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 05:18	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 05:18	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 05:18	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 05:18	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 05:18	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 05:18	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 05:18	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		03/26/11 05:18	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		03/26/11 05:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/26/11 05:18	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/26/11 05:18	2037-26-5	

Sample: MW-9 **Lab ID: 9290601018** Collected: 03/23/11 11:05 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 05:36	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 05:36	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 05:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 05:36	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 05:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 05:36	1330-20-7	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-9 **Lab ID: 9290601018** Collected: 03/23/11 11:05 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 05:36	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 05:36	95-47-6	
4-Bromofluorobenzene (S)	96	%	70-130		1		03/26/11 05:36	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		03/26/11 05:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		03/26/11 05:36	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		03/26/11 05:36	2037-26-5	

Sample: MW-11 **Lab ID: 9290601019** Collected: 03/23/11 13:30 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 05:55	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 05:55	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 05:55	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 05:55	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 05:55	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 05:55	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 05:55	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 05:55	95-47-6	
4-Bromofluorobenzene (S)	94	%	70-130		1		03/26/11 05:55	460-00-4	
Dibromofluoromethane (S)	101	%	70-130		1		03/26/11 05:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/26/11 05:55	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/26/11 05:55	2037-26-5	

Sample: MW-12 **Lab ID: 9290601020** Collected: 03/23/11 13:15 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 06:14	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 06:14	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 06:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 06:14	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 06:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 06:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 06:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 06:14	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		03/26/11 06:14	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		03/26/11 06:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		03/26/11 06:14	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		03/26/11 06:14	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-15 **Lab ID: 9290601021** Collected: 03/23/11 14:20 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 06:32	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 06:32	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 06:32	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 06:32	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 06:32	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 06:32	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 06:32	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 06:32	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		03/26/11 06:32	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		03/26/11 06:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/26/11 06:32	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/26/11 06:32	2037-26-5	

Sample: MW-17 **Lab ID: 9290601022** Collected: 03/23/11 10:10 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 06:51	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 06:51	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 06:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 06:51	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 06:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 06:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 06:51	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 06:51	95-47-6	
4-Bromofluorobenzene (S)	96	%	70-130		1		03/26/11 06:51	460-00-4	
Dibromofluoromethane (S)	100	%	70-130		1		03/26/11 06:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		03/26/11 06:51	17060-07-0	
Toluene-d8 (S)	97	%	70-130		1		03/26/11 06:51	2037-26-5	

Sample: MW-18 **Lab ID: 9290601023** Collected: 03/23/11 10:20 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 07:09	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 07:09	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 07:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 07:09	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 07:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 07:09	1330-20-7	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: MW-18 **Lab ID: 9290601023** Collected: 03/23/11 10:20 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 07:09	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 07:09	95-47-6	
4-Bromofluorobenzene (S)	95	%	70-130		1		03/26/11 07:09	460-00-4	
Dibromofluoromethane (S)	103	%	70-130		1		03/26/11 07:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		03/26/11 07:09	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/26/11 07:09	2037-26-5	

Sample: MW-20 **Lab ID: 9290601024** Collected: 03/23/11 10:00 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 07:28	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 07:28	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 07:28	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 07:28	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 07:28	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 07:28	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 07:28	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 07:28	95-47-6	
4-Bromofluorobenzene (S)	98	%	70-130		1		03/26/11 07:28	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		03/26/11 07:28	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		03/26/11 07:28	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/26/11 07:28	2037-26-5	

Sample: DW-2 **Lab ID: 9290601025** Collected: 03/23/11 10:00 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 07:47	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 07:47	100-41-4	
Methyl-tert-butyl ether	**1.9J**	ug/L	5.0	1.7	1		03/26/11 07:47	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 07:47	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 07:47	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 07:47	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 07:47	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 07:47	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		03/26/11 07:47	460-00-4	
Dibromofluoromethane (S)	102	%	70-130		1		03/26/11 07:47	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/26/11 07:47	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		03/26/11 07:47	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

Sample: DW-3 **Lab ID: 9290601026** Collected: 03/23/11 11:40 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 08:05	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 08:05	100-41-4	
Methyl-tert-butyl ether	**2.1J**	ug/L	5.0	1.7	1		03/26/11 08:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 08:05	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 08:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 08:05	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 08:05	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 08:05	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		03/26/11 08:05	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		03/26/11 08:05	1868-53-7	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		03/26/11 08:05	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		03/26/11 08:05	2037-26-5	

Sample: PW-1 **Lab ID: 9290601027** Collected: 03/23/11 13:55 Received: 03/24/11 15:05 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.7	1		03/26/11 08:24	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.6	1		03/26/11 08:24	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		03/26/11 08:24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		03/26/11 08:24	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		03/26/11 08:24	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		03/26/11 08:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		03/26/11 08:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		03/26/11 08:24	95-47-6	
4-Bromofluorobenzene (S)	97	%	70-130		1		03/26/11 08:24	460-00-4	
Dibromofluoromethane (S)	104	%	70-130		1		03/26/11 08:24	1868-53-7	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		03/26/11 08:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		03/26/11 08:24	2037-26-5	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

QC Batch: OEXT/13078 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9290601001, 9290601002

METHOD BLANK: 582824 — Matrix: Water
Associated Lab Samples: 9290601001, 9290601002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.019	03/26/11 08:28	
1-Chloro-2-bromopropane (S)	%	99	60-140	03/26/11 08:28	

LABORATORY CONTROL SAMPLE & LCSD: 582825 582826

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.29	0.31	104	112	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				99	99	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 582827 582828

Parameter	Units	9290109003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.32	0.30	112	106	60-140	6	20	
1-Chloro-2-bromopropane (S)	%						100	98	60-140			

SAMPLE DUPLICATE: 582829

Parameter	Units	9290109004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	92	97	7		

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

QC Batch: OEXT/13096 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9290601003, 9290601004, 9290601005, 9290601006, 9290601007, 9290601008, 9290601009, 9290601010, 9290601011

METHOD BLANK: 583733 — Matrix: Water
Associated Lab Samples: 9290601003, 9290601004, 9290601005, 9290601006, 9290601007, 9290601008, 9290601009, 9290601010, 9290601011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	03/29/11 00:44	
1-Chloro-2-bromopropane (S)	%	116	60-140	03/29/11 00:44	

LABORATORY CONTROL SAMPLE & LCSD: 583734 583735

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.33	0.30	116	108	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				107	100	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 583736 583737

Parameter	Units	9290601003 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	0.71	.28	.28	0.98	0.99	96	100	60-140	1	20	
1-Chloro-2-bromopropane (S)	%						113	116	60-140			

SAMPLE DUPLICATE: 583738

Parameter	Units	9290601008 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.079	0.097	20	20	C3
1-Chloro-2-bromopropane (S)	%	115	125	8		

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

QC Batch: MSV/14570 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV SC
Associated Lab Samples: 9290601012, 9290601013, 9290601014, 9290601015, 9290601016, 9290601017, 9290601018, 9290601019, 9290601020, 9290601021, 9290601022, 9290601023

METHOD BLANK: 582832 — Matrix: Water
Associated Lab Samples: 9290601012, 9290601013, 9290601014, 9290601015, 9290601016, 9290601017, 9290601018, 9290601019, 9290601020, 9290601021, 9290601022, 9290601023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	03/26/11 00:57	
Ethylbenzene	ug/L	ND	5.0	03/26/11 00:57	
m&p-Xylene	ug/L	ND	10.0	03/26/11 00:57	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/26/11 00:57	
Naphthalene	ug/L	ND	5.0	03/26/11 00:57	
o-Xylene	ug/L	ND	5.0	03/26/11 00:57	
Toluene	ug/L	ND	5.0	03/26/11 00:57	
Xylene (Total)	ug/L	ND	10.0	03/26/11 00:57	
1,2-Dichloroethane-d4 (S)	%	101	70-130	03/26/11 00:57	
4-Bromofluorobenzene (S)	%	98	70-130	03/26/11 00:57	
Dibromofluoromethane (S)	%	99	70-130	03/26/11 00:57	
Toluene-d8 (S)	%	101	70-130	03/26/11 00:57	

LABORATORY CONTROL SAMPLE: 582833

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.2	104	70-130	
Ethylbenzene	ug/L	50	53.5	107	70-130	
m&p-Xylene	ug/L	100	109	109	70-130	
Methyl-tert-butyl ether	ug/L	50	51.6	103	70-130	
Naphthalene	ug/L	50	53.9	108	70-130	
o-Xylene	ug/L	50	53.2	106	70-130	
Toluene	ug/L	50	52.8	106	70-130	
Xylene (Total)	ug/L	150	163	108	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			99	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 583574 — 583575

Parameter	Units	9290601020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	50.5	52.6	101	105	70-130	4	30	
Ethylbenzene	ug/L	ND	50	50	52.7	52.2	105	104	70-130	1	30	
m&p-Xylene	ug/L	ND	100	100	103	106	103	106	70-130	3	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	48.6	48.2	97	96	70-130	1	30	
Naphthalene	ug/L	ND	50	50	55.9	55.4	112	111	70-130	1	30	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 583574 583575

Parameter	Units	9290601020 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
o-Xylene	ug/L	ND	50	50	50.8	53.4	102	107	70-130	5	30	
Toluene	ug/L	ND	50	50	50.3	53.8	101	108	70-130	7	30	
1,2-Dichloroethane-d4 (S)	%						94	88	70-130			
4-Bromofluorobenzene (S)	%						103	104	70-130			
Dibromofluoromethane (S)	%						97	99	70-130			
Toluene-d8 (S)	%						97	103	70-130			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

QC Batch: MSV/14571 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV SC
Associated Lab Samples: 9290601024, 9290601025, 9290601026, 9290601027

METHOD BLANK: 582834 — Matrix: Water
Associated Lab Samples: 9290601024, 9290601025, 9290601026, 9290601027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	03/26/11 00:38	
Ethylbenzene	ug/L	ND	5.0	03/26/11 00:38	
m&p-Xylene	ug/L	ND	10.0	03/26/11 00:38	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/26/11 00:38	
Naphthalene	ug/L	ND	5.0	03/26/11 00:38	
o-Xylene	ug/L	ND	5.0	03/26/11 00:38	
Toluene	ug/L	ND	5.0	03/26/11 00:38	
Xylene (Total)	ug/L	ND	10.0	03/26/11 00:38	
1,2-Dichloroethane-d4 (S)	%	100	70-130	03/26/11 00:38	
4-Bromofluorobenzene (S)	%	98	70-130	03/26/11 00:38	
Dibromofluoromethane (S)	%	99	70-130	03/26/11 00:38	
Toluene-d8 (S)	%	101	70-130	03/26/11 00:38	

LABORATORY CONTROL SAMPLE: 582835

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	51.4	103	70-130	
Ethylbenzene	ug/L	50	52.2	104	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	51.2	102	70-130	
Naphthalene	ug/L	50	48.8	98	70-130	
o-Xylene	ug/L	50	52.5	105	70-130	
Toluene	ug/L	50	52.0	104	70-130	
Xylene (Total)	ug/L	150	160	106	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 583576 583577

Parameter	Units	9290601024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	44.4	44.9	89	90	70-130	1	30	
Ethylbenzene	ug/L	ND	50	50	42.2	43.8	84	88	70-130	4	30	
m&p-Xylene	ug/L	ND	100	100	85.3	89.2	85	89	70-130	5	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	39.9	41.9	80	84	70-130	5	30	
Naphthalene	ug/L	ND	50	50	39.4	45.2	79	90	70-130	14	30	
o-Xylene	ug/L	ND	50	50	41.8	44.3	84	89	70-130	6	30	
Toluene	ug/L	ND	50	50	42.9	45.0	86	90	70-130	5	30	

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 583576 583577

Parameter	Units	9290601024 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dichloroethane-d4 (S)	%						94	90	70-130			
4-Bromofluorobenzene (S)	%						106	101	70-130			
Dibromofluoromethane (S)	%						96	97	70-130			
Toluene-d8 (S)	%						100	100	70-130			

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205 East Meadow Road - Suite A
Eden, NC 27288
(336)623-8921

Pace Analytical Services, Inc.
2225 Riverside Dr.
Asheville, NC 28804
(828)254-7176

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(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

QC Batch: MSV/14616 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9290601001, 9290601002, 9290601003, 9290601004, 9290601005, 9290601006, 9290601007, 9290601008, 9290601009, 9290601010, 9290601011

METHOD BLANK: 584432 — Matrix: Water
Associated Lab Samples: 9290601001, 9290601002, 9290601003, 9290601004, 9290601005, 9290601006, 9290601007, 9290601008, 9290601009, 9290601010, 9290601011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	03/30/11 01:34	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	03/30/11 01:34	
Benzene	ug/L	ND	5.0	03/30/11 01:34	
Diisopropyl ether	ug/L	ND	5.0	03/30/11 01:34	
Ethanol	ug/L	ND	200	03/30/11 01:34	
Ethyl-tert-butyl ether	ug/L	ND	10.0	03/30/11 01:34	
Ethylbenzene	ug/L	ND	5.0	03/30/11 01:34	
m&p-Xylene	ug/L	ND	10.0	03/30/11 01:34	
Methyl-tert-butyl ether	ug/L	ND	5.0	03/30/11 01:34	
Naphthalene	ug/L	ND	5.0	03/30/11 01:34	
o-Xylene	ug/L	ND	5.0	03/30/11 01:34	
tert-Amyl Alcohol	ug/L	ND	100	03/30/11 01:34	
tert-Amylmethyl ether	ug/L	ND	10.0	03/30/11 01:34	
tert-Butyl Alcohol	ug/L	ND	100	03/30/11 01:34	
tert-Butyl Formate	ug/L	ND	50.0	03/30/11 01:34	
Toluene	ug/L	ND	5.0	03/30/11 01:34	
Xylene (Total)	ug/L	ND	10.0	03/30/11 01:34	
1,2-Dichloroethane-d4 (S)	%	87	70-130	03/30/11 01:34	
4-Bromofluorobenzene (S)	%	105	70-130	03/30/11 01:34	
Dibromofluoromethane (S)	%	88	70-130	03/30/11 01:34	
Toluene-d8 (S)	%	99	70-130	03/30/11 01:34	

LABORATORY CONTROL SAMPLE: 584433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.1	96	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	717	72	70-130	
Benzene	ug/L	50	46.4	93	70-130	
Diisopropyl ether	ug/L	50	48.9	98	70-130	
Ethanol	ug/L	2000	1910	95	70-130	
Ethyl-tert-butyl ether	ug/L	100	88.9	89	70-130	
Ethylbenzene	ug/L	50	49.1	98	70-130	
m&p-Xylene	ug/L	100	98.1	98	70-130	
Methyl-tert-butyl ether	ug/L	50	49.9	100	70-130	
Naphthalene	ug/L	50	53.4	107	70-130	
o-Xylene	ug/L	50	49.6	99	70-130	
tert-Amyl Alcohol	ug/L	1000	734	73	70-130	
tert-Amylmethyl ether	ug/L	100	96.5	96	70-130	
tert-Butyl Alcohol	ug/L	500	380	76	70-130	
tert-Butyl Formate	ug/L	400	345	86	70-130	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

LABORATORY CONTROL SAMPLE: 584433

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	50.1	100	70-130	
Xylene (Total)	ug/L	150	148	98	70-130	
1,2-Dichloroethane-d4 (S)	%			92	70-130	
4-Bromofluorobenzene (S)	%			107	70-130	
Dibromofluoromethane (S)	%			93	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALIFIERS

Project: FOUR SEASONS FOOD & FUEL
Pace Project No.: 9290601

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.
ND - Not Detected at or above adjusted reporting limit.
J - Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit.
MDL - Adjusted Method Detection Limit.
S - Surrogate
1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.
Consistent with EPA guidelines, unrounded data are displayed and have been used to calculate % recovery and RPD values.
LCS(D) - Laboratory Control Sample (Duplicate)
MS(D) - Matrix Spike (Duplicate)
DUP - Sample Duplicate
RPD - Relative Percent Difference
NC - Not Calculable.
SG - Silica Gel - Clean-Up
U - Indicates the compound was analyzed for, but not detected.
N-Nitrosodiphenylamine decomposes and cannot be separated from Diphenylamine using Method 8270. The result reported for each analyte is a combined concentration.
Pace Analytical is NELAP accredited. Contact your Pace PM for the current list of accredited analytes.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C3 Relative percent difference between results from each column was greater than 40%. The higher of the two results was reported.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 3

1452209

Section A Required Client Information:

Company: MECI
Address: 235 B DOOLEY RD. LEXINGTON, SC 29073
Email To:
Phone: 803-808-2043 Fax: 803-808-2048
Requested Due Date/TAT:

Section B Required Project Information:

Report To: BRYAN SHANE
Copy To:
Purchase Order No.:
Project Name: FOUR SEASONS FOOD & FUEL
Project Number: 10-30104

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: RENEE SPENCER
Pace Profile #: 8710-511

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID (A-Z, 0-9 /,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, NAPHTHALENE & OXY (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			3-23	1400		6				6					X	X	X		001
2	MW-2R						1320		3				3					X				002
3	MW-3						1335											X				003
4	MW-4						1310											X				004
5	MW-5						1145											X				005
6	MW-10						935		X				X					X				006
7	MW-7R						1115		6				6					X	X	X		007
8	MW-8						1035		3				3					X				008
9	MW-9						1105		3				3					X				009
10	MW-10						1245		6				6					X	X	X		010
11	MW-11						1530		3				3					X				011
12	MW-12	V	V			X	1315		3				3					X				012

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
REPORT "J" VALUES	[signature]	3-23	16:00	[signature] -PACE	3/24	14:23	
	[signature] -PACE	3/24	15:05	[signature]	3/24/11	15:25	7.9 yes no yes

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: BRIAN OWEN
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3-23-11

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

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

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

1452210

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: MECI	Report To: BRYAN SHANE	Attention:
Address: 235 B Dooley Rd. LEXINGTON, SC 29073	Copy To:	Company Name:
		Address:
Email To:	Purchase Order No.:	Pace Quote Reference:
Phone: 803-808-2043 Fax: 803-808-2048	Project Name: FOUR SEASONS FOOD & FUEL	Pace Project Manager: RENEE SPENCER
Requested Due Date/TAT:	Project Number: 10-3064	Pace Profile #:

REGULATORY AGENCY

- [ ] NPDES
- [ ] GROUND WATER
- [ ] DRINKING WATER
- [x] UST
- [ ] RCRA
- [ ] OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Blex, NaPTH, MTBE	8-OXY (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-13																						NOT LOCATED
2	MW-14	WT	G			3-23	11:30		6				6						X	X	X		004
3	MW-15	WT	G			3-23	14:20		3				3						X				021
4	MW-16																						ABANDONED
5	MW-17	WT	G			3-23	10:10		3				3						X				022
6	MW-18	WT	G			3-23	10:20		3				3						X				023
7	MW-19																						NOT LOCATED
8	MW-20	WT	G			3-23	10:00		3				3						X				024
9	MW-21						11:00		6				6						X	X	X		005
10	MW-22						10:55		6				6						X	X	X		006
11	[redacted]-DW-1						12:40		6				6						X	X	X		007
12	DW-2	X	X			X	10:00		3				3						X				025

9290601

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
REPORT "J" Values	[signature]	3-23	11:00	[signature] -PACE	3/24	14:23	
	[signature] -PACE	3/24	15:05	[signature]	3/24/11	15:25	28 [illegible]

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 3-23-11

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

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

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

1451285

Section A Required Client Information:

Company: MECI
Address: 235 B Dooley Rd. Lexington, SC 29073
Email To:
Phone: 803-808-2043 Fax: 803-808-2048
Requested Due Date/TAT:

Section B Required Project Information:

Report To: Bryan Shane
Copy To:
Purchase Order No.:
Project Name: Four Seasons Food & Fuel
Project Number: 10-30104

Section C Invoice Information:

Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: Renee Spencer
Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Requested Analysis Filtered (Y/N)

ITEM #	Section D Required Client Information: SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Blex, Naph, MTBE	8-Oxy (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	DW-3	WT	G			3-23	11:40		3				3					X		X		026
2	RW-1						12:30		6				6					X	X	X		008
3	RW-2						12:55		6				6					X	X	X		009
4	RW-3						14:05		6				6					X	X	X		010
5	RW-4						14:00		6				6					X	X	X		011
6	PW-1						13:55		3				3					X		X		027
7																						
8																						
9																						
10																						
11																						
12																						

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report "J" Values	[signature]	3-23	16:00	[signature] - PACE	3/24/11	14:23	
	[signature] - PACE	15:05	3/29/11	[signature]	3/29/11	15:05	2.9

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

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brian Owen

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 3-23-11

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

F-ALL-Q-020rev.07, 15-May-2007

FIELD DATA INFORMATION SHEETS

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** MW-8

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	7.64		feet
Total Well Depth (TWD)	15		feet
Length of the water column (LWC=TWD-DGW)		7.36	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	1.20	gallons
3 casing volume (3 X CV)=	3	3.60	gallons

Total Volume of Water Purged Before Sampling 3 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:30	9:35						
pH (s.u.)	6.90	5.70						
Specific Conductivity (µmhos/cm)	52.3	45.6						
Water Temperature (°C)	16.1	15.2						
Dissolved Oxygen	1.69	1.88						
PID readings, if required								

Remarks: Sample Time: 9:35 Dry at 3 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** MW-18

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	2.13			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			12.87	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	2.10	gallons
3 casing volume (3 X CV)=		3	6.29	gallons

Total Volume of Water Purged Before Sampling 3 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:15	10:20						
pH (s.u.)	5.11	5.14						
Specific Conductivity (μmhos/cm)	42.8	44.0						
Water Temperature (°C)	15.5	15.7						
Dissolved Oxygen	3.76	4.44						
PID readings, if required								

Remarks: Sample Time: 10:20 Dry at 3 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** MW-21

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	11.85			feet
Total Well Depth (TWD)	19			feet
Length of the water column (LWC=TWD-DGW)			7.15	feet
1 casing volume (CV=LWC X C)=	_____ X	0.163	1.17	gallons
3 casing volume (3 X CV)=		3	3.50	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:58	11:00						
pH (s.u.)	5.23	5.22						
Specific Conductivity (μmhos/cm)	47.8	47.7						
Water Temperature (°C)	19.3	19.6						
Dissolved Oxygen	1.31	1.71						
PID readings, if required								

Remarks: Sample Time: 11:00 Dry at 1 Gallon

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** MW-22

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	9.00			feet
Total Well Depth (TWD)	16			feet
Length of the water column (LWC=TWD-DGW)			7	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.14	gallons
3 casing volume (3 X CV)=		3	3.42	gallons

Total Volume of Water Purged Before Sampling 3 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:50	10:52	10:55					
pH (s.u.)	5.43	5.25	5.06					
Specific Conductivity (μmhos/cm)	47.8	55.6	49.0					
Water Temperature (°C)	17.6	17.1	17.7					
Dissolved Oxygen	0.74	1.04	1.90					
PID readings, if required								

Remarks: Sample Time: 10:55 Dry at 3 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	22.15		feet
Total Well Depth (TWD)	60		feet
Length of the water column (LWC=TWD-DGW)		37.85	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	6.17	gallons
3 casing volume (3 X CV)=	3	18.51	gallons

Total Volume of Water Purged Before Sampling 5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:30	12:40						
pH (s.u.)	8.82	7.91						
Specific Conductivity (µmhos/cm)	108.4	120.2						
Water Temperature (°C)	22.6	23.0						
Dissolved Oxygen	3.14	1.62						
PID readings, if required								

Remarks: Sample Time: 12:40 Dry at 5 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	12.43			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			47.57	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	7.75	gallons
3 casing volume (3 X CV)=		3	23.26	gallons

Total Volume of Water Purged Before Sampling 7 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:50	10:00						
pH (s.u.)	6.36	5.97						
Specific Conductivity (µmhos/cm)	71.7	63.7						
Water Temperature (°C)	17.0	17.5						
Dissolved Oxygen	4.00	1.81						
PID readings, if required								

Remarks: Sample Time: 10:00 Dry at 7 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** DW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	17.49			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			42.51	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.93	gallons
3 casing volume (3 X CV)=		3	20.79	gallons

Total Volume of Water Purged Before Sampling 8 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:30	11:40						
pH (s.u.)	11.81	12.01						
Specific Conductivity (μmhos/cm)	1,885	2,347						
Water Temperature (°C)	20.5	20.9						
Dissolved Oxygen	1.27	2.50						
PID readings, if required								

Remarks: Sample Time: 11:40 Dry at 8 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/23/2011

Field Personnel: Brian Owen and Kyle Pudney

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food and Fuel

Site ID#: 00120 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	24.20		feet
Total Well Depth (TWD)	46		feet
Length of the water column (LWC=TWD-DGW)		21.8	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	3.55	gallons
3 casing volume (3 X CV)=	3	10.66	gallons

Total Volume of Water Purged Before Sampling 11 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:45	13:48	13:52	13:55				
pH (s.u.)	5.42	5.45	5.31	5.22				
Specific Conductivity (μmhos/cm)	55	53	54.1	53.3				
Water Temperature (°C)	22.3	21.9	21.8	21.7				
Dissolved Oxygen	4.18	5.39	5.59	6.21				
PID readings, if required								

Remarks: Sample Time: 13:55

WASTE DISPOSAL MANIFESTS

Midlands
Environmental
Consultants, Inc.

April 5, 2011

Re: Treatment of Purge Water
Four Seasons Food & Fuel
N. Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 10-3064

To Whom it May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.
2. No free-product was detected in any of the purge water drums.
3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.
5. Record of usage is maintained by Contractor.
6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.
7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

One (1) drum was treated on March 23, 2011 at the referenced site.

A total of one (1) drum was treated at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1090445

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 03/23/2011
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO

Carrier MIDLANDSENVIRON MIDLANDS ENVIRONMENT
Vehicle# 1
Volume
Container
Driver
Check#
Billing # 0000469
Gen EPA ID

Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

	Time	Scale			
In	03/23/2011 09:16:47	Scale1	ScaleMaster	Gross	12340 lb
Out	03/23/2011 09:29:05	Scale2	Dwayne	Tare	9200 lb
			Dwayne	Net	3140 lb
				Tons	1.57

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Cont. Soil -	100	1.57	Tons				32-LEXINGT
2	FUEL-Fuel Surcharg	100		%				32-LEXINGT
3	EVF-P-Standard Env	100		%				32-LEXINGT

Total Fees
Total Ticket

SIGNATURE

Thomas well Cont. / Four Seasons
3/4 1/4

WM

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE November 17, 2013	Special Waste Phone: 803-744-3346 Fax: 866-904-7194

Prepared by: Karen Truett/Carol Weldon

GENERATOR OF WASTE: Midlands Env. Consultants, Inc. - Various

CUSTOMER Midlands Env. Consultants

ACCOUNT NUMBER: 820-469

LOCATION OF WASTE: Site Address:

CITY: Lexington COUNTY: Lexington

PHONE NUM 803-808-2043 CONTACT: Bryan Shane

FAX NUMBER:

GENERATOR'S SIGNATURE [illegible] DATE: 3-23-11

TRANSPORTER OF WASTE: MECI

DATE: 3-23-11 TRUCK NUMBER: 1

DRIVER'S SIGNATURE [illegible]

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Soil from UST Assessment

TICKET NUMBER: 109445

RECEIVED BY: [illegible]

Thomas Well Cont. 3/4 / Four Seasons Food + Fuel 1/4

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAY 09 2011

UST DOCKET 22 Tech

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071

Re: Bid # IFB-34007-6/3/08-EMW; PO# 4500011317
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. The packets contain the necessary approval for work to begin. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 4500011317 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit#	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
00120	Four Season's Food and Fuel	Aiken	1	Replace 3 wells and Abandon 2 Wells	60 Days	41563	$1,800.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. **Please note, if there are any changes in the established cost agreement amounts (e.g., additional water supply wells sampled, additional well footage, etc.) contact the site's project manager for technical and/or financial approval. Failure to do so prior to submittal of invoice may result in delay of payment.**

The Bureau grants pre-approval for transportation of drums of virgin petroleum contaminated soil and drums of groundwater from the referenced site to a permitted treatment facility. The contaminated soil and/or groundwater must be properly stored in labeled 55-gallon drums or equivalent containers.

The contaminated soil and/or groundwater must be accepted by the approved treatment facility.

There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. Please note, transportation of waste oil contaminated soil must receive pre-approval from the Division of Waste Assessment & Emergency Response.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. If you have any questions or need further assistance, please contact me at (803) 896-6629.

Sincerely,

Andrew McCormick, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc.: Monitoring Well Approvals (MWA)
Approved Cost Agreements (ACA)
Information Packets

cc: Andrew McCormick, UST Management Division (w/out enc)
✓Technical Files (w/ copy of MWA, ACA, & Site Map)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Approval

Approval is hereby granted to: **Midlands Environmental Consultants, Inc.**

On behalf of: **Jackson Petroleum**

Facility: **Four Seasons Food and Fuel**
2031 Pisgah Road, N Augusta, SC

UST Permit #: **00120**

County: **Aiken**

This approval is for the installation of three new well(s). Monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

ebingedj@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

Date of Issuance: 5/2/2011 **Approval:** UMW-24231

David Ebinger, Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

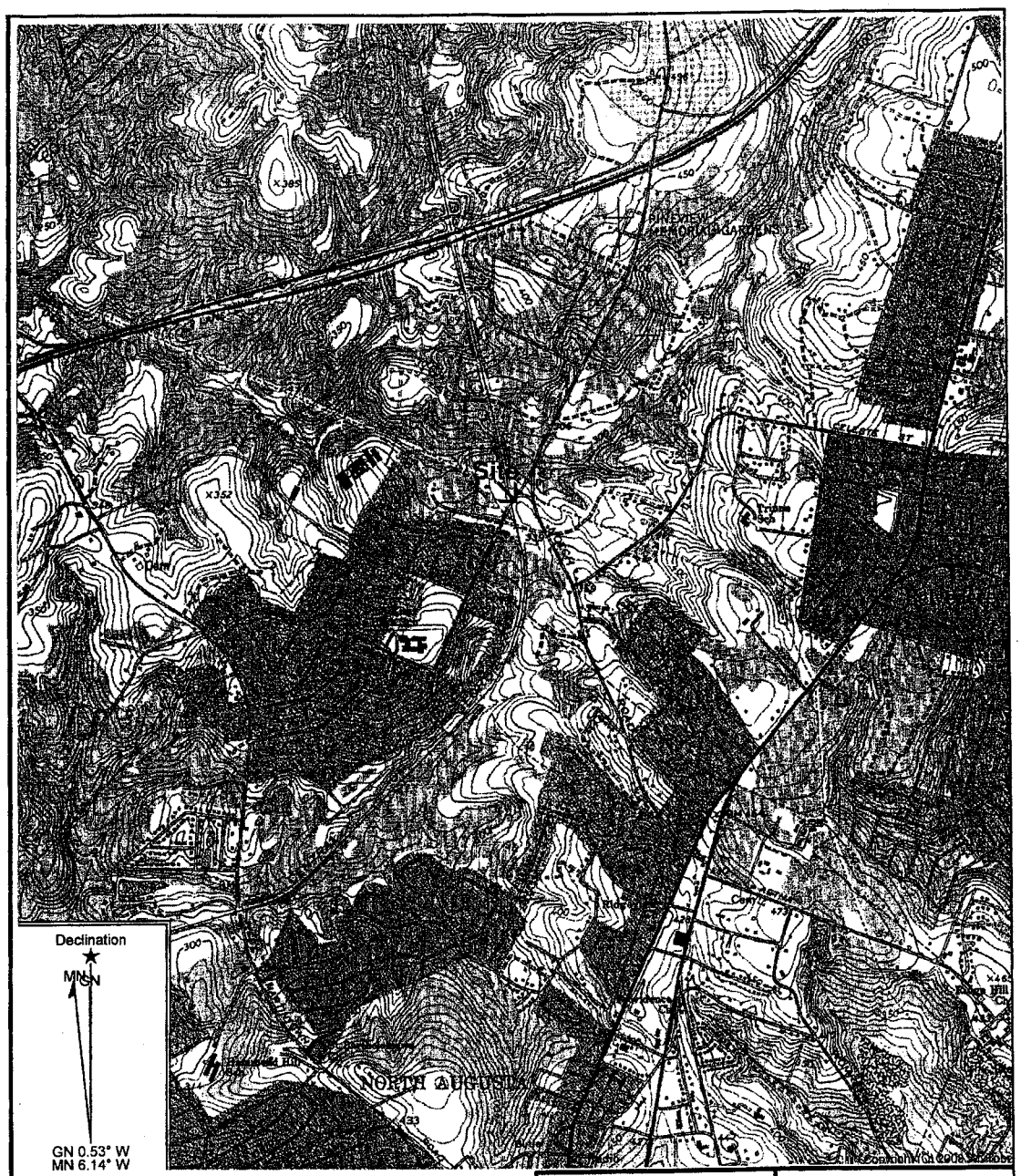
Approved Cost Agreement 41563

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

EBINGEDJ

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	100.00	100.00
		B	PERSONNEL	1.0000	100.00	100.00
08 ABANDONMENT						
			ABANDONMENT	30.0000	4.00	120.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	54.0000	20.00	1,080.00
16 SUBSEQUENT SURVEY						
			SUBSEQUENT SURVEY	1.0000	50.00	50.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	1.0000	50.00	50.00
		C	SOIL (TREATMENT/DISPOSAL)	6.0000	50.00	300.00
				Total Amount		1,800.00



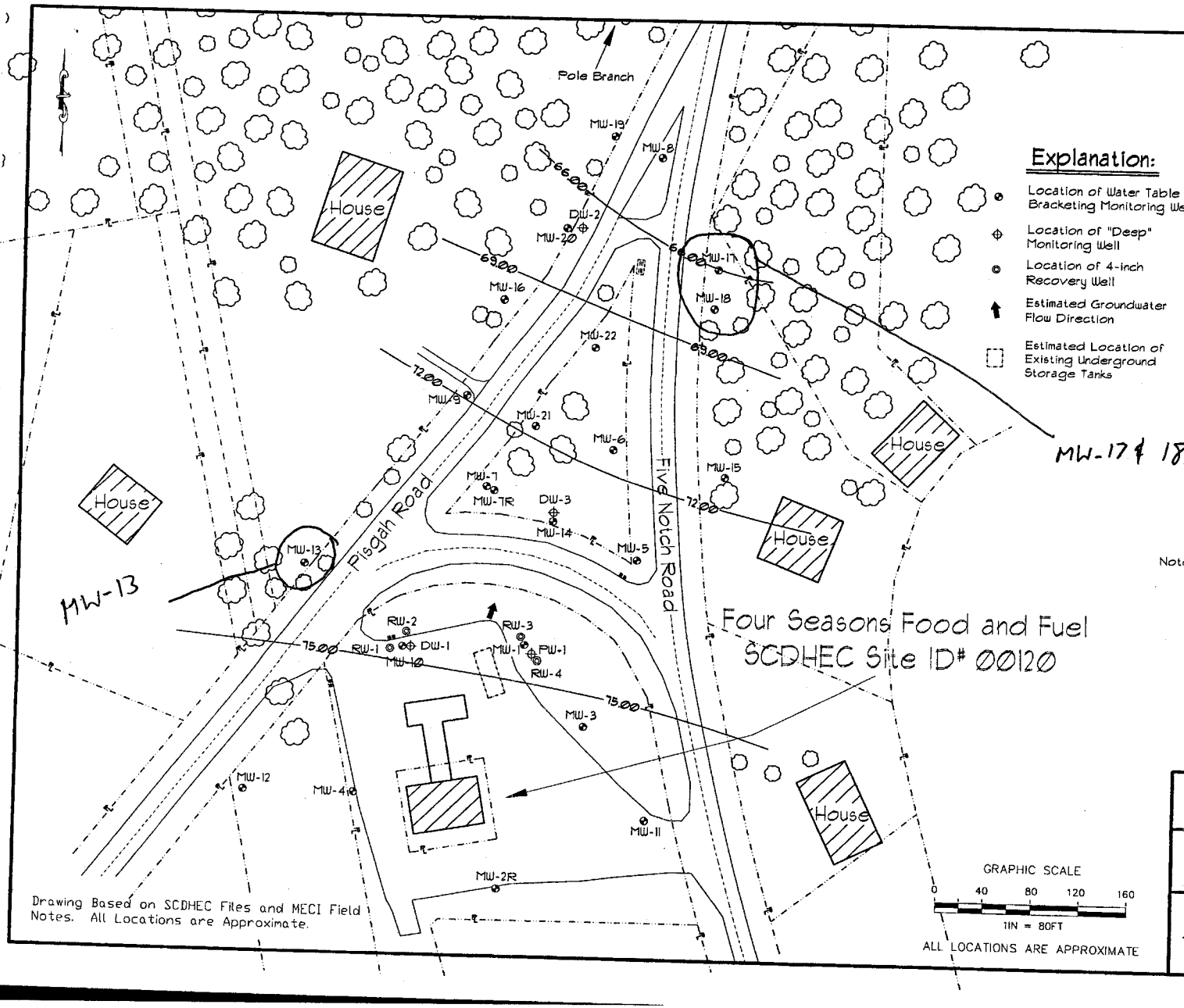
GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Augusta, South Carolina
USGS 7.5 Min. Quad
Countour Interval – 10 Feet

Midlands Environmental Consultants, Inc.	Site Location
Four Seasons Food and Fuel 2031 Pisgah Road, North Augusta, SC SCDHEC Site ID# 00120	
Figure 1	MECI 10-2836



Drawing Based on SCDHEC Files and MECI Field Notes. All Locations are Approximate.

Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- Groundwater Elevation Contour (feet)

Groundwater Elevation Data

Well #	Depth to Water (ft)	Well Head Elevation	Groundwater Elevation
MW-1	23.50	98.37	74.87
MW-2R	25.00	101.75	76.75
MW-3	23.95	99.10	75.75
MW-4	23.59	100.37	76.78
MW-5	12.69	85.55	72.86
MW-6	12.31	83.48	71.17
MW-7R	17.84	90.88	73.04
MW-8	7.64	71.39	63.75
MW-9	14.70	86.69	71.99
MW-10	23.09	97.87	74.78
MW-11	22.99	98.96	75.97
MW-12	20.45	96.72	76.27
MW-13	NL	94.97	NL
MW-14	16.30	88.52	72.22
MW-15	5.20	77.06	71.86
MW-16	Abandoned	Abandoned	Abandoned
MW-17	2.78	68.79	66.01
MW-18	2.13	69.65	67.52
MW-19	NL	70.93	NL
MW-20	7.88	75.17	67.29
MW-21	11.85	83.66	71.81
MW-22	9.00	79.28	70.28
DW-1	22.15	98.29	76.14
DW-2	12.43	75.18	62.75
DW-3	17.49	88.63	71.14
RW-1	22.78	97.62	74.84
RW-2	23.15	97.85	74.70
RW-3	23.46	97.86	74.40
RW-4	23.48	97.92	74.44
PW-1	24.20	98.41	74.21

Notes:

Depth to groundwater measured on March 23, 2011.

Contour Interval = 3.00 feet

Site Datum Based on Assumed Spot Elevation.

NL = Not Located

"Deep" monitoring wells not used in contouring.

Groundwater Contours Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

Groundwater Contour Map

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 10-3064
DATE April 5, 2011
FIGURE 3

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

UST DOCKET 23ka

MAY 11 2011

GEORGE MCKIE JR
1025 MARTINTOWN ROAD
NORTH AUGUSTA SC 29841

Re: Four Seasons Food & Fuel 5: 2031 Pisgah Road, North Augusta, SC
UST Permit # **00120; CA#40305**
Release Reported November 7, 1997
Report received on April 8, 2011
Aiken County

Dear Mr. McKie:

The Underground Storage Tank (UST) Division has reviewed the referenced report. The next scope of work is to repair / replace three monitoring wells and conduct a comprehensive groundwater sampling event prior to seeking proposals for active corrective action. A copy of the report is enclosed for your information.

The UST Division will continue to coordinate site rehabilitation activities on your behalf. Future reports will be forwarded to you once they have been reviewed.

If you have any questions concerning this correspondence, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245, or by email at ebingedj@dhec.sc.gov.

Sincerely,

David Ebinger, Hydrogeologist
Corrective Action Division
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: **Report of Monitoring Well Installation, Monitoring Well Abandonment, Groundwater Sampling, and Chemical Analyses**

cc: Technical File (w/out enc)

Midlands Environmental Consultants, Inc.

June 14, 2011

Mr. David Ebinger, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST JUN 16 2011 PROGRAM

UST DOCKET 24 Tech

Subject: Site Reconnaissance and Property Access
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID # 00120; CA #41563
MECI Project Number 11-3362

Dear Mr. Ebinger,

Midlands Environmental Consultants, Inc. (MECI) conducted an site reconnaissance on May 23, 2011 at Four Seasons Food and Fuel to contact property owners, check purposed monitoring well location accessibility, and to collect current tax map data (if necessary). Additionally, pre-existing monitoring wells were gauged to collect current water level data (where applicable) and a utility survey was conducted. Due to contractual constraints and property access problems the work requested at the subject sites was unable to be performed. Attached is all correspondence relating to property access at the subject site.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

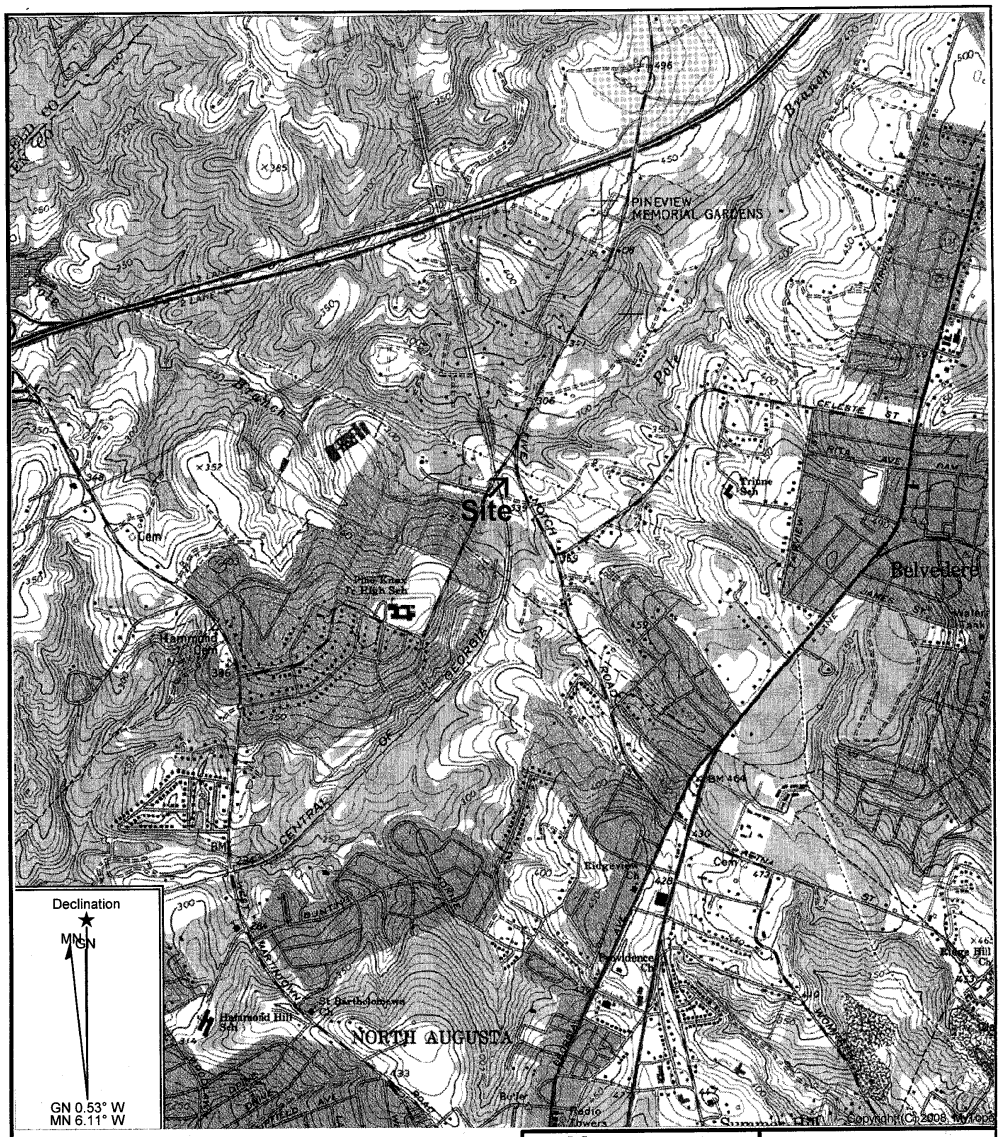
Brendon P. Kelly
Project Scientist

Jeff L. Coleman
Senior Scientist

Attachments:

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

SITE MAPS



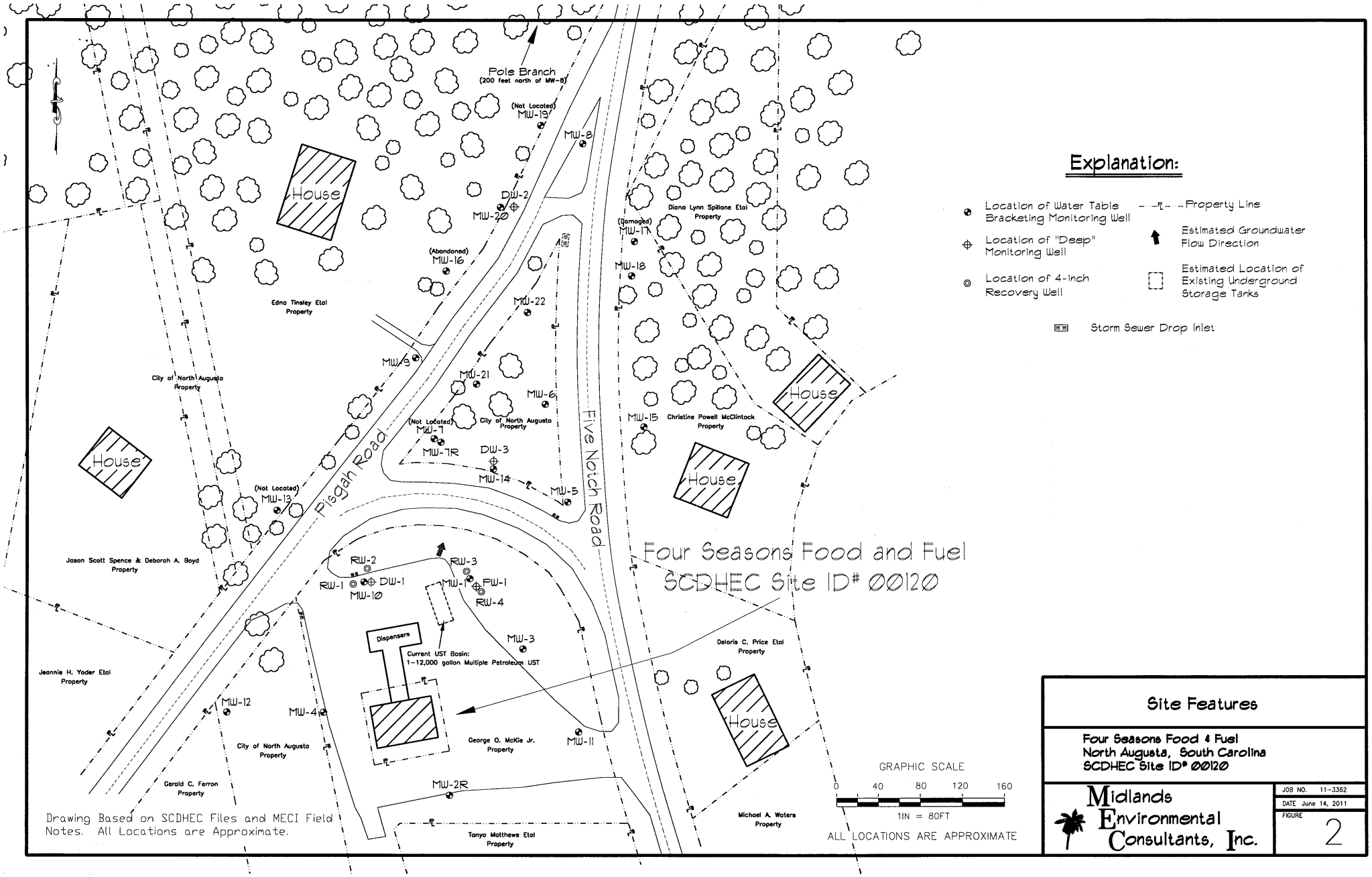
GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Augusta, South Carolina
USGS 7.5 Min. Quad
Countour Interval – 10 Feet

Midlands Environmental Consultants, Inc.	Site Location
Four Seasons Food and Fuel 2031 Pisgah Road, North Augusta, SC SCDHEC Site ID# 00120	
Figure 1	MECI 11-3362



Site Features

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO.	11-3362
DATE	June 14, 2011
FIGURE	2

ACCESS CORREPONDENCE

Midlands
Environmental
Consultants, Inc.

May 23, 2011

SCDOT Engineering District 7
Attn: John Taylor
P.O. Box 2010
Aiken, SC 29802

Subject: SCDOT Encroachment Permit Application
Four Season Food & Fuel
2301 Pisgah Road
N. Augusta, South Carolina
SCDHEC Site ID# 00120

Mr. Taylor:

Midlands Environmental Consultants, Inc. (Midlands Environmental) is pleased to submit the attached SCDOT Encroachment Permit Application for the subject site.

Midlands Environmental has been contracted by SCDHEC to perform assessment related activities for a release of petroleum product at the subject site. Our planned field activities include construction of three permanent monitoring wells in the SCDOT right-of-way. The location of the subject site is depicted on Figure 1. The locations of the proposed groundwater monitoring well locations are depicted on Figure 2.

Permanent groundwater monitoring wells will be constructed. The wells will be finished with flush mounted covers in a 2' by 2' concrete pad. All measures to minimize any inconvenience caused by drilling activities will be undertaken.

All wells/borings will be placed out of traffic flow. No wells or borings will be placed on any sidewalk sections. The wells consist of 2-inch diameter PVC pipe (Schedule 40 with flush-threaded joints) inserted into 8-inch diameter augured borehole. The bottom 10 to 15-foot section of each monitoring well is a manufactured well screen with 0.010-inch slots. The well screen will be set to intercept the saturated/unsaturated zone interface (static water) encountered at the time of drilling. Washed sand backfill will be placed around the outside of the pipe to a minimum of one foot above the top of the well screen. A bentonite seal (minimum 2-foot thick) will be installed on top of the sand backfill to seal the monitoring wells at the desired level. The boreholes will then be grouted with a cement/bentonite grout to the ground surface. A steel protective flush-mounted cover and a lockable cap will then be placed over each monitoring well (See Figure 4). All well construction will be conducted by a South Carolina Certified Well Driller.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

In addition to the attached figures, please find completed SCDOT Form 638 "Application for Encroachment Permit" and SCDHEC Monitoring Well Installation Approval Form.

Midlands Environmental appreciates your time in consideration of this application. If we could be of any assistance please feel free to call me at (803) 808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Senior Scientist

S.C. Department of Transportation
Form 637 (Rev 11/2003)

Application for Encroachment Permit

Permit Nbr: _____

Applicant:	Midlands Environmental Cons.	County: Aiken	
Street:	P.O. Box 854	Enter **Road/Route** And then the corresponding **Road Name** below:	
City:	Lexington	1.	1. Pisgah Road
State & Zip:	SC 29071	2.	2. Five Notch Road
Phone:	803-808-2043	3.	3.
		4.	4.
		5.	5.

1. The undersigned applicant hereby applies to the South Carolina Department of Transportation (SCDOT) for a permit for encroachment on State Highway Right of Way as shown and described below:

2. Type of Encroachment:

Installation of three groundwater monitoring wells within the SCDOT Right of Way.

3. Description of Location:

Along Pisgah Road and along Five Notch Road, off roadside, out of wheel path within the scdot Right of way. From the intersection (Figure 2) of Pisgah Road and Five Notch Road, one monitoring well ("A") will be located approximately 500' feet south along the western shoulder of Pisgah Road. Monitoring well ("B") will be approx. 140' feet south along the eastern shoulder of Five Notch Road. Monitoring well ("C") will be approx. 190' south along eastern shoulder of Five Notch Rd. All wells will be 5' feet from Edge of Pavement (See Figure 2)>

(Attach sketch indicating roadway features such as: pavement width, shoulder width, sidewalk and curb and gutter location, significant drainage structure, north arrow, right of way width, and loction of the proposed encroachment with respect to the roadway centerline and the nearest intersecting road on the State system.)

4. The undersigned applicant hereby requests the SCDOT to permit encroachment on the SCDOT right of way as described herein. It is expressly understood that the encroachment, if and when constructed, shall be installed in accordance with the sketch attached hereto and made a part hereof.

The applicant agrees to comply with and be bound by the SCDOT's "A Policy for Accommodating Utilities on Highways Rights of way", "Standard Specifications for Highway Construction", the "General Provisions" and "Special Provisions", attached hereto or made a part hereof by reference, during the installation, operation and maintenance of said encroachment within the SCDOT's Right of Way.

The applicant hereby further agrees, and binds his/her/its heirs, personal representatives, successors, assigns, to assume any and all liability for accidents or injuries to persons, or damage to property, including the highway, that may be caused by the construction, maintenance, use, moving or removing of the physical appurtenances contemplated herein, and the applicant agrees to indemnify and hold SCDOT harmless from and against any and all claims for personal injury and/or property damage which may be sustained by any person by reason of the construction, maintenance or existence of said encroachment on the SCDOT's right of way.

Applicant's Name: Jeff L. Coleman (Please print or type) Date: 5/23/11

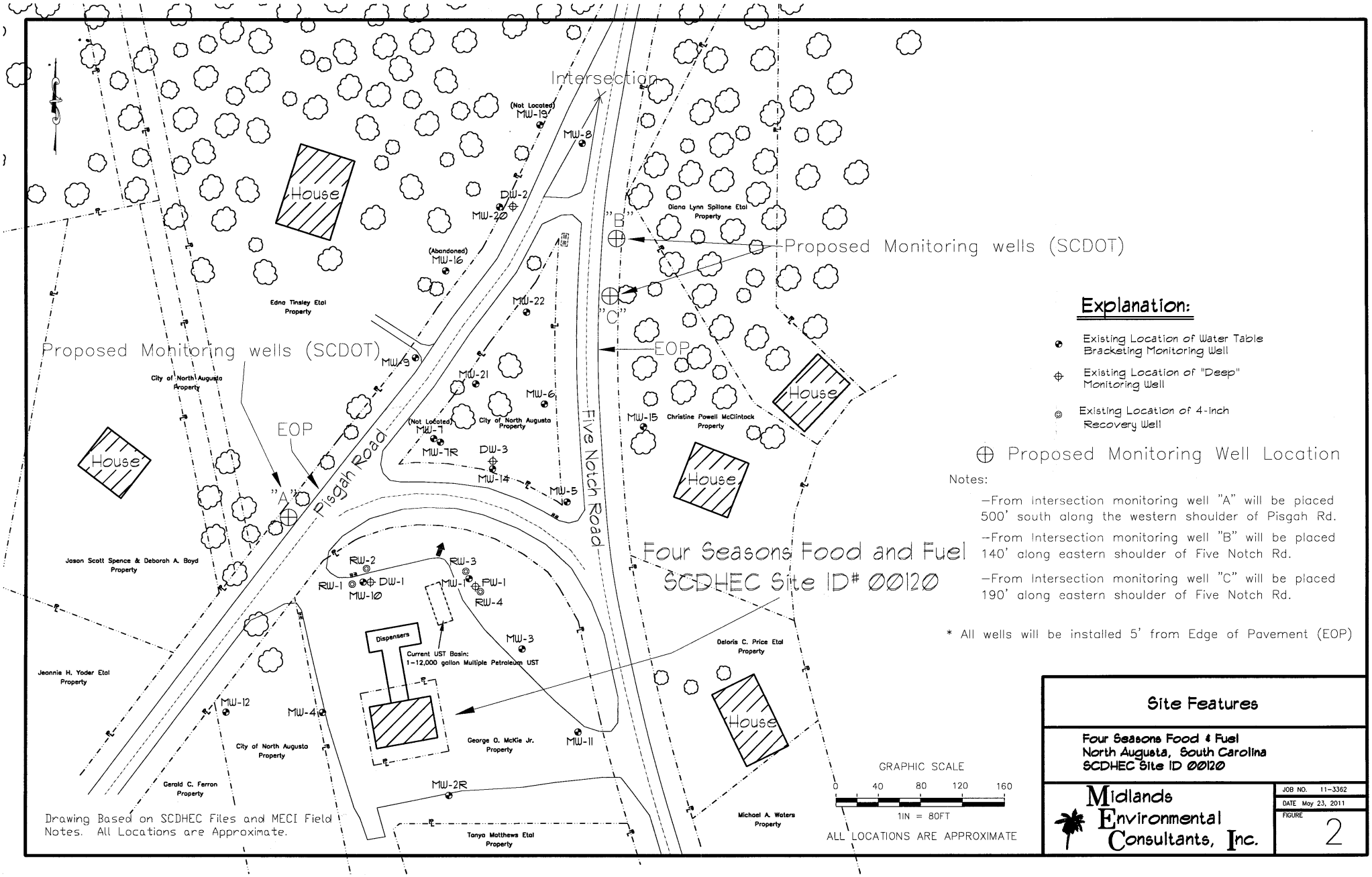
Applicant's Sig: _____ Title: Senior Scientist

In accordance with your request and subject to all the provisions, terms, conditions and restrictions stated in the application and the general and special provisions attached hereto, the SCDOT hereby approves your application for an encroachment permit. This permit shall become null and void unless the work contemplated herein shall have been completed prior to: _____

(Date received by Res. Maint. Engr.) (SCDOT Approval) (Date)

☐ Resident Maintenance Engineer ☐ State Highway Engineer

☐ District Engineering Administrator ☐ District Maint./Constr. Engineer



Explanation:

- Existing Location of Water Table Bracketing Monitoring Well
- Existing Location of "Deep" Monitoring Well
- Existing Location of 4-inch Recovery Well
- ⊕ Proposed Monitoring Well Location

Notes:

–From intersection monitoring well "A" will be placed 500' south along the western shoulder of Pisgah Rd.

–From intersection monitoring well "B" will be placed 140' along eastern shoulder of Five Notch Rd.

–From intersection monitoring well "C" will be placed 190' along eastern shoulder of Five Notch Rd.

* All wells will be installed 5' from Edge of Pavement (EOP)

Site Features

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO.	11-3362
DATE	May 23, 2011
FIGURE	2

TYPICAL TYPE II MONITORING WELL

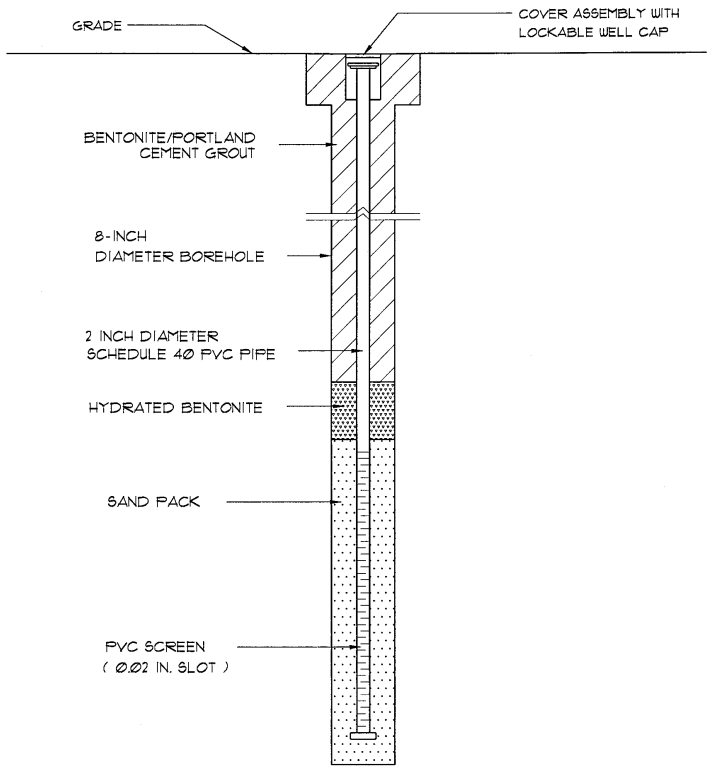


FIGURE 3

Prepared By:
Midlands
Environmental
Consultants, Inc.
1144 Old Two Notch Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

UST 25tch DOCKETING

JAN 12 2012

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
PO BOX 854
LEXINGTON SC 29071

Re: QAPP Contractor Addendum Directive for Small Scope Contract
Solicitation # 5400003229; PO# 4600117789

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. Please submit the Site-specific Quality Assurance Project Plan for an IGWA, Tier I or Assessment Plan, and Assessment Component Cost Agreement as necessary, to my attention **within fifteen (15) days from the date of this correspondence**. Plan implementation shall not commence prior to receipt of written technical and financial approval from the Department. The facilities will be assigned a Cost Agreement (CA) numbers once the QAPP Contractor Addendum has been approved by the project manager. Please reference the CA numbers and Purchase Order # 4600117789 on the appropriate invoices submitted for payment. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below) after the technical and cost approval from the project manager.**

UST Permit #	Facility	ARRA	County	Project Manager	Work Scope	Due Date*
19558	Micah Smith Site	No	York	Thoma	Monitoring Well Installation	60 Days
00316	Allendale Maintenance Facility	No	Allendale	Ridgley	Monitoring Well Installation	60 Days
00120	Four Seasons Food & Fuel	No	Aiken	Ebinger	Monitoring Well Installation	60 Days

*From receipt of Notice to Proceed letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The site's UST owners have no obligation for payment for this scope of work. **Please note, if there are any changes in the established cost agreement amounts (e.g., additional water supply wells sampled, additional well footage, etc.) contact the site's project manager for technical and/or financial approval. Failure to do so prior to submittal of invoice may result in delay of payment.**

IGWA, Tier I or Assessment Plan, Implementation and Report submittal shall be performed in accordance with the referenced contract. Per Section 3.4.2., a late fee of $50.00/day (not to exceed 20% of the cost agreement total) may be levied for each report submitted after the deadline established in the Notice to Proceed.

Under the terms of the American Recovery and Reinvestment Act (ARRA), the Department is required to pay funds for rehabilitation activities on or before September 31, 2012.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. In accordance with the bid specification, a bi-monthly status report of the project should be provided by the 5th and 20th of each month via e-mail to my attention. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. If you have any questions or need further assistance, please contact me at (803) 896-6629.

Sincerely,

Andrew McCormick, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Enc: Information Packets (19558, 00316 and 00120)

cc: Andrew McCormick, UST Management Division (without enc)
Technical Files (19558, 00316 and 00120) with cover sheets & site maps.

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South Carolina Department of Health and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-896-6240

MEMORANDUM

TO: Bryan Shane, Midlands Environmental Consultants

FROM: David J Ebinger

RE: **NOTICE TO PROCEED**

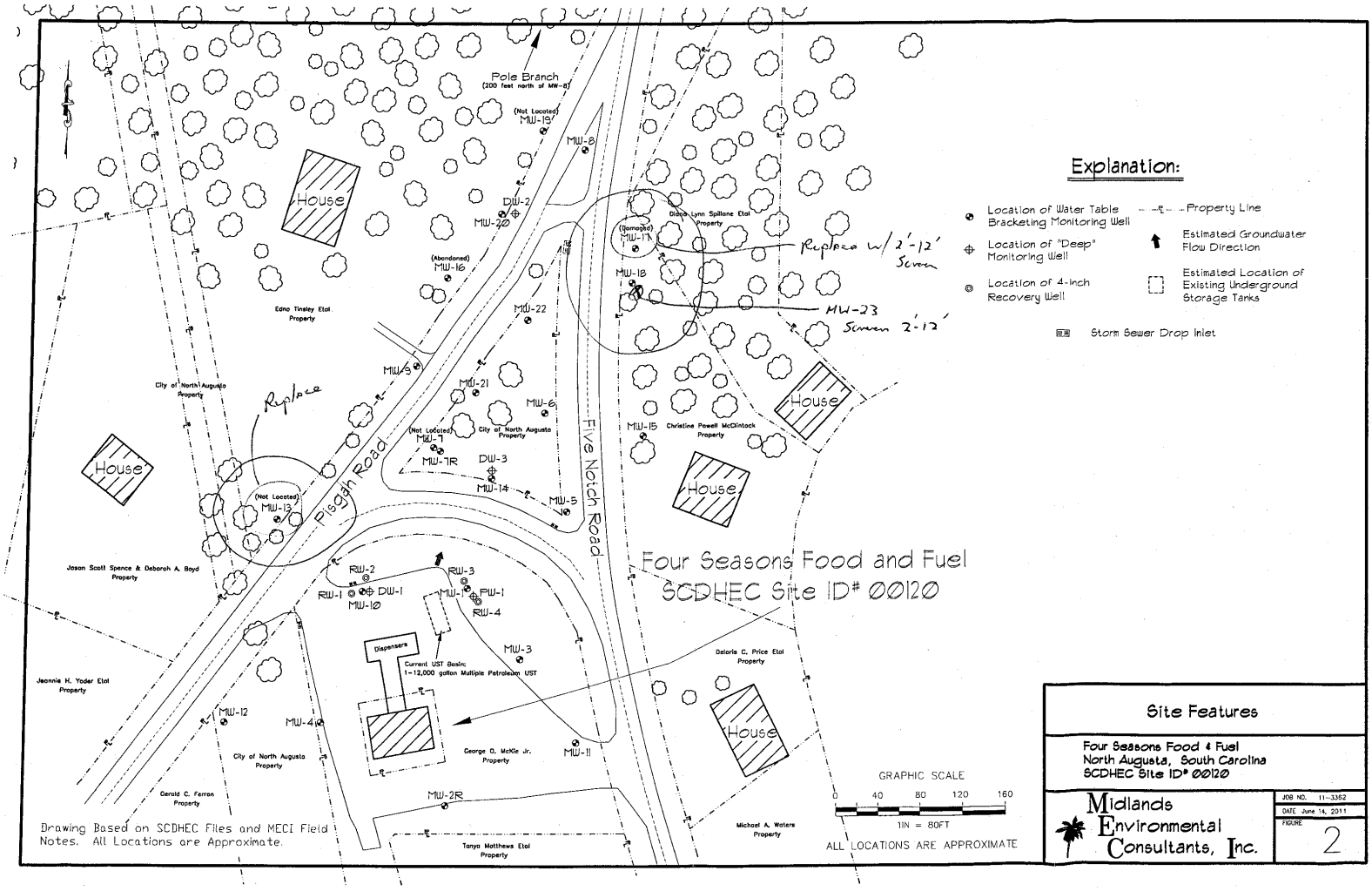
Facility Name: FOUR SEASONS FOOD & FUEL 5

Permit Number: 00120

County: AIKEN

Work to be completed: Prepare QAPP Addendum for:
Install replacement well for lost well MW-13
Install MW-23 (screen at 2'-12') near MW-18
Abandon and replace (screen at 2'-12') MW-17

CA#: 41892



Pole Branch
(200 feet north of MW-8)
(Not Located) MW-19
MW-8
House
DW-2
MW-20
(Abandoned) MW-16
Edna Tinsley Etal Property
MW-22
MW-9
City of North Augusta Property
Replace
MW-21
MW-6
(Not Located) MW-7
City of North Augusta Property
MW-7R
DW-3
MW-14
MW-5
(Not Located) MW-13
Pisgah Road
Five Notch Road
Diana Lynn Spillane Etal Property
(Damaged) MW-17
Replace w/ 2'-12' Screen
MW-18
MW-23 Screen 2'-12'
MW-15
Christine Powell McClintock Property
Jason Scott Spence & Deborah A. Boyd Property
RW-2
RW-1
DW-1
MW-10
RW-3
MW-1
PW-1
RW-4
Dispensers
Current UST Basin: 1-12,000 gallon Multiple Petroleum UST
MW-3
Jeannie H. Yoder Etal Property
MW-12
MW-4
City of North Augusta Property
George O. McKie Jr. Property
MW-11
Gerald C. Ferron Property
MW-2R
Tanya Matthews Etal Property
Delaris C. Price Etal Property
Michael A. Waters Property
Four Seasons Food and Fuel
SCDHEC Site ID# 00120
Explanation:
Location of Water Table Bracketing Monitoring Well
Location of "Deep" Monitoring Well
Location of 4-inch Recovery Well
Property Line
Estimated Groundwater Flow Direction
Estimated Location of Existing Underground Storage Tanks
Storm Sewer Drop Inlet
GRAPHIC SCALE
0 40 80 120 160
1IN = 80FT
ALL LOCATIONS ARE APPROXIMATE
Drawing Based on SCDHEC Files and MECI Field Notes. All Locations are Approximate.
Site Features
Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
Midlands Environmental Consultants, Inc.
JOB NO. 11-3352
DATE June 14, 2011
FIGURE 2

CONSULTECH

Environmental and Analytical Consulting

August 8, 2006

00120

Mirda

Mr. Art Shrader
Assessment and Corrective Action Branch
South Carolina Department of Health and Environmental Control
Division of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Tier II Assessment Plans
Contract SB-26861-10/26/04-EMW, Purchase Order # 557699
SCDHEC UST Permit # 00120

Attention Mr. Shrader:

Consultech Environmental, Inc. (Consultech) is pleased to present these Tier II Plans for the above referenced facilities. This includes the Tier II Plan, Tier II Cost Proposal, Site Location Map, and Site Plan Map for the site. Should you have any questions regarding this information or the project in general, please do not hesitate to contact me at (919) 861-4319.

Sincerely,

CONSULTECH ENVIRONMENTAL, INC.

Joseph A. Ghiold, Ph.D.
Senior Project Manager

cc: File C-06-08-045

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AUG 14 2006
UNDERGROUND STORAGE TANK PROGRAM

530 Pylon Drive, Raleigh, North Carolina 27606
919 861-4319 Fax 858-5351

UST DOCKET 26 tech

Consultech Environmental, Inc.
Tier II Plan

UST Permit # : 00120 County: Aiken Facility Name: Four Season Food & Fuel #5

Facility Address: 2031 Pisgah Road, North August, SC 29841
Responsible Party: George McKie Address: PO Box 6680, Aiken , SC 29804

No. USTs: 4 Unknown (date) Abandoned 1/06/99 date

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Current use of facility/property: Vacant

Current property owner name: Unknown

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

Soil samples collected every 5 feet to 5 feet below groundwater or auger refusal. 50 grams of soil will be placed in sealed ziplock bags, set for 15 minutes, and scanned with a calibrated PID. A groundwater sample will be scanned in the same manner. A boring log will be filled out for each soil boring.

Permanent Monitoring Wells (estimate number and total completed depth)

# of shallow wells: 13 Total depth: 390 feet

# of deep wells: 2-60 ft Total depth: 120 feet (if necessary)

Comments, if warranted: eight existing wells and one private well within 500 ft

Analyses

(27) BTEX NM

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.
Groundwater - BTEX + NAPTH + MTBE 25 , 1,2 DCA 25 PAH 25 , Lead 25 , EDB 25 , 8-Oxygenates 25, Nitrate 23 , Sulfate 23 , Ferrous Iron 23 , & Methane 23

ADD 25 surface water sample @ creek

Soil - BTEX + NAPTH 0 , PAH 0 , TPH (DRO) 0 , TPH (GRO) 0 , Grain size/hydrometer 0 , TOC 0

Implementation Schedule

Start up date: 09/2/06 Completion date: 11/04/06

Report submittal date: 11/04/06
UST Permit # : 00120 Facility Name: Four Season Food & Fuel # 5

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.

2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North arrow	Legend with facility name and address, UST Permit number, date, and a bar scale
Location of Property	Streets or highways (indicate names and numbers)
Location of buildings	Identification of located buildings
Paved areas on or adjacent to site	Location of all present and former ASTs and USTs
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Location of any other potential receptor

Aquifer Characterization (check on and provide explanation for choice)

Pump test: _____ Slug tests: ____0_____

Small Volume Disposal Type and Method

Soil: _27_Drums of soil cuttings generated during the installation of borings and monitoring wells to be disposed of at an authorized treatment facility.-

Purge water: __10__Drums of monitoring well development and purge water to be treated with a granular activated carbon unit and disposed of on-site.

Additional comments: ~~PAH Analysis will be sampled since PAHs are present. The near by stream~~ will be sampled. Nitrate, sulfate, dissolved iron, and methane will be sampled from all monitoring wells only. No slug tests since it was performed in recent Tier I. MW-2 could not be found and will need to be replaced with MW-2R.

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UNDERGROUND STORAGE TANK PROGRAM

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South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT COST AGREEMENT
SCDHEC
Underground Storage Tank Program
State Underground Petroleum Environmental Response Bank Account
Consultech Environmental SB-26861-10/26/04-EMW

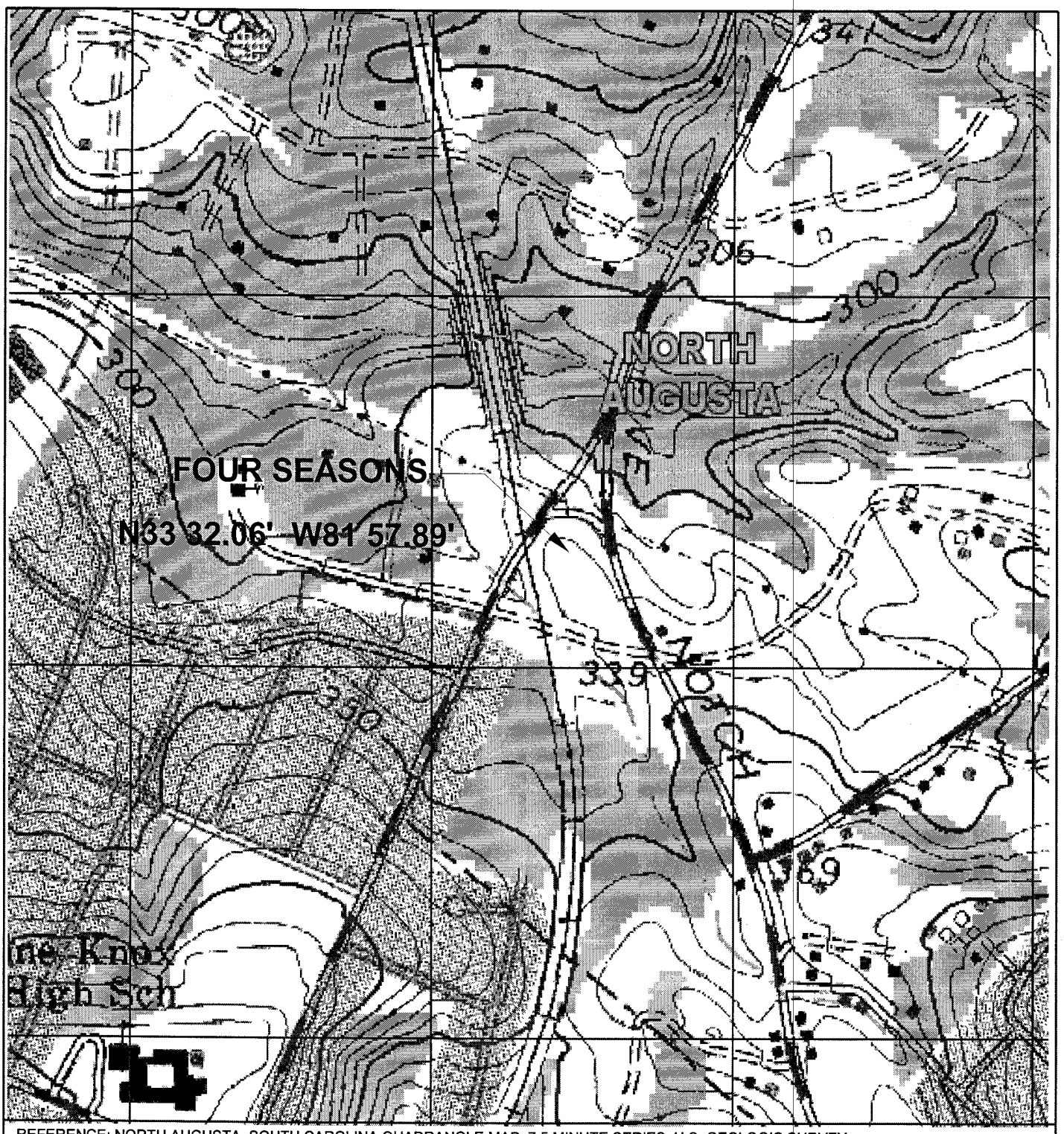
Facility Name **Four Season Food & Fuel # 5**

UST Permit # **00120** Cost Agreement # _____

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
A. Plan Preparation	1	x	$50.00	$50.00
B. Tax Map in Tier I?	~~1~~ Ø	x	$50.00	$50.00
2. Receptor Survey * in Tier I?	~~1~~ Ø	x	$50.00	$50.00
3. Comprehensive Survey	1	x	$600.00	$600.00
4. Mob/Demob				
A. Equipment	2 ~~3~~	x	$125.00	$375.00
B. Personnel – my OK 1 for plan prep	4 5	each x	$30.00	$150.00
C. Adverse Train Vehicle	0	x	$125.00	$0.00
5. Soil Borings (hand auger)*		feet x	$0.00	$0.00
6. Field Screening-standard	1000	feet x	$10.00	$10,000.00
alternative		feet x	$0.00	$0.00
fractured rock		feet x	$0.00	$0.00
7. Soil Leachability Model		each x	$50.00	$0.00
8. Abandonment*		feet x	$4.00	$0.00
9. Well Installation*				
A. Water Table (hand auger)		feet x	$0.00	$0.00
B. Water Table (drilled)	390	feet x	$25.00	$9,750.00
C. Telescoping	120	feet x	$30.00	$3,600.00
D. Rock Drilling	0	feet x	$35.00	$0.00
E. 2" Core Drilling		feet x	$0.00	$0.00
F. 4" Core Drilling		feet x	$1.00	$0.00
G. Multi sampling ports/screen intervals		feet x	$23.00	$0.00
10. Groundwater Sample Collection				
A.Groundwater	23	samples x	$30.00	$690.00
B. Air Vapor		samples x	$15.00	$0.00
C. Water Supply	2	samples x	$15.00	$30.00
D. Groundwater No Purge		samples x	$15.00	$0.00
E. Gauge Well Only	9	samples x	$15.00	$135.00
F. Sample below product		samples x	$15.00	$0.00
E. Passive Diffusion Bag		per well x	$0.00	$0.00
11. Analyses-Groundwater (See Analytical Methodology for analyses)				
A. BTEX+Napth.+MTBE	25	samples x	$31.50	$787.50
B. Rush BTEX analysis	6	samples x	$63.00	$378.00
D. PAH's	0	samples x	$52.00	$0.00
E. Lead	25	samples x	$6.50	$162.50
F. EDB	25	samples x	$30.50	$762.50
G. 8 RCRA Metals		samples x	$52.00	$0.00
H.TPH (1664)		samples x	$21.00	$0.00
I. pH		samples x	$8.50	$0.00
J. BOD		samples x	$25.50	$0.00
K. Nitrate	23	samples x	$16.00	$368.00
L. Sulfate	23	samples x	$13.50	$310.50
M. Ferrous Iron	23	samples x	$8.50	$195.50
N. Methane	23	samples x	$37.00	$851.00
O. Filtered Lead		samples x	$9.00	$0.00
P. 8 Oxygenates	25	samples x	$63.00	$1,575.00
1,2-DCA	25	samples x	$0.00	$0.00

11. Analyses-Soil				
Q. BTEX + Napth.	0	samples x	$31.50	$0.00
R. PAH's		samples x	$52.00	$0.00
S. 8 RCRA Metals		samples x	$52.00	$0.00
U. TPH (3550B/8015B)		samples x	$34.00	$0.00
V. TPH (5030B/8015B)		samples x	$38.00	$0.00
W. Grain size/hydrometer	0	samples x	$50.00	$0.00
X. Total Organic Carbon		samples x	$19.00	$0.00
11. Analyses-Air				
Y. BTEX + Napth.		samples x	$100.00	$0.00
11. Z. Hydrocarbon Fuel Identification		samples x	$34.00	$0.00
12. A. Pumping Test*		hours x	$30.00	$0.00
B. Slug Test*	0	tests x	$30.00	$0.00
C. Fractured Rock*		tests x	$0.00	$0.00
13. Free Product Recovery Rate Test*	0	tests x	$30.00	$0.00
14. A. Mathematical Model		each x	$50.00	$0.00
B. Computer Model		each x	$150.00	$0.00
15. A. Tier 1 Risk Evaluation		x	$0.00	$0.00
B. Tier II Risk Evaluation	1	x	$150.00	$150.00
16. Subsequent Survey*		x	$100.00	$0.00
17. Disposal*				
A. Wastewater				
1. Purging/Sampling	10	drums x	$90.00	$900.00
2. Pumping Test/EFR		gallons x	$0.20	$0.00
B. Free Product		drums x	$0.00	$0.00
C. Soil (Treatment/Disposal)	27	drum x	$50.00	$1,350.00
		tons x	$0.00	$0.00
18. Miscellaneous (attach receipts)				
Additional Copies of Report		each x	$25.00	$0.00
Repair 2x2 monitoring well pad		each x	$20.00	$0.00
Repair 4x4 monitoring well pad		each x	$23.00	$0.00
Replace well vault		each x	$28.00	$0.00
Replace well cover and gasket		each x	$0.00	$0.00
Replace well cover bolts		each x	$0.00	$0.00
Replace locking well cap & lock		each x	$7.00	$0.00
23. EFR				
A. 8-hour Event*		each x		
B. Additional Hour		per hour x		
C. Off-gas treatment		per hour x		
24. Granulated Activated Carbon (GAC) filter system installation & service:				
A. New GAC System Installation*		each x		
B. Refurbished GAC Sys. Install*		each x		
C. Filter replacement/removal*		each x		
D. GAC System removal, cleaning, & refurbishmen		each x		
E. GAC System housing		each x		
F. In-line particulate filter		each x		
G. Additional piping & fittings		feet x		
19. Report/Project Management and Coordination	3%	x	$33,270.50	$998.12
25. **TOTAL**				$34,268.62

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



REFERENCE: NORTH AUGUSTA, SOUTH CAROLINA QUADRANGLE MAP. 7.5 MINUTE SERIES, U.S. GEOLOGIC SURVEY

0 500 1,000

SCALE IN FEET

SITE LOCATION

DRAWN: MAC	DATE: 8/8/06
SCDHEC FACILITY ID# 00120	
PROJECT: FOUR SEASONS FOOD & FUEL	
PROJECT No.: C-06-08-045	
LOCATION: CHARLESTON, SOUTH CAROLINA	

FIGURE 1

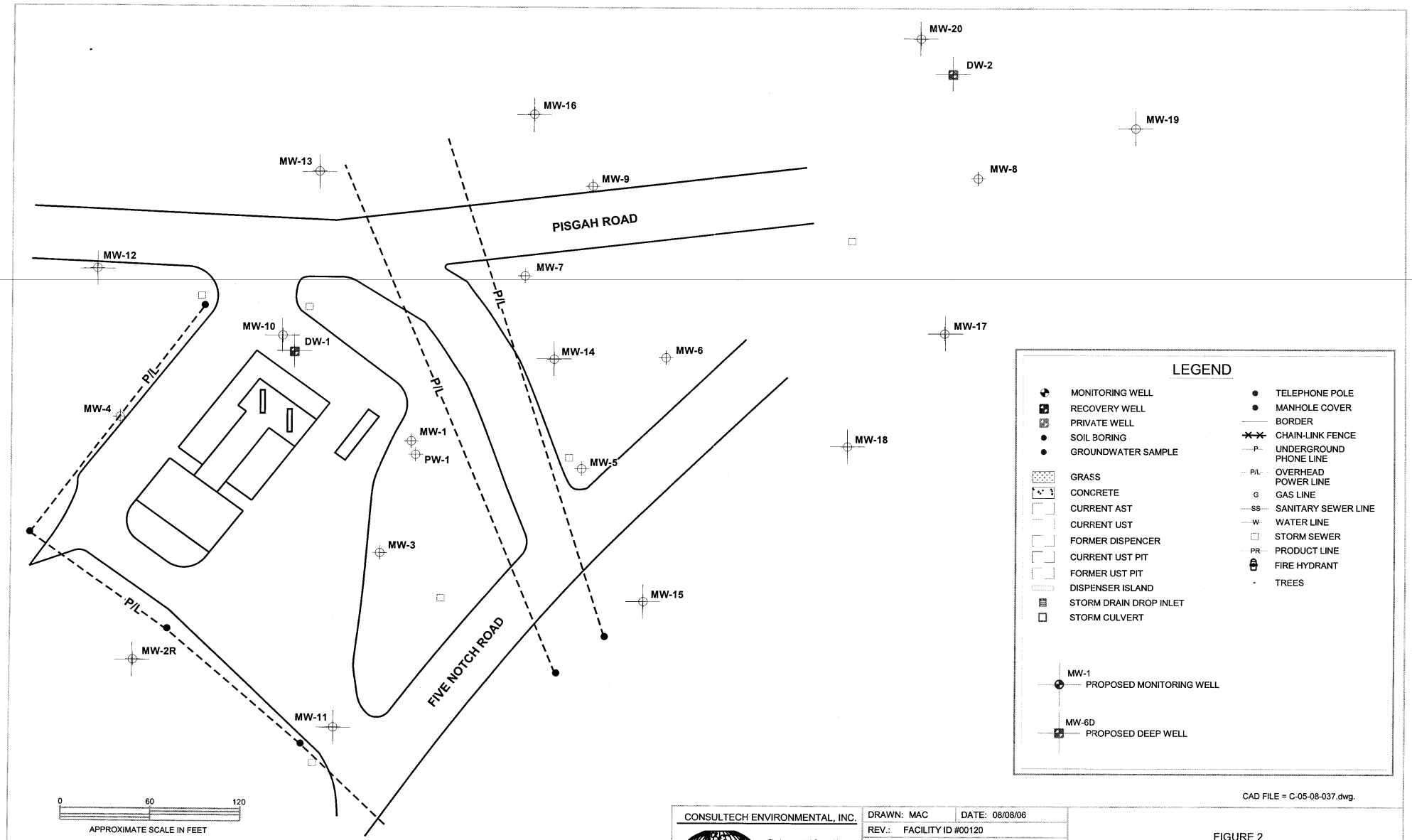
SITE TOPOGRAPHIC MAP

CONSULTECH ENVIRONMENTAL, INC.

Environmental Consulting and Engineering

© 1998

Delivering innovative solutions to today's environmental concerns



CAD FILE = C-05-08-037.dwg.

CONSULTECH ENVIRONMENTAL, INC. Environmental Consulting and Engineering © 1999 Delivering innovative solutions to today's environmental concerns.	DRAWN: MAC	DATE: 08/08/06
	REV.: FACILITY ID #00120	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: NORTH AUGUSTA, SOUTH CAROLINA	

FIGURE 2
PROPOSED MONITORING WELL LOCATIONS

D H E C

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C. Earl Hunter, Commissioner

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

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071-0854

FEB 1 0 2012

UST DOCKETING

Re: Notice to Proceed for MW Installation / QAPP Contractor Addendum Approval
Solicitation # 5400003229, PO# 4600117789
Four Seasons Food and Fuel, 2031 Pisgah Road, North Augusta, SC
UST Permit # 00120 CA# 41892 MWA# UMW-24231
QAPP Contractor Addendum received January 23, 2012
Aiken County

Dear Mr. Shane:

In accordance with the referenced bid solicitation # IFB-5400003229 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Contractor Addendum has been reviewed and approved. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken and the results must be included in the final report submitted to the UST Management Division.

The report, contractor verification checklist and invoice are due within sixty (60) days from the date of this letter. Monitoring well approval for two monitoring wells is enclosed for your records. Please note that all applicable South Carolina certification requirements regarding laboratory analyses, well installation, and report preparation must be met in accordance with the referenced solicitation. The final report should contain the requirements of Section 3.12 (Well Installation) of the bid solicitation. The final report should be submitted to Chris Doll, the contract manager.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

If you have any site-specific questions, please contact me at (803) 896-6649 or via e-mail at ebingedj@dhec.sc.gov. If you have any contract specific questions, please contact Chris Doll at (803) 896-6585 or via e-mail at dollcs@dhec.sc.gov.

Sincerely,

David Ebinger, Project Manager
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved QAPP Contractor Addendum Signature Page
Approved Cost Agreement
Monitoring Well Approval

cc: Chris Doll, Assessment Section, UST Management Division (without enc)
Technical File (with enc)

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-896-6240

MEMORANDUM

TO: Bryan Shane, Midlands Environmental Consultants

FROM: David J Ebinger

RE: **NOTICE TO PROCEED**

Facility Name: FOUR SEASONS FOOD & FUEL 5

Permit Number: 00120

County: AIKEN

Work to be completed: Install MW-23 (screen at 2'-12') near MW-18
Abandon and replace (screen at 2'-12') MW-17

CA#: 41892

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Four Season Food & Fuel, SCDHEC Site ID# 00120

2031 Pisgah Road, North Augusta, South Carolina

Prepared by:
Courtney M. Sanders
Staff Biologist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: January 19, 2012

Approvals

David Ebinger SC DHEC Project Manager	Signature	Date 2/8/12
Brendon P. Kelly Contractor QA Manager	Signature	Date 1/23/12
Bryan T. Shane, P.G. Site Rehabilitation Contractor	Signature	Date 1-20-12
Michael Woodrum Laboratory Director	Signature	Date 1/19/2012

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Approval

Approval is hereby granted to: **Midlands Environmental Consultants, Inc.**

On behalf of: **Jackson Petroleum**

Facility: **Four Seasons Food and Fuel**
2031 Pisgah Road, N Augusta, SC

UST Permit #: **00120**

County: **Aiken**

This approval is for the installation of two new well(s). Monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

ebingedj@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Departmental approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

Date of Issuance: 5/2/2011 *(revised)* **Approval:** UMW-24231

David Ebinger, Project Manager
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

Approved Cost Agreement 41892

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

EBINGEDJ

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		C	TIER II/COMP. PLAN/QAPP APP B	1.0000	100.00	100.00
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	100.00	100.00
		B	PERSONNEL	3.0000	100.00	300.00
09 WELL INSTALLATION						
		B	WATER TABLE (DRILLED)	24.0000	14.00	336.00
16 SUBSEQUENT SURVEY						
			SUBSEQUENT SURVEY	1.0000	150.00	150.00
17 DISPOSAL						
		A	WASTEWATER	150.0000	0.30	45.00
		C	SOIL (TREATMENT/DISPOSAL)	2.0000	50.00	100.00
				Total Amount		1,131.00

Midlands Environmental Consultants, Inc.

January 19, 2012

Mr. David J. Ebinger, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
JAN 23 2012
PROGRAM

UST
DOCKETING
27

Subject: QAPP Contractor Addendum – Revision 0
Four Seasons Food & Fuel 5
~~Spartanburg~~, South Carolina
SCDHEC Site ID Number ~~19190~~ 00120
MECI Project Number 11-3762
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Ebinger,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached QAPP Contractor Addendum for the referenced site.

On January 18, 2011, MECI personnel performed a site visit to the subject site to evaluate site conditions, attempt to locate monitoring wells and identify potential problems for future assessment activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Four Season Food & Fuel, SCDHEC Site ID# 00120

2031 Pisgah Road, North Augusta, South Carolina

Prepared by:
Courtney M. Sanders
Staff Biologist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: January 19, 2012

Approvals

David Ebinger SC DHEC Project Manager	Signature	Date 2/8/12
Brendon P. Kelly Contractor QA Manager	Signature	Date 1/23/12
Bryan T. Shane, P.G. Site Rehabilitation Contractor	Signature	Date 1-20-12
Michael Woodrum Laboratory Director	Signature	Date 1/19/2012

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number		Email Address
David J. Ebinger	SCDHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6649	803-896-6245		ebingedj@dhec.sc.gov
Bryan T. Shane, P.G.	Site Rehabilitation Contractor	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048		bts@meci.net
Brendon P. Kelly	Quality Assurance Officer	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048		bpk@meci.net
Jeff L. Coleman	Field Manager	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048		jlc@meci.net
Michael Woodrum	Laboratory Director	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111		mwoodrum@shealylab.com
Tommy Bolyard	Well Services/Driller	Environmental Probing and Drilling Services 17538 Greenhill Road Charlotte, NC 28278	704-607-7529	803-548-2233		EDPS@comporium.net

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number		Email Address
Project Manager	David J. Ebinger	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6649	803-896-6245		ebingedj@dhec.sc.gov
Site Rehabilitation Contractor	Bryan T. Shane, P.G.	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048		bts@meci.net
Quality Assurance Officer	Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048		bpk@meci.net
Field Manager	Jeff L. Coleman	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048		jlc@meci.net
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111		mwoodrum@shealylab.com
Soil Boring and Monitoring Well Driller	Tommy Bolyard	Environmental Probing and Drilling Services 17538 Greenhill Road Charlotte, NC 28278	704-607-7529	803-548-2233		EDPS@comporium.net

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Disposal Facility	Carol Weldon	Waste Management, Inc. Richland Landfill 1047 Highway Church Road Elgin, SC 29045	803-744-3346	866-904-7194	Not Available
Project Verifier	Courtney M. Sanders or Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net

Table 2A Addendum Role Identification and Contact Information

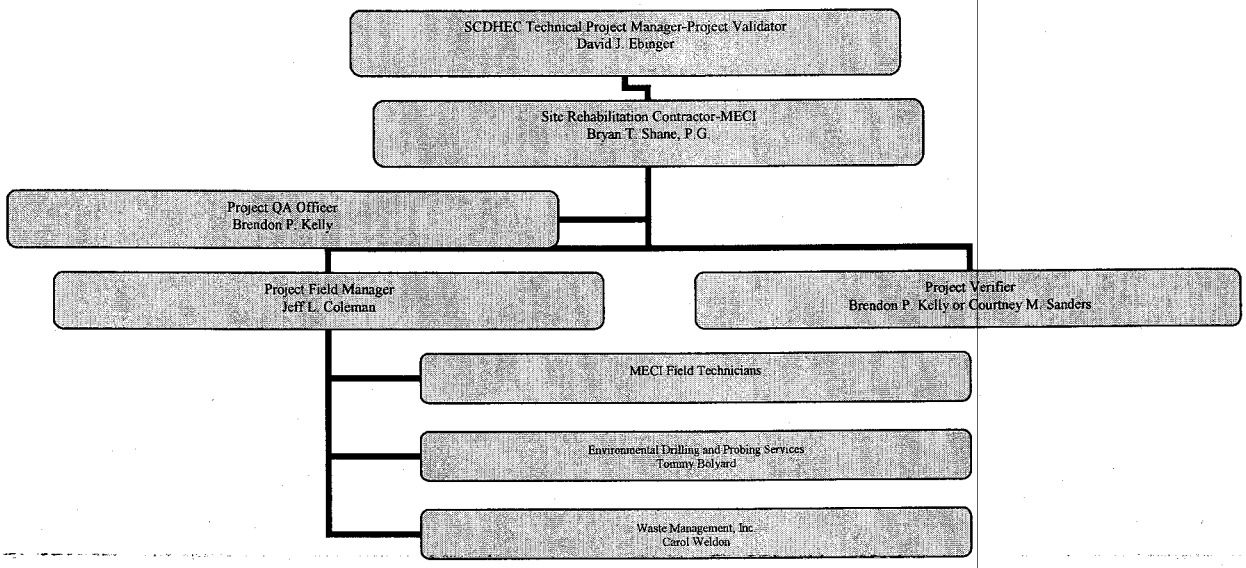


Figure 1A Organizational Chart

Project Manager (David J. Ebinger) – The project manager is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites.

Site Rehabilitation Contractor (Bryan T. Shane, P.G.) – The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for assessments or cleanup.

-Final Review of all work produced for a scope of work.
-Final say on technical interpretation of data.

Quality Assurance Officer (Brendon P. Kelly) – The Quality Assurance Officer is responsible for the oversight of all quality assurance activities associated with projects performed by the Site Rehabilitation Contractor.

-In charge of producing and maintaining the QAPPA for MECI.
-Reviews (and Audits, if necessary) all work produced in conjunction with a scope of work.
-Quality control of data entry and report preparation.

Field Manager (Jeff L. Coleman) –The field manager will oversee all work done on any given project.

-Assign, direct and oversee all field personnel working on each project.
-Responsible for coordinating with the SCDHEC project manager, should any problems or clarifications arise.
-Responsible for all reporting done in conjunction with field work.

Project Verifier (Courtney M. Sanders) – The project verifier is responsible for verifying the quality of data produced during a scope of work. This includes review of field work and laboratory reports for potential quality issues.

Well Driller (Tommy Bolyard) – The well driller is responsible for installing monitoring wells according to South Carolina Well Standards, R.61-71. The well driller is a subcontractor for MECI.

Field Technicians (various employees) – Responsible for all field activities for a given scope of work.

-Conduct all initial site visit, and record findings
-Conduct all field activities associated with a scope of work. All work will be conducted according to the MECI SOP. Will be responsible for reporting any potential problems are inconsistencies found during assessment activities.
-Completes the chain of custody upon completion of sampling event and delivers samples to lab or office for later lab pick-up

A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

The subject site (Four Season Food & Fuel) is located at 2031 Pisgah Road, North Augusta, Aiken County, South Carolina. The subject site formally maintained three 4,000 gallon gasoline underground storage tanks (UST's). The South Carolina Department of Health and Environmental Control reported and confirmed a release of petroleum product from the subject UST's in November of 1997. The subject site currently maintains one 12,000 gallon multiple petroleum UST. The subject site is currently rated a Class 1D.

The site is being assessed in conjunction with the SCDHEC Small Scope Assessment Contract (Solicitation # IFB-5400003229, PO# 4600117789).

Please answer the following: Does this project fall under UST or Brownfields area?

Underground Storage Tank Division

A6 Project/Task Description

1. ***Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).***

The scope of this assessment will be to install two (2) shallow monitoring wells and to abandon one (1) monitoring well at the subject site. **Monitoring well MW-13 was located during the January 18, 2012 site visit and determined to be functioning properly.**

Following the well installation, a subsequent survey will be conducted by MECI personnel to locate the vertical and horizontal positions of the newly installed monitoring wells.

2. ***The work will begin within*** fourteen (14) days of receipt of approved QAPP contractors addendum ***after cost approval and the scope of work should be complete by*** sixty (60) days of receipt of approved QAPP contractors addendum.

3. ***Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.***

Factors that may prevent schedule work will be, but not limited to, inclement weather, equipment malfunction, and machine failure.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

The subject site is located at 2031 Pisgah Road, North Augusta, Aiken County, South Carolina. The site is currently an active gasoline station. All work will be conducted on an adjacent residential property, located at 218 Amy Circle (Aiken County Tax Map # 005-19-02-020).

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Principal Geologist	Bryan T. Shane, P.G.	Professional Geologist	10/30/1993	State of South Carolina	1102
Senior Scientist	Jeff Coleman	OSHA 40 hr HAZWOPER	7/27/2007	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	7/27/2011	N/A	N/A
Project Scientist	Brendon Kelly	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/2011	N/A	N/A
Staff	John Bryant	OSHA 40 hr	4/17/2009	N/A	N/A

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Geologist		HAZWOPER			
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Field Technician	Brian Owen	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/2011	N/A	N/A
Staff Biologist	Courtney Sanders	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/2011	N/A	N/A
Staff Biologist	Kyle Pudney	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/2011	N/A	N/A
Staff Biologist	Chris Lashley	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/2011	N/A	N/A
Staff Biologist	Gavin Globensky	OSHA 40 hr HAZWOPER	7/29/2011	N/A	N/A
Lab Manager	Michael Woodrum	***	***	Lab Certification	SC 32010
Surveying Services	Jay S. Joshi	Tier A Land Surveyor Certification	6/1/1992	PLS	14811
Drilling Services	Tommy Bolyard - EDPS	SC Drillers Certification	8/24/2004	B	01846

Table 3A Required Training and Licenses

Brendon P. Kelly of Midlands Environmental Consultants, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location:235-B Dooley Road, Lexington, SC 29073.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory___Shealy Environmental Services, Inc.____

Name of Lab Director_____Michael Woodrum_____
SC DHEC Certification Number_____32010_____
Parameters this Lab will analyze for this project:

-Soil or groundwater samples will not be collected during the subject assessment

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via: (Check all that apply)

____US Mail ____Courier __X__ Hand delivered

Other (please specify):_____E-mailed electronic copies___

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target, Thermospec, or Iteva software	Hardcopy and Electronic	Hardcopy: Offsite storage for 7 yrs Electronic: Two external storage device backups – one offsite, one onsite storage for 10 yrs	Yes
Final Reports	LIMS	Electronic	Electronic: Two external storage device backups – one offsite, one onsite storage for 10 years	Yes
Field Work	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Chain of Custody	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
QAPP Addendum	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Brendon Kelly	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
1903 Water Well Record Form	EDPS	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
Site Reconnaissance	1/18/2012	1/18/2012	Already Completed

Item	Start Date	End Date	Comments
QAPP preparation	1/19/2012	1/20/2012	In progress
QAPP approval	1/20/2012	2/10/2012	Assuming three week turnaround
PUPs Request	2/10/2012	2/15/2012	Give 72 hours until PUPs ticket active
Monitoring Well Installation	2/15/2012	2/29/2012	2 Weeks to mobilize Drill Rig.
Well Development and Subsequent Survey	2/29/2012	3/7/2012	1 Week to mobilize survey crew.
Report Preparation	3/7/2012	3/28/12	Three weeks to prepare/submit report

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

***Estimate* the number of samples of each matrix that are expected to be collected:**

Soil _____

Ground Water from monitoring wells _____

From Drinking/Irrigation water wells _____

Field Duplicate Collection _____

Field Blank Collection _____

Trip Blank _____

From surface water features _____

Total number of Water samples _____

The samples will be (check as many as apply): ____Homogenized ____Split

Notes:

No sampling will be conducted with this assessment.

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed.

No sampling will be completed during this assessment. Please see MECI SOP 4.3.1 and 4.3.2 for water level measurement and purging/well development procedures

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All equipment, excluding electronic water level indicators and field probes, is disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

Prior to usage of non-disposable equipment, it is decontaminated with isopropanol applied by a Teflon squeeze bottle and rinsed with analyte free water. This rinse water and all water produced during development is collected and run through a portable GAC (granulated activated carbon) unit.

All drilling equipment will be decontaminated according to MECI Standard Operating Procedures (4.2.10). All wastes derived by decontamination procedures will be collected and transported to a certified waste disposal facility along with drill cuttings (Waste Management Richland County Landfill, Elgin, SC).

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

Environmental Drilling and Probing Services (EDPS) will mobilize a Geoprobe 6620 drilling rig to the subject site. All drilling activities will be performed under the supervision of a South Carolina Certified Well Driller and MECI field personnel (Tommy Bolyard, #B 01846).

Wells will be installed according to MECI Standard Operating Procedures (4.2., 4.2.2, 4.2.3 & 4.2.4) and in accordance with South Carolina Well Standards, R.61-71. Monitoring wells will be abandoned according to MECI SOP 4.2.11.

Drill cuttings will be disposed of by MECI personnel at Waste Management Richland County Landfill in Elgin, SC.

Following monitoring well installation, a subsequent survey will be conducted by MECI personnel.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Unable to gain access to drilling location	Attempt to create path to well location through vegetation, Utilize plywood boards to cross soft ground, contact SCDHEC project manager to discuss a potential change to the well location.	Record on field sheets, notify SCDHEC and Office.	Field Staff, Field Manager
Hitting a Utility Line while Drilling	Contact PUPS (Palmetto Utilities Protection Service), contact appropriate utility (if gas line is hit, notify fire	Record in field sheets, on PUPS ticket in office. Contact SCDHEC project manager to inform them of problem.	Field Staff, Field Manager

	department)		
Drilling rig breaks down	Attempt to correct problem. If the problem cannot be determined, or cannot be fixed, discontinue drilling for the day. Drilling can continue once drill rig has been fixed, or new drill rig is mobilized to the site	Record on field sheet, notify office staff.	Field Staff, Drill rig operator
Property Owner will not allow access onto property for drilling activities	Stop drilling. Attempt to discuss with property owner the need for the work. Inform SCDHEC project manager of the access issue. If no resolution can be made, discontinue drilling on the disputed property until access can be obtained or new well location is determined.	Document on field sheets (or QAPP, if access denied during QAPP site visit). Inform SCDHEC project manager immediately if any disputes arise.	Field Staff, Field Manager

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***

No Samples will be collected

2. ***How will the contactors cool the samples and keep the samples cool?***

No Samples will be collected

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***

No Samples will be collected

4. ***Where will the samples be stored in the Lab once they are received?***

No Samples will be collected

5. ***Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.***

No Sample will be collected

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
PID reading	MECI SOP 4.2.2			Use MiniRae PID to obtain reading. Place probe into soil sample bag and record the highest reading.

Table 7A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
MECI SOP 4.2.2	MECI SOP 4.2.2	Drilling Standard operating procedures

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible
PID not functioning propertly	Attempt to clean PID, recalibrate.	Record on field sheets, notify office staff. PID taken rotation until problem identified and corrected.	Field Staff, Field Manager

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
All	Water	On-Site	Portable Granulated Activated Carbon (GAC) Unit	All waste water produced from decontamination activities will be run through a GAC unit

Table 10A Disposal Procedures

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
MiniRae 3000	592-902491	Cleaning	Weekly	N/A	B. Kelly
MiniRae 3000	592-902491	Parts Inspection	As Needed	In stock at office	Field Staff
Electronic Water Level Indicator	WLI-1, WLI-2, WLI-3	Inspection	Weekly	N/A	Field Staff
Oil/Water Interface probe	PLI-1, PLI-2, PLI-3, PLI-4	Inspection	Weely	N/A	Field Staff

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
MiniRae 3000 – 592-902491	Weekly calibration check	Within 5 ppm of 100 ppm standard. MiniRae 3000 does not need daily calibration according to Manufacturers guidelines	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
Electronic Water Level Indicator	Monthly	Checked vs. Standard - +/- 0.01 foot per 10 foot length	Field Staff	Ship off for service by manufacturer
Oil/Water Interface probe	Monthly	Checked vs. Standard - +/- 0.01 foot per 10 foot length	Field Staff	Ship off for service by manufacturer

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
MiniRae 3000	PID Calibration	Weekly	+/- 5 ppm	clean, recalibrate	Field Staff	***
Electronic Water Level Indicator	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***
Oil/Water Interface probe	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***

Table 13A Instrument Calibration Criteria and Corrective Action

*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
PID Calibration Gas – Isobutylene	Enviroequipment	Not Depleted, within expiration date	Stored in calibration room	B. Kelly, Field Staff

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Tier 1 and Tier 2 sampling and monitoring well installation reports	Historic groundwater and CoC concentration data. Lithology and well construction data from previous MWI's	Establish the type of drilling rig required, time for sampling and any other potential problems that may be encountered.	1903 forms from previous monitoring well installations will be used to estimate depth of the outer casing for the new double cased well.

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

Field work from the field staff is reviewed by the MECI project manager, and converted into digital form. All data entry is subsequently checked to validate the data entry. The original copies of the field work are stored in MECI files for a minimum of 5 years. Digital copies of the work are stored on the MECI server, which is backed up weekly, and stored for a minimum of 5 years. The digital copy of the field work is presented to SCDHEC with the final report.

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

No laboratory analysis for this job.

All MECI field work is produced using ink-pens. Any attempt to alter field data, after sampling is complete, can be readily identified. MECI keeps a carbon copy of the chain of custody after it is shipped to the lab. This copy is kept with the field work. If any change to the CoC are suspected, this original carbon copy can be use to identify potential changes.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?

No sampling associated with this assessment

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

MECI keeps all field work and paper copies of reports in its in-house filing system. All paper copies are stored for a minimum of 5 years. Any file can be retrieved easily by going to the correct filing cabinet/box.

All electronic copies of reports generated are kept on the MECI server. This server is backed-up on a weekly basis. Any file stored on the MECI server can be retrieved instantly, by accessing the server. All electronic files are stored for a minimum of 5 years on the server.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits can be conducted on any field personnel at any time. MECI field audits can be conducted by the Field Manger, who will be responsible for ensuring that field personnel adhere to the QAPP. If during a random field audit, severe problems are found, work will be stopped by the field manager and the QA officer contacted to determine corrective action. All problems must be corrected prior to any additional work being performed. Should it be requested, an On-site Field Audit can be scheduled with the SCDHEC project manager.

2. *The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?*

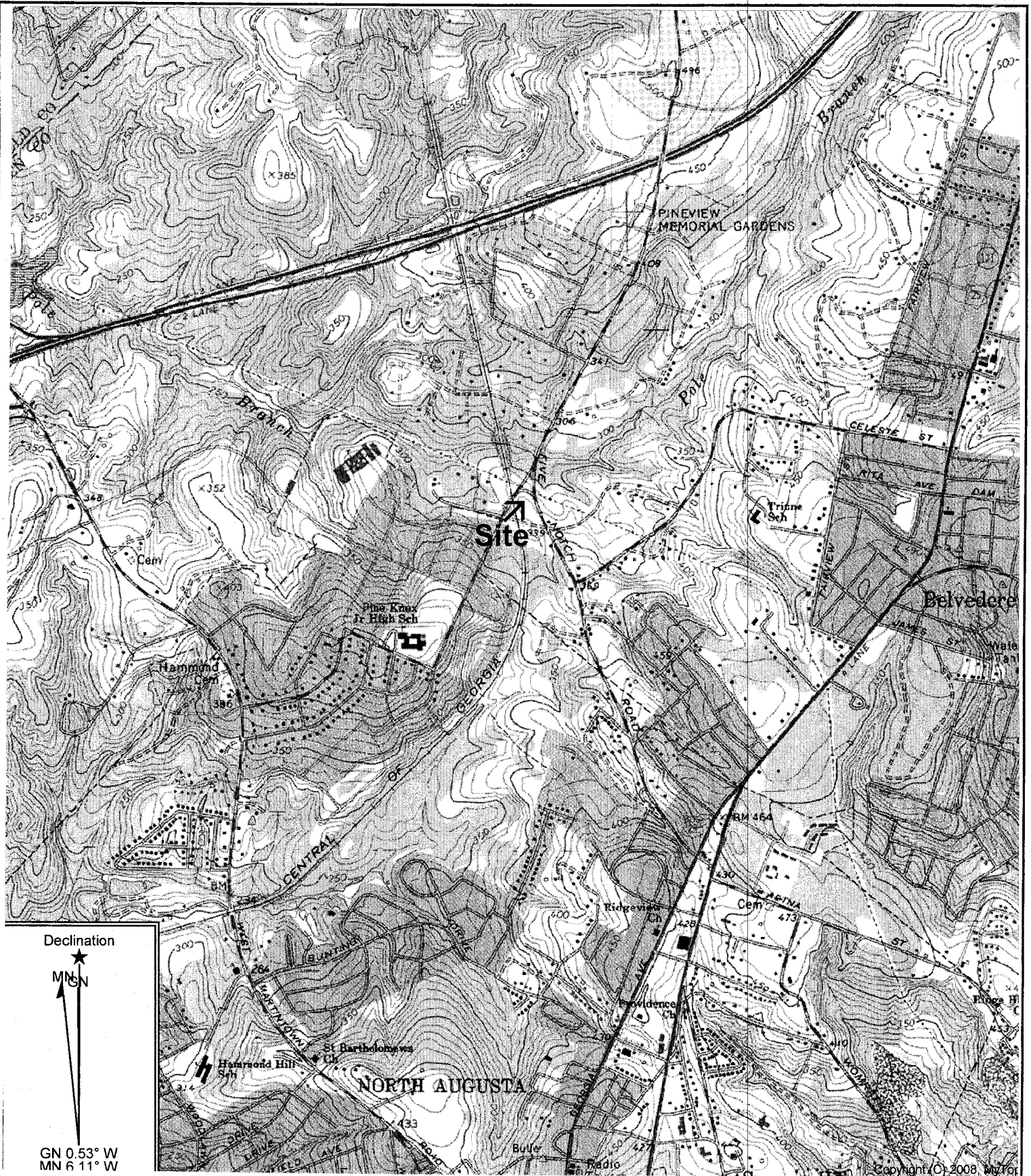
No samples will be taken with this assessment.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

All field data will be checked and verified by the project verifier (Brendon Kelly) prior to submission to SCDHEC.



Reference: Augusta, South Carolina
USGS 7.5 Min. Quad
Countour Interval – 10 Feet

Midlands Environmental Consultants, Inc.

Site Location

Four Seasons Food and Fuel
2031 Pisgah Road, North Augusta, SC
SCDHEC Site ID# 00120

Figure 1

MECI 12-3762

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 12602

Client	Report to Contact	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page ___ of ___
City / State / Zip Code	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name			
Project Number	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	GW	DW	WW	S	Other	Analysis													Number of Containers / Bottle (See Instructions on back) / Preservative / Lot No.	Remarks / Cooler ID

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

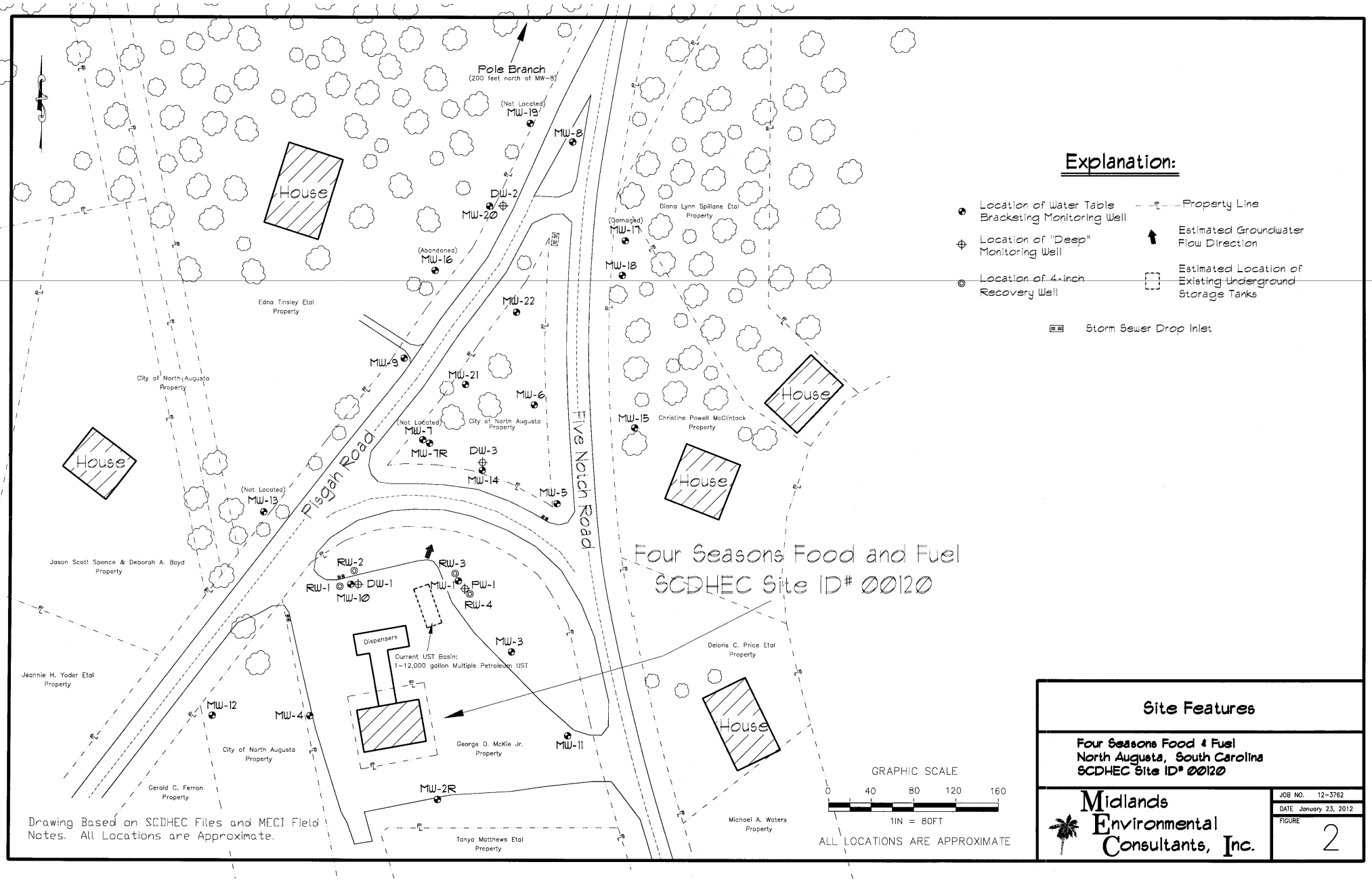
QC Requirements (Specify)

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler			1. Received by		
2. Relinquished by			2. Received by		
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory Received by		

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. _____ °C
Temp. Blank ☐ Y / ☐ N



Site Features

Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO.	12-3762
DATE	January 23, 2012
FIGURE	2

Midlands
Environmental
Consultants, Inc.

March 28, 2012

UST
APR 03 2012
PROGRAM
UST
28tech
DOCKETING

Mr. David Ebinger, Project Manager
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management
South Carolina Department of Health and
Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Report of Monitoring Well Installation and
Monitoring Well Abandonment
Four Seasons Food and Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120, CA # 41892
MECI Project Number 12-3762
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Ebinger,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Monitoring Well Installation and Monitoring Well Abandonment for the referenced site. This report describes assessment activities conducted at the site and results of those activities in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines, including adherence to the UST Division Programmatic Quality Assurance Program Plan (QAPP).

Midlands Environmental appreciates the opportunity to offer our professional environmental services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Senior Scientist

Bryan T. Shane, P.G.
Principal Geologist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

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**APPENDIX J – ACCESS AGREEMENTS
APPENDIX K – DATA VERIFICATION CHECKLIST

NOTE: ITEMS LISTED WITH AN ** BESIDE IT WERE NOT NEEDED AS A PART OF THIS SCOPE OF WORK

1.0 INTRODUCTION

A. **Owner/Operator Information**

Facility Name:	Four Seasons Food & Fuel	UST Permit #:	00120
Facility Address:	2031 Pisgah Road, North Augusta, South Carolina		
Name:	Jackson Petroleum		
Address:	N/A		
Telephone #:	N/A		

B. **Property Owner Information**

Name	Lynn Porter
Tax Map #:	Aiken County Tax Map#: 005-19-06-003
Address	P.O. Box 6680, Aiken, SC 29804
Telephone #	(803) 642-4103

C. **Contractor Information**

Name:	Midlands Environmental Consultants, Inc.
Certification #:	9
Address:	P. O. Box 854, Lexington, SC 29071
Telephone #:	(803) 808-2043

D. **SCDHEC Certified Well Driller**

Name:	Environmental Drilling & Probing Services
Driller:	Jason Chiorazzi
Certification #:	B 01790
Address:	2047 Industrial Blvd., Lexington, SC 29072
Telephone #:	(803) 429-5001

E. **SCDHEC Certified Laboratory**

Name:	N/A
Certification #:	N/A
Address:	N/A
Telephone #:	N/A

1.1 QAPP STATEMENT

This report conforms to the SCDHEC UST Management Division Programmatic QAPP. The Report, Tables (Table 1-Soil Analytical Data, Table 2-Field Parameters, Table 3-Groundwater Analytical Results, Table 4-Aquifer Characteristics, and Table 5-Site Conceptual Model), Figures (Figure 1-Topographic Map, Figure 2-Site Features, Figure 3-Soil CoC Site Map, Figure 4-Groundwater CoC Site Map, Figure 5-Groundwater Contour Map, and Figure 6-Geologic Cross Section), and Appendices are presented in accordance with formatting requirements set forth in section A9 of the UST Management Division Programmatic QAPP, Revision 1, June 2011. Some or all of the tables and figures in this report were not applicable to the scope of services presented, however have been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP.

1.2 PROJECT INFORMATION

The subject site (Four Season Food and Fuel) is located at 2031 Pisgah Road, at the intersection of Five Notch Road and Pisgah Road in North Augusta, Aiken County, South Carolina (see Figure 1). The subject site currently consists of a 1.59 acre property containing a one story buildings, canopy, and fuel dispensers. Five Notch Road borders the site to the east, beyond which are residential properties. West of the site is bordered by Pisgah Road, beyond which are wooded properties and residential properties. North of the site is a large grassy median that is currently owned by the City of North Augusta. South of the site is bordered by a commercial property that is currently occupied by a car wash. Three underground storage tanks (UST) were formerly maintained at the subject property. The subject site previously maintained three 4,000 gallon gasoline UST's. These UST's were removed in January of 1999. A release of petroleum product from the UST's was reported and confirmed in November of 1997. Currently the subject site maintains one 12,000 gallon multiple petroleum UST.

Prior to commencement of the field activities described in this document, a QAPP Contractors Addendum was completed by MECI personnel, submitted to SCDHEC and approved by the SCDHEC project manager.

The above project information is based on MECI field notes and SCDHEC files

2.0 SURROUNDING PROPERTY USAGE

The subject site (Four Season Food and Fuel) is located at 2031 Pisgah Road in North Augusta, Aiken County, South Carolina (Figure 1). Pisgah Road forms the western border of the site, beyond which are residential properties. Five Notch Road forms the western border of the subject property, beyond which are residential properties. North of the subject site is a large median owned by the City of North Augusta, beyond which are wooded parcels. South of the site is bordered by mixed commercial/residential properties.

3.0 FIELD EXPLORATION

Field exploration conducted at the site included:

- construction of two groundwater monitoring wells;
- abandonment of one groundwater monitoring well; and,
- a subsequent survey of subject site.

The monitoring well locations were selected based on SCDHEC project manager instructions, existing site conditions, and drilling accessibility.

3.1 MONITORING WELL INSTALLATION

On March 15, 2012, two single cased monitoring wells were installed at the subject site. These wells was installed by Versatile Environmental Resource Company (VERCO) of Lexington, SC (S.C. Driller Certification: Jason Chiorazzi # B01790) using a Track-mounted drilling rig employing 7.5-inch outer diameter hollow stem augers to construct the borehole. The following table presents new well installation details:

Well Number	Screened Interval (ft)	Total Depth (ft)
MW-17R	2.0-12.0	12.04
MW-23	2.0-12.0	12.09

The soils encountered during drilling activities predominately consisted of medium to coarse grained sands and silts of the Costal Plain Physiographic Province. The site is located near the transition from the Piedmont Physiographic Province to the Coastal Plain Physiographic Province. In the area of this transition zone, termed the "fall line", veneers of Coastal Plain sedimentary rocks may overlay crystalline and/or metamorphic rocks of the Piedmont. In some areas, erosion has resulted in isolation of surficial sedimentary rocks, such that, at the surface, they appear surrounded by Piedmont rocks. Locally, the Coastal Plain sediments consist of silty sands or sandy clays of the Middendorf Formation. These sediments were deposited in the Cretaceous Period during successive advances and retreats of the ocean. This formation contains numerous seams and lenses of kaolinitic clays which often result in "perched" water conditions and a variable, groundwater regime that is difficult to interpret.

Representative portions of soil samples were screened with a Photo Ionization Detector (PID) and classified by MECI personnel. Test boring records showing soil descriptions and screening result are included in Appendix E.

Following completion of wells, the wells were developed on March 26, 2012 by bailing until they were determined to be functioning properly. This well was developed utilizing a Whale-Mega Purger well pump. The purge water was treated onsite by MECI personnel using a granular activated carbon drum. A total of 5.5 gallons of purge/development water was disposed of in this manner. A disposal manifest for the drummed purge water is attached at the end of this report.

Drill cuttings were containerized and transported to Waste Management/Richland County Landfill, Elgin, SC by MECI personnel. A total of 0.66 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

3.2 MONITORING WELL ABANDONMENT

As requested by SCDHEC, monitoring well MW-17 was abandoned on March 15, 2012 at the subject site according to South Carolina Well Standards and Regulations R.61-71.H. The well abandonment was conducted under the direction of Mr. Jason Chiorazzi (SC Driller's License # B 01790) of Versitile Environmental Resource Company of Lexington, SC. The following matrix presents the well identification numbers, surface coverings, well diameter, and total well depth:

Well Number	Surface Covering	Well Diameter (Inches)	Total Depth (Feet)
MW-17	Grass	2"	**15.0**
Total Footage of Abandoned Wells			**15.0**

The monitoring well was abandoned with portland bentonite slurry utilizing tremie pipe. A total of 15.0 feet of monitoring wells were abandoned by the methods described above. Please find the attached SCDHEC 1903 Water Well Records in Appendix E.

3.3 SITE SURVEY

Following the well installation, a subsequent survey was conducted by MECI personnel, utilizing a fiberglass rod, level, and tape to determine the horizontal and vertical position of the newly installed monitoring wells. A TOC elevation of 75.18 for DW-2 was used as a benchmark for surveying MW-17R and MW-23. The TOC elevation was determined to be 68.82 for MW-17R and 69.59 for MW-23. Elevations were based on site datum obtained from SCDHEC provided files. See Table 2 and Figure 5 for potentiometric data for the entire monitoring well network.

4.0 AREA GEOLOGY AND HYDROGEOLOGY

The mean elevation of the property, as depicted on the local USGS quadrangle (Augusta, SC), appears to be approximately 330 feet above sea level. The site is located near the transition from the Piedmont Physiographic Province to the Coastal Plain Physiographic Province. In the area of this transition zone, termed the "fall line", veneers of Coastal Plain sedimentary rocks may overlay crystalline and/or metamorphic rocks of the Piedmont. In some areas, erosion has resulted in isolation of surficial sedimentary rocks, such that, at the surface, they appear surrounded by Piedmont rocks.

Locally, the Coastal Plain sediments consist of silty sands or sandy clays of the Middendorf Formation. These sediments were deposited in the Cretaceous Period during successive advances and retreats of the ocean. This formation contains numerous seams and lenses of kaolinitic clays which often result in "perched" water conditions and a variable, groundwater regime that is difficult to interpret.

Review of published geologic literature indicates that surficial formations of eolian (wind deposited) sands also exist in the vicinity of the site. These surficial sediments appear to be largely post-late Miocene to late Miocene in age. These soils were deposited in a beach-front environment and later reworked by wind. Generally, the eolian sediments consist alternately of clean sands, interbedded with seams of silts or clays. There was no evidence of these wind born sediments to be present on the site.

Underlying the Coastal Plain sediments are residual soils and rocks of the Carolina Slate Belt. The Carolina Slate Belt consists of rocks composed of volcanic, igneous and terrigenous clastic materials. Locally, the Carolina Slate Belt rocks have been intruded by granitic plutons. The entire unit underwent regional metamorphism during the Paleozoic Era.

In this geologic setting, the uppermost aquifer is the surficial aquifer of sands with lenses and layers of clay. Water occupies the interstices between the formation particles and is in hydrostatic balance with the atmosphere at the water surface (water table).

Local precipitation is the source of fresh-water recharge to the Coastal Plain formations. Groundwater recharge varies considerably over the region and is attributed to the differences in precipitation and to variability in infiltration rate. Variations in composition and hydraulic conductivities of the sedimentary units account for the variability of infiltration rates.

Coastal Plain formations generally dip eastward towards the Atlantic Ocean. Consequently, regional groundwater movement is to the east and southeast. On a regional scale, hydraulic gradients are relatively low. Groundwater discharges to streams, lakes, or springs where the groundwater intersects topographic lows occupied by these water bodies. The apparent direction (based on hydraulic gradient determined during previous assessments) of groundwater flow from the release is to the northeast toward the Pole Branch.

4.1 LOCAL SUBSURFACE CONDITIONS

Costal Plain Sediments were encountered during drilling activities conducted at the site. The soils encountered in our borings generally consisted of medium to coarse grained sands and silts. Test Boring Records, which depict the materials encountered in each boring, are located in Appendix E.

On March 26, 2012 stabilized groundwater level was measured in the newly installed wells. Depth to groundwater was at measures at 2.69 feet below top of casing in MW-17R and at 2.40 feet below top of casing in MW-23. The groundwater measurement is summarized in the test boring log in Appendix E and monitoring well data is compiled in tabular format on Table 2 and Figure 5. Groundwater levels may fluctuate several feet with seasonal and rainfall variations and with change in the water level of adjacent drainage features. Normally, the highest groundwater levels occur in late winter and spring. The lowest levels occur in late summer and fall.

The above descriptions provide a general summary of the subsurface conditions encountered. The attached Test Boring Records (Appendix E) contain detailed information recorded from the newly installed replacement well. The Test Boring Records represent our interpretation of the field logs based on examination of the field samples. The lines designating the interfaces between various strata represent approximate boundaries, and the transition between strata may be gradational.

5.0 QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessment and waste management projects of this type. Our evaluation of site conditions has been based on our understanding of the site, project information provided to us, and data obtained in our exploration. The general subsurface conditions utilized in our evaluation have been based on interpretation of subsurface data between borings. Contents of this report are intended for the sole use of SCDHEC under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

-oOo-

TABLES

TABLE 1
SOIL ANALYTICAL RESULTS
SITE NAME
SITE LOCATION, SOUTH CAROLINA
MECI PROJECT NUMBER ##-####
SCDHEC SITE ID NUMBER

Boring Number	Sample Date	Depth (feet BGS)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Naphthalene (µg/kg)

Soil Samples for chemical analysis were not obtained during this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler table is included to provide report continuity.

Notes:

1. BGS = Below Ground Surface
2. µg/kg = micrograms per kilogram
3. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).
4. Soil Samples collected from discrete split samples during installation of Monitoring wells.

TABLE 2
PONTENTIOMETRIC DATA
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3762
SCDHEC SITE ID NUMBER 00120

Well Number	Screened Interval (ft BGS)	Well-head Elevation
MW-1	15-25	98.37
MW-2R	15-30	101.75
MW-3	17-27	99.70
MW-4	17-27	100.37
MW-5	10-20	85.55
MW-6	9-19	83.48
MW-7R	10-30	90.88
MW-8	5-15	71.39
MW-9	10-20	86.69
MW-10	15-30	97.87
MW-11	15-30	98.96
MW-12	15-30	96.72
MW-13	15-30	94.97
MW-14	9-24	88.52
MW-15	5-15	77.06
MW-16	Abandoned	Abandoned
MW-17	Abandoned	Abandoned
MW-17R	2-12	68.82
MW-18	5-15	69.65
MW-19	5-15	70.93
MW-20	5-15	75.17
MW-21	9-19	83.66
MW-22	6-16	79.28
MW-23	2-12	69.59
DW-1	55-60	98.29
DW-2	55-60	75.18
DW-3	55-60	88.63
RW-1	15-30	97.62
RW-2	15-30	97.85
RW-3	15-30	97.86
RW-4	15-30	97.92
PW-1	41-46	98.41

Notes:

1. BGS = Below Ground Surface

TABLE 3
GROUNDWATER ANALYTICAL DATA
SITE NAME
SITE LOCATION, SOUTH CAROLINA
MECI PROJECT NUMBER ##-####
SCDHEC SITE ID NUMBER

Boring Number	Sample Date	Depth (feet BGS)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Naphthalene (µg/kg)
Groundwater Samples for chemical analysis were not obtained during this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler table is included to provide report continuity.								

Notes:
1. BGS = Below Ground Surface
2. µg/kg = micrograms per kilogram
3. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).
4. Soil Samples collected from discrete split samples during installation of Monitoring wells.

TABLE 4 - AQUIFER CHARACTERISTICS (Page 1 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # _____ COUNTY _____

FACILITY NAME _____

SLUG DATA

See Appendix _____ Table _____ Figure _____ for a list of all data measurements.
(water level logs, etc.)(Complete as appropriate).
Water Level Recovery Data was measured by ORS Interface Probe _____.
(Hermit Data Logger, Manually with Water Level Indicator, etc.)(List Method)
Complete the following table for each well tested.
COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Aquifer Characteristics were not obtained as part of this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler table is included to provide report continuity.

Calculations

See Appendix _____ Table _____ Figure _____ for calculations
The method for aquifer calculations was NAVFAC
Calculated values by well were as follows:

Slug Test Conducted in Well(s) number				
Hydraulic Conductivity				cm/sec

Thickness of the aquifer used to calculate hydraulic conductivity was N/A feet.
The aquifer is _____ confined _____ semi-confined _____ water table (Check as Appropriate).
SEE SHEET 3
The estimated seepage velocity is _____ feet per year based on a hydraulic conductivity of _____ cm/sec, a hydraulic gradient of _____ ft/ft, and a porosity of _____ percent for _____ soil.

SUMMARY of SLUG TEST

TABLE 4 - AQUIFER CHARACTERISITCS (Page 2 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 0 COUNTY 0

FACILITY NAME 0

Hydraulic Conductivity (average)

Hydraulic Conductivity Average = _____ cm/sec
()

_____ ft./day

_____ ft./min

Groundwater Seepage Velocity

V = (Ki)/(Ne)
(ft./day)

* Enter Values in Shaded Areas Only

where:

K = Hydraulic Conductivity (ft./day)
I = Hydraulic Gradient (ft./ft.)
Ne = Effective Permeability

K = _____ ft./day
I = _____ ft./ft.
Ne = _____

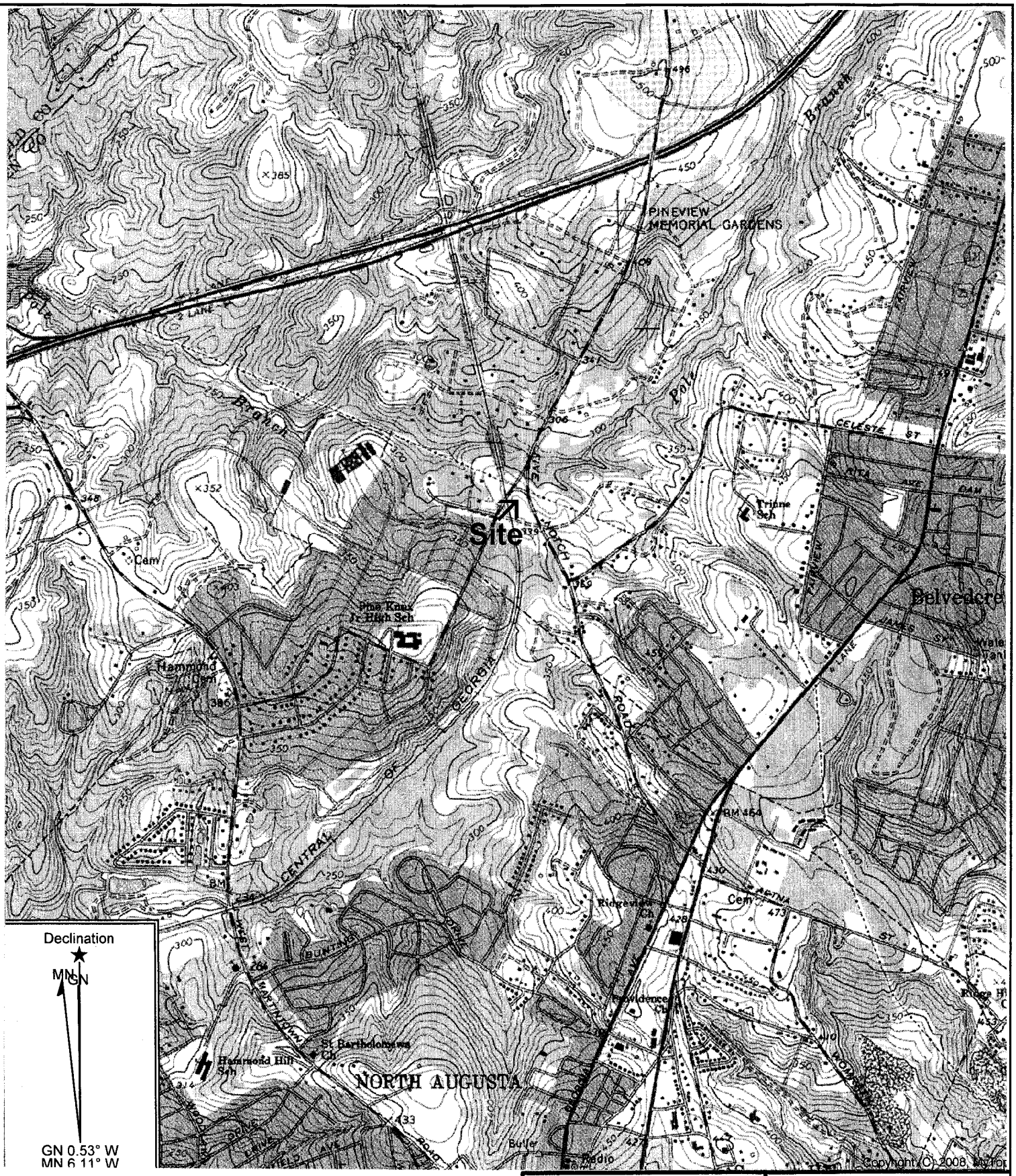
V = _____ ft./day _____ ft./year

Groundwater Seepage Velocity Calculations

TABLE 5
SITE CONCEPTUAL MODEL AND POSSIBLE EXPOSURE POINTS
(CURRENT LAND USE)

Potentially Exposed Population	Exposure Route, Medium, and Exposure Point	Pathway Selected for Evaluation?	Reason for Selection or Nonselection
Off-site Resident	Ingestion of groundwater from impacted water well Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors Dermal contact with surface water	A Site Conceptual Model was not required as part of this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler table is included to provide report continuity.	
On-site Resident	Ingestion of groundwater Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors		
Worker	Ingestion of ground water Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors		
Visitor	Ingestion of ground water Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors Dermal contact with surface water		

FIGURES



GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Augusta, South Carolina
USGS 7.5 Min. Quad
Countour Interval – 10 Feet

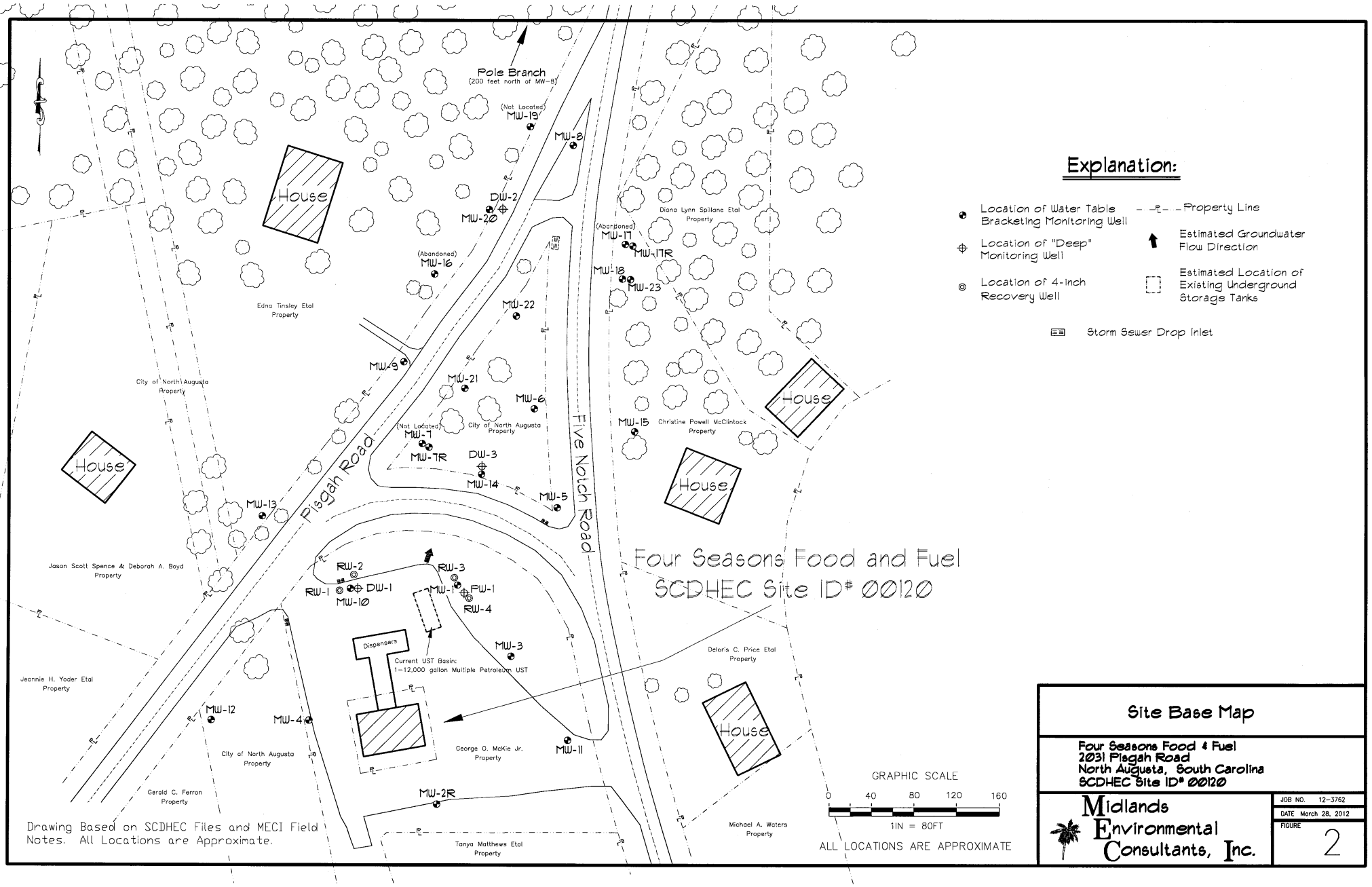
Midlands Environmental Consultants, Inc.

Site Location

Four Seasons Food and Fuel
2031 Pisgah Road, North Augusta, SC
SCDHEC Site ID# 00120

Figure 1

MECI 12-3762



Site Base Map

Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

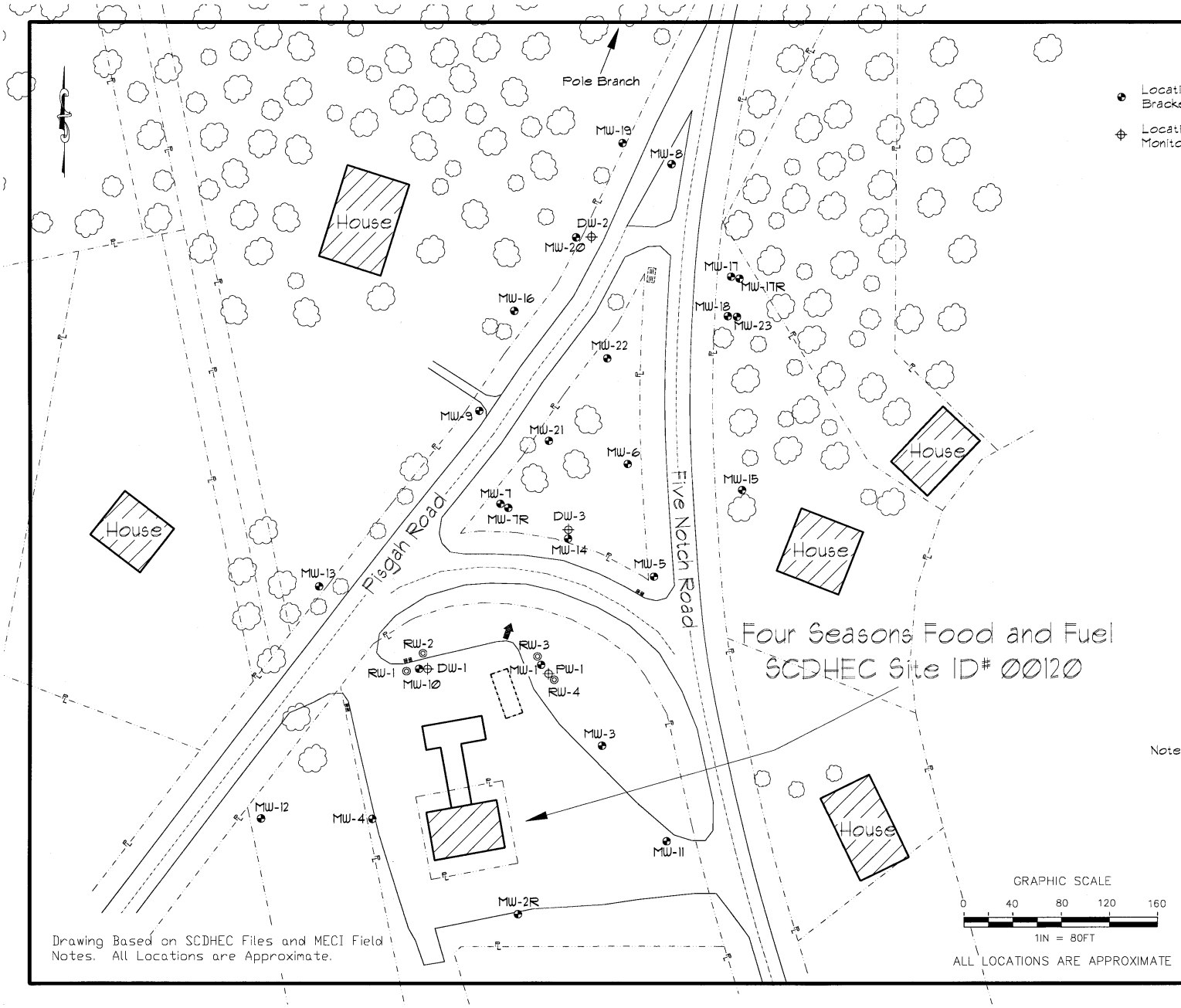
JOB NO.	12-3762
DATE	March 28, 2012
FIGURE	2

Soil Samples for chemical analysis were not obtained during this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler Figure is included to provide report continuity.

Midlands Environmental Consultants, Inc.	Soil CoC Site Map
Site Name Site Location, South Carolina SCDHEC Site ID: *****	
Figure 3	MECI **-****

Groundwater samples for chemical analysis were not obtained during this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler Figure is included to provide report continuity.

Midlands Environmental Consultants, Inc.	GW CoC Site Map
Site Name Site Location, South Carolina SCDHEC Site ID: *****	
Figure 4	MECI **-****



Drawing Based on SCDHEC Files and MECI Field Notes. All Locations are Approximate.

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

ALL LOCATIONS ARE APPROXIMATE

Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Estimated Location of Existing Underground Storage Tanks

Pontentiometric Data

Well #	Screened Interval (ft)	Well Head Elevation
MW-1	15-25	98.37
MW-2R	15-30	101.75
MW-3	17-27	99.70
MW-4	17-27	100.37
MW-5	10-20	85.55
MW-6	9-19	83.48
MW-7R	10-30	90.88
MW-8	5-15	71.39
MW-9	10-20	86.69
MW-10	15-30	97.87
MW-11	15-30	98.96
MW-12	15-30	96.72
MW-13	15-30	94.97
MW-14	9-24	88.52
MW-15	5-15	77.06
MW-16	Abandoned	Abandoned
MW-17	Abandoned	Abandoned
MW-17R	2-12	68.82
MW-18	5-15	69.65
MW-19	5-15	70.93
MW-20	5-15	75.17
MW-21	9-19	83.66
MW-22	6-16	79.28
MW-23	2-12	69.59
DW-1	55-60	98.29
DW-2	55-60	75.18
DW-3	55-60	88.63
RW-1	15-30	97.62
RW-2	15-30	97.85
RW-3	15-30	97.86
RW-4	15-30	97.92
PW-1	41-46	98.41

Notes: Site Datum Based on Assumed Spot Elevation.

Potentiometric Data Site Map

Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO. 12-3762
DATE March 28, 2012
FIGURE 5

Construction of Geologic Cross Sections were not part of this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler Figure is included to provide report continuity.

Midlands Environmental Consultants, Inc.	Geologic Cross Sections
Site Name Site Location, South Carolina SCDHEC Site ID: *****	
Figure 6	MECI **-****

APPENDIX A:

SITE SURVEY

This appendix is not applicable to the scope of services presented in the subject report, however this page has been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP and provide report continuity

APPENDIX B:

SAMPLING LOGS, LABORATORY DATA SHEETS, & CHAIN-OF-CUSTODY FORMS

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Well Development

Date (mm/dd/yy): 3/26/2012

Field Personnel: Gavin Globenksy

General Weather Conditions: Sunny

Ambient Air Temperature: 16.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Season Food & Fuel

Site ID#: 00120 **Monitoring Well #** MW-17R (00120)

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	2.69			feet
Total Well Depth (TWD)	12			feet
Length of the water column (LWC=TWD-DGW)			9.31	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.52	gallons
3 casing volume (3 X CV)=		3	4.55	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:30	11:34						
pH (s.u.)	4.69	4.76						
Specific Conductivity (μmhos/cm)	38.8	39.7						
Water Temperature (°C)	16.6	16.4						
Dissolved Oxygen	1.05	2.65						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: Dry @ 2.0 Gallons/Well Not Sampled

APPENDIX C:

TAX MAP

This appendix is not applicable to the scope of services presented in the subject report, however this page has been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP and provide report continuity

APPENDIX D:

SOIL BORING/FIELD SCREENING LOGS & 1903 FORMS

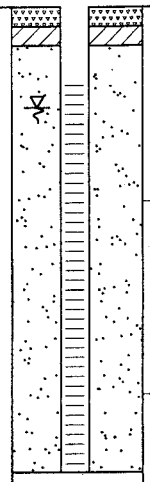
This appendix is not applicable to the scope of services presented in the subject report, however this page has been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP and provide report continuity

APPENDIX E:

WELL COMPLETION LOGS & 1903 FORMS

Depth (Feet)	Description	PID PPM
	Grass and Topsoil	
	COASTAL PLAIN SEDIMENT: Brown, Silty Medium to Coarse SAND	
5	Brown, Medium to Coarse Sandy SILT	21.7
10	White, Fine Sandy SILT	57.7
	Boring Terminated at 12.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 12.0 Feet BGS. Groundwater Measured at 2.69 Feet Below Top of Casing on 3/26/12.	40.0
15		
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

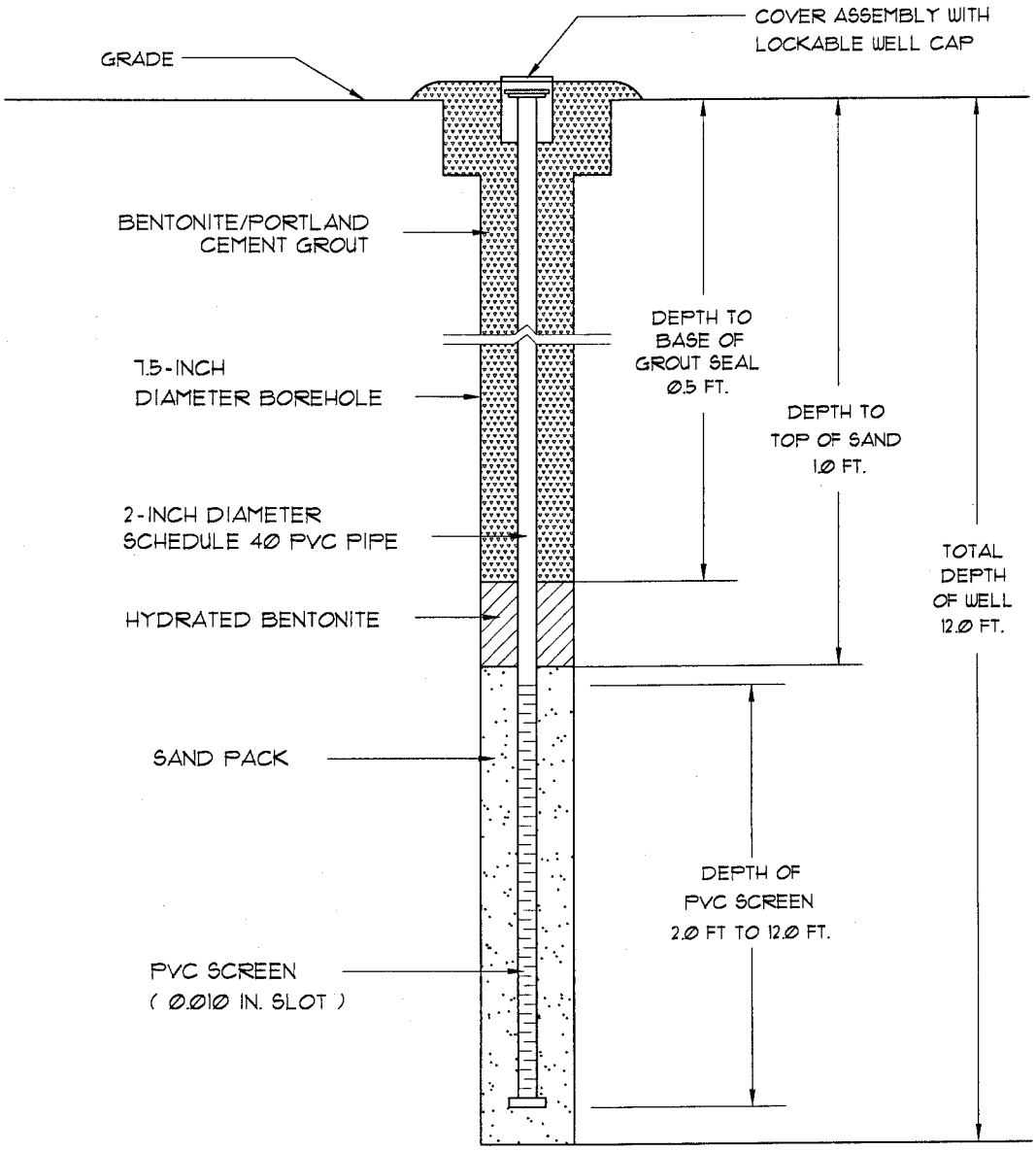
TEST BORING RECORD
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 12-3762

Boring Number:	MW-17R(00120)
Date Drilled:	3/15/2012
Drilled By:	VERCO
Logged By:	R. Ariail

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 12-3762

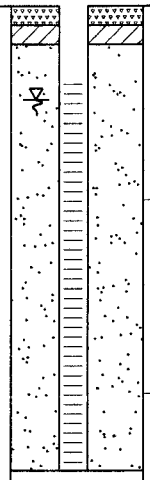


Well Number:	MW-17R (00120)
Date Drilled:	3/15/2012
Drilled By:	VERCO
Driller: J. Chiorazzi S.C. I.D. #: B 01790	
Logged By:	R. Ariail

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM
	Grass and Topsoil	
	COASTAL PLAIN SEDIMENT: White, Silty Medium to Coarse SAND	
5	Brown, Medium to Coarse Sandy SILT	30.0
10	White, Fine Sandy SILT	36.7
	Boring Terminated at 12.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 12.0 Feet BGS. Groundwater Measured at 2.40 Feet Below Top of Casing on 3/26/12.	39.6
15		
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

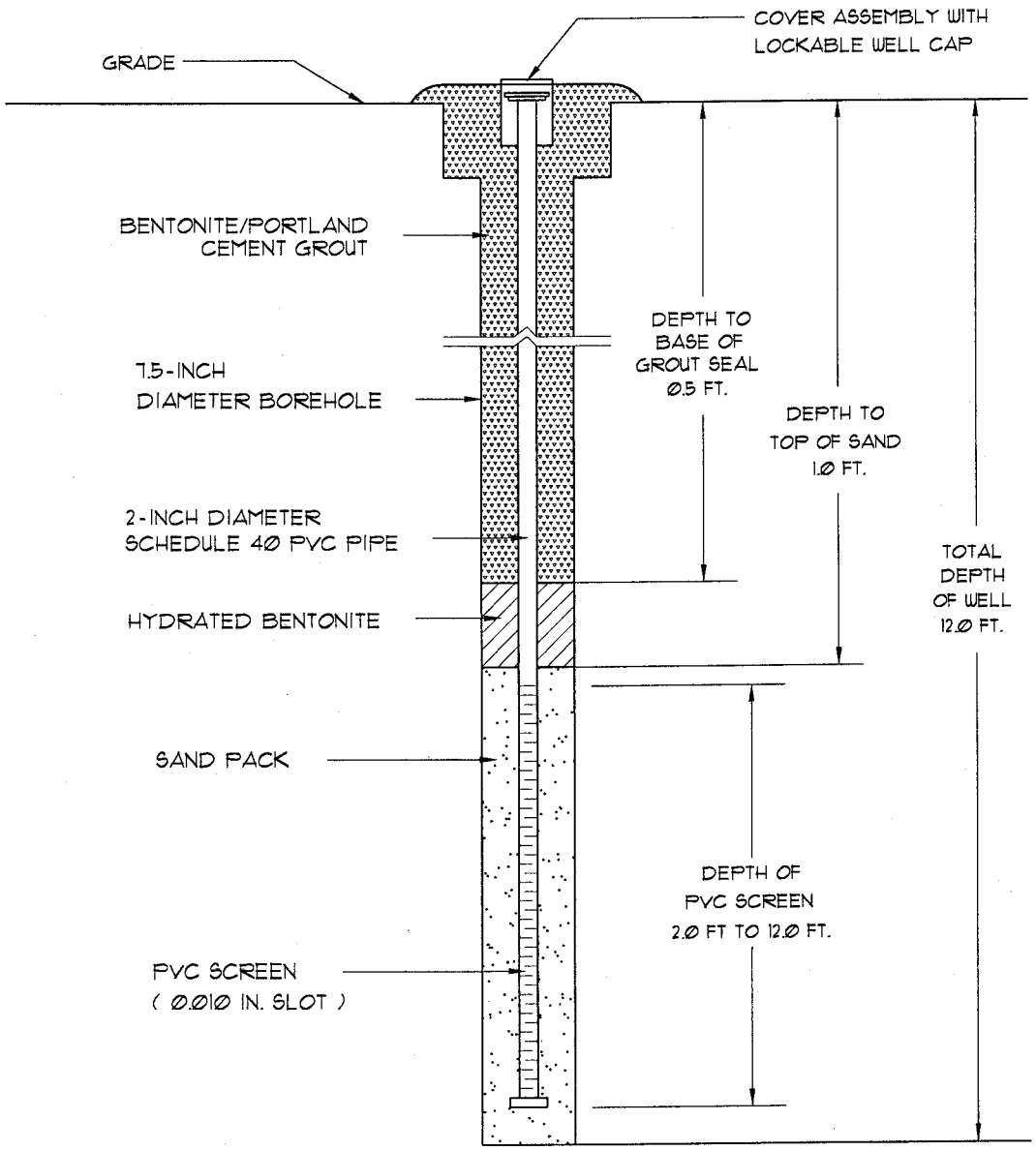
TEST BORING RECORD
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 12-3762

Boring Number:	MW-23(00120)
Date Drilled:	3/15/2012
Drilled By:	VERCO
Logged By:	R. Ariail

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

MONITORING WELL INSTALLATION RECORD

Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 12-3762



Well Number:	MW-23 (00120)
Date Drilled:	3/15/2012
Drilled By:	VERCO
Driller: J. Chiorazzi S.C. I.D. #: B 01790	
Logged By:	R. Ariail

Prepared By:
Midlands Environmental Consultants, Inc.
235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SCDHEC (last) (first)
Address: 2600 Bull Street
City: Columbia State: SC Zip: 29201-1708
Telephone: Work: (803) 898-4300 Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: N. Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-17R(00120)

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Topsoil	0.5	0.5
White, Silty SAND	4.5	5.0
Brown, Sandy SILT	5.0	10.0
White, Sandy SILT	2.0	12.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-17R (00120)

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-24231

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 3/15/2012
12.0 ft. Date Completed: 3/15/2012

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0.0 in. to 2.0 ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 Inch
Slot/Gauge: 0.010 Length: 10.0 Feet
Set Between: 2.0 ft. and 12.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 2.69 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft. to 12.0 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Jason Chiorazzi **CERT. NO.:** 01790
Address: (Print) Level: A B C D (circle one)
2047 Industrial Boulevard
Lexington, South Carolina 29072
Telephone No.: (803)-429-5001 Fax No.: (803)-996-0638

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 3/19/2012
Well Driller

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SCDHEC (last) (first)
Address: 2600 Bull Street
City: Columbia State: SC Zip: 29201-1708
Telephone: Work: (803) 898-4300 Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: N. Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-23(00120)

4. ABANDONMENT: ☐ Yes ☑ No
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Topsoil	0.5	0.5
Brown, Silty SAND	4.5	5.0
Brown, Sandy SILT	5.0	10.0
White, Sandy SILT	2.0	12.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-23 (00120)

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-24231

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 3/15/2012
12.0 ft. Date Completed: 3/15/2012

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0.0 in. to 2.0 ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface 0.0 ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: SCH 40 PVC Diam.: 2 Inch
Slot/Gauge: 0.010 Length: 10.0 Feet
Set Between: 2.0 ft. and 12.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 2.69 ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft. to 12.0 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft. to 0.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Jason Chiorazzi **CERT. NO.:** 01790
Address: (Print) Level: A B C D (circle one)
2047 Industrial Boulevard
Lexington, South Carolina 29072
Telephone No.: (803)-429-5001 Fax No.: (803)-996-0638

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 3/19/2012
Well Driller

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SCDHEC (last) (first)
Address: 2600 Bull Street
City: Columbia State: SC Zip: 29201-1708
Telephone: Work: (803) 898-4300 Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Sood and Fuel
Street Address: 2031 Pisgah Road
City: N. Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-17

4. ABANDONMENT: ☑ Yes ☐ No
Grouted Depth: from 0.0 ft. to 15.0 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Well Abandonment by VERCO on		
2/01/12 via tremie pipe with		
Portland-Bentonite Cement Slurry		
Approx. 3.0 gal. of Slurry		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
Well ID # MW-17

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-24231

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 3/15/2012
15.0 ft. Date Completed: 3/15/2012

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☑ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 15.0 ft. to 0.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name: _____ Model No.: _____
H.P._____ Volts_____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Jason Chiorazzi **CERT. NO.:** 01790
Address: (Print) Level: A B C D (circle one)
2047 Industrial Boulevard
Lexington, South Carolina 29072
Telephone No.: (803)-429-5001 Fax No.: (803)-996-0638

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____ Date: 3/19/2012
Well Driller

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

APPENDIX F:

AQUIFER EVALUATION SUMMARY FORMS, DATA, GRAPHS, EQUATIONS

This appendix is not applicable to the scope of services presented in the subject report, however this page has been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP and provide report continuity

APPENDIX G:
DISPOSAL MANIFEST

Midlands
Environmental
Consultants, Inc.

March 28, 2012

Re: Treatment of Purge Water
Four Seasons Food & Fuel
N. Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 11-3762

To Whom it May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.
2. No free-product was detected in any of the purge water drums.
3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.
5. Record of usage is maintained by Contractor.
6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.
7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

5.5 Gallons of development water was treated on March 26, 2012 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

WASTE MANAGEMENT

Richland County LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 788-3054

Original
Ticket# 1159906

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 03/22/2012
Payment Type Credit Account
Manual Ticket#
Hauling Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2710 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

Carrier MIDLANDSENVIRON MIDLANDS ENVIRONMENT
Vehicle# 1
Volume
Container
Driver
Check#
Billing # 0000469
Gen EPA ID

	Time	Scale	ScaleMaster		
In	03/22/2012 09:56:14	Scale2	wcurry	Gross	10720 lb*
Out	03/22/2012 10:21:42	Scale1	wcurry	Tare	8960 lb
			* Manual Weight	Net	1760 lb
				Tons	0.88

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1	SOIL-Cont. Soil -	100	0.88	Tons				32-LEXINGT
2	FUEL-Fuel Surcharg	100		%				32-LEXINGT
3	EVF-P-Standard Env	100		%				32-LEXINGT

Total Fees
Total Ticket

SIGNATURE

Four Seasons 3/4 + S+P Grocery 1/4

403WM

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE November 17, 2013	Special Waste Phone: 803-744-3346 Fax: 866-904-7194
Prepared by:	Karen Truett/Carol Weldon

GENERATOR OF WASTE: Midlands Env. Consultants, Inc. - Various

CUSTOMER Midlands Env. Consultants

ACCOUNT NUMBER: 820-469

LOCATION OF WASTE: Site Address:

CITY: Lexington COUNTY: Lexington

PHONE NUM 803-808-2043

CONTACT: Bryan Shane

FAX NUMBER:

GENERATOR'S SIGNATURE [illegible] DATE: 3/22

TRANSPORTER OF WASTE: MECI

DATE: 3/22

TRUCK NUMBER: 1

DRIVER'S SIGNATURE [illegible]

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: Soil

DESCRIPTION OF WASTE: Soil from UST Assessment

TICKET NUMBER: 1159906

RECEIVED BY: WC

APPENDIX H:
LOCAL ZONING REGULATIONS

This appendix is not applicable to the scope of services presented in the subject report, however this page has been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP and provide report continuity

APPENDIX I:

FATE AND TRANSPORT MODELING

This appendix is not applicable to the scope of services presented in the subject report, however this page has been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP and provide report continuity

APPENDIX J:
ACCESS AGREEMENTS

This appendix is not applicable to the scope of services presented in the subject report, however this page has been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP and provide report continuity

APPENDIX K:
DATA VERIFICATION CHECKLIST

Contractor Checklist

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

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

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

APR 13 2012

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

UST 29 tech DOCKETING

Re: **QAPP Contractor Addendum Request**
Groundwater Sampling Contract
Solicitation # IFB-5400002759, PO#4600088529

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400002759 and the UST Management Division Quality Assurance Program Plan (QAPP), it is requested that you submit a Contractor Addendum for each site listed below. The Addendums must be submitted within 15 business days in my attention. The project manager for each site will issue a notice to proceed once the Addendum has been reviewed and approved. Please note, site reconnaissance should be conducted during the Addendum review so that any issues that arise may be addressed prior to commencing work at the site.

UST Permit #	Site Name	County	# samples and requested analysis*	Project Manager
00120	Four Seasons Food	Aiken	33-BTEXMN, DCA, Oxygenates, & EDB	D. Ebinger
14102	Holly Oak Convenience	Greenwood	32-BTEXMN, DCA, Oxygenates, & EDB	D. Ebinger
08937	Heath Self Serve 1	Sumter	48-BTEXMN, DCA, Oxygenates, & EDB	C. Ridgley
08606	West State Gulf Line	Greenville	32-BTEXMN, DCA, Oxygenates, & EDB	R. Miner
12814	Wailon's Quick Stop	Horry	12-BTEXMN, DCA, & Oxygenates	J. Martin
15816	MJ Tadlock Grocery	Chester	26-BTEXMN, DCA, Oxygenates, & EDB	C. Ridgley
08392	Southern Grocery	Greenville	23-BTEXMN, DCA, Oxygenates, EDB, & Lead	S. Briney
14212	Satterfields Used Cars	Greenville	22-BTEXMN, DCA, Oxygenates, & EDB	S. Briney
19006	Former Orangeburg UST	Orangeburg	19-BTEXMN, DCA, Oxygenates, & EDB	R. Miner

* The number of samples does not include trip blanks, field blanks, or field duplicates.

Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

Enc: Site Information Packets

cc: Technical Files

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

SEP 04 2008

Re: **Notice to Proceed-Groundwater Sampling**
Bid # IFB-33335-3/11/08-EMW; PO# 719459

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct nine (9) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 719459 on the appropriate invoice submitted for payment against the facility.

UST DOCKET

	UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
3	00120	Four Seasons	Aiken	24	T. Jaspers	09/26/08	BTEXMN & EDB	33455	33454
13	04732	Handy Pantry 91	Greenwood	17	T. Jaspers	09/26/08	BTEXMN & EDB	33409	33406
13	04783	Kings Texaco	Greenwood	22	T. Jaspers	09/26/08	BTEXMN	33410	33411
9	14793	Nix's Service	Hampton	35	J. Padgett	09/26/08	BTEXMN, DCA, & EDB	33398	33397
15	14301	Whitaker Prop	Newberry	18	J. Padgett	09/26/08	18-BTEXMN, DCA, & EDB, 17-Lead	33421	33420
1	03590	Floyd's Conven.	Florence	14	M. Jaspers	09/26/08	BTEXMN, DCA, & EDB	33338	33337
1	13508	Jim's Corner Groc	Florence	13	M. Jaspers	09/26/08	BTEXMN, DCA, & EDB	33323	33322
6	10382	Winner's Circle	Kershaw	35	D. Thoma	09/26/08	BTEXMN, DCA, & EDB	33311	33312
13	17630	Frm Marilyn's	Richland	90	S. Block	09/26/08	90-BTEXMN, DCA, & EDB, 3-trimethyl, butyl, isopropyl, & n-propyl benzenes	33383	33382

MECI will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled.**

If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Renee Spencer, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files (w/o. enc.)

Midlands Environmental Consultants, Inc.

April 25, 2012

UST
David
APR 25 2012
PROGRAM

Ms. Debra Thoma, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
30
DOCKETING

Subject: QAPP Contractor Addendum – Revision 0
Four Seasons Food & Fuel
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 12-3933
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached QAPP Contractor Addendum for the referenced site.

On April 23, 2012, MECI personnel performed a site visit to the subject site to evaluate site conditions, locate monitoring wells and identify potential problems for future sampling activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Brendon P. Kelly
Project Scientist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
HQ Heath Self Serve 1, SCDHEC Site ID# 08937

2031 Pisgah Road, North Augusta, South Carolina

Prepared by:
Courtney M. Sanders
Staff Biologist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: April 25, 2012

Approvals

David J. Ebinger SC DHEC Project Manager	_____ Signature	Date_____
Brendon P. Kelly Contractor QA Manager	_____ Signature	Date 4/25/12
Jeff L. Coleman Site Rehabilitation Contractor	_____ Signature	Date 4/25/12
Michael Woodrum Laboratory Director	_____ Signature	Date 4-25-12

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
David J. Ebinger	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6649	803-896-6245	ebingedj@dhec.sc.gov
Jeff L. Coleman	Site Rehabilitation Contractor	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Courtney M. Sanders	Quality Assurance Officer	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net
Brendon P. Kelly	Field Manager	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bpk@meci.net
Michael Woodrum	Laboratory Director	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
	Well Services/Driller				

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Project Manager	David J. Ebinger	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6649	803-896-6245	ebingedj@dhec.sc.gov
Site Rehabilitation Contractor	Jeff L. Coleman	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Quality Assurance Officer	Courtney M. Sanders	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net
Field Manager	Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road	803-808-2043	803-808-2048	bpk@meci.net

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
		Lexington, SC 29073			
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Project Verifier	Courtney M. Sanders or Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net

Table 2A Addendum Role Identification and Contact Information

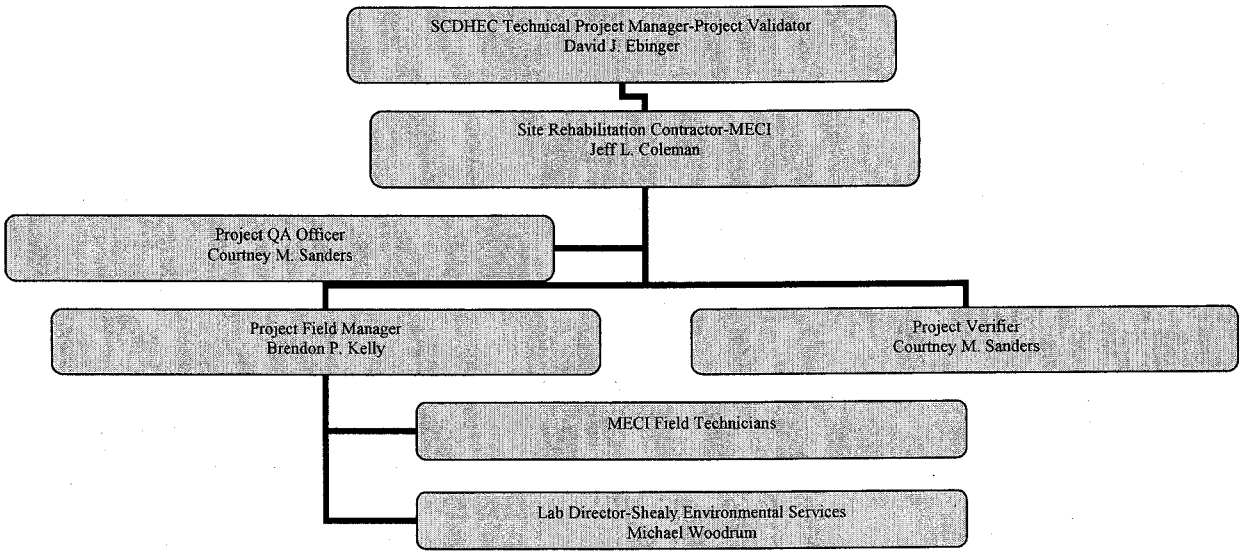


Figure 1A Organizational Chart

Project Manager (David J. Ebinger) – The project manager is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites.

Site Rehabilitation Contractor (Jeff L. Coleman.) – The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for assessments or cleanup.

-Final Review of all work produced for a scope of work.
-Final say on technical interpretation of data.

Quality Assurance Officer (Courtney M. Sanders) – The Quality Assurance Officer is responsible for the oversight of all quality assurance activities associated with projects performed by the Site Rehabilitation Contractor.

-In charge of producing and maintaining the QAPPA for MECI.
-Reviews (and Audits, if necessary) all work produced in conjunction with a scope of work.
-Quality control of data entry and report preparation.

Field Manager (Brendon P. Kelly) –The field manager will oversee all work done on any given project.

-Assign, direct and oversee all field personnel working on each project.
-Responsible for coordinating with the SCDHEC project manager, should any problems or clarifications arise.
-Responsible for all reporting done in conjunction with field work.

Analytical Laboratory Director (Michael Woodrum)– The Laboratory Director is directly responsible for the Analytical Laboratory used during a scope of work. The Analytical Laboratory receives the soil and water samples from the site rehabilitation contractor, performs the requested analyses, and provides analytical reports.

Project Verifier (Courtney M. Sanders) – The project verifier is responsible for verifying the quality of data produced during a scope of work. This includes review of field work and laboratory reports for potential quality issues.

Field Technicians (various employees) – Responsible for all field activities for a given scope of work.

-Conduct all initial site visit, and record findings
-Conduct all field activities associated with a scope of work. All work will be conducted according to the MECI SOP. Will be responsible for reporting any potential problems are inconsistencies found during assessment activities.
-Completes the chain of custody upon completion of sampling event and delivers samples to lab or office for later lab pick-up.

A5 Problem Definition/Background

Discuss the background (as much as is known) of the site and appropriate historical information, and why this site is being assessed.

The subject site (Four Seasons Food & Fuel) is located at 2031 Pisgah Road, North Augusta, Aiken County, South Carolina. The subject site formerly maintained three 4,000 gallon gasoline underground storage tanks (UST's). These UST's were abandoned by removal from ground in January of 1999. SCDHEC reported and confirmed a release of petroleum product from the subject UST's in November of 1997. The subject site is currently rated a class 1D.

The site is being sampled in conjunction with the SCDHEC Groundwater Sampling Contract (Solicitation # IFB-5400002759, PO# 4600088529).

Please answer the following: Does this project fall under UST or Brownfields area?

Underground Storage Tank Division

A6 Project/Task Description

1. ***Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).***

The subject site (Four Seasons Food & Fuel) will be sampled in conjunction with the SCDHEC Groundwater Sampling Contract (Solicitation # IFB-5400002759, PO# 4600088529). During assessment activities monitoring wells will be sampled for petroleum constituents.

2. ***The work will begin within*** fourteen (14) days of receipt of approved QAPP contractors addendum ***after cost approval and sampling should be complete by*** twenty-one (21) days of receipt of approved QAPP contractors addendum.

3. ***Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.***

Factors that may prevent schedule work will be, but not limited to, inclement weather, equipment malfunction, and machine failure.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

The subject site is located at 2031 Pisgah Road, North Augusta, Aiken County, South Carolina. The site is currently occupied by an active gasoline service station and convenience store.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Principal Geologist	Bryan T. Shane, P.G.	Professional Geologist	10/30/1993	State of South Carolina	1102
Senior Scientist	Jeff Coleman	OSHA 40 hr HAZWOPER	7/27/2007	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	7/27/2011	N/A	N/A
Project Scientist	Brendon Kelly	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Geologist	John Bryant	OSHA 40 hr HAZWOPER	4/17/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	3/5/2012	N/A	N/A
Field	Brian Owen	OSHA 40 hr	8/21/2009	N/A	N/A

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Technician		HAZWOPER			
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Courtney Sanders	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Kyle Pudney	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Chris Lashley	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Gavin Globensky	OSHA 40 hr HAZWOPER	7/29/2011	N/A	N/A
Staff Biologist	Ryan Ariail	OSHA 40 hr HAZWOPER	9/23/2011	N/A	N/A
Lab Manager	Michael Woodrum	***	***	Lab Certification	SC 32010

Table 3A Required Training and Licenses

Brendon P. Kelly of Midlands Environmental Consultants, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location:235-B Dooley Road, Lexington, SC 29073.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory___Shealy Environmental Services, Inc.____
Name of Lab Director_____Michael Woodrum_____
SC DHEC Certification Number_____32010_____
Parameters this Lab will analyze for this project:

BTEX, Napth, MTBE, 1,2 DCA, 8-Oxygenates (EPA Method 8260-B), and EDB (EPA Method 8010).

Please note: SC DHEC may require that the contractor submit some or all of the Laboratory's SOPs as part of this QAPP.

A9 Documents and Records

Personnel will receive the most current version of the QAPP Addendum via: (Check all that apply)

____US Mail ____Courier __X__ Hand delivered

Other (please specify):_____E-mailed electronic copies___

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target, Thermospec, or Iteva software	Hardcopy and Electronic	Hardcopy: Offsite storage for 7 yrs Electronic: Two external storage device backups – one offsite, one onsite storage for 10 yrs	Yes
Final Reports	LIMS	Electronic	Electronic: Two external storage device backups – one offsite, one onsite storage for 10 years	Yes
Field Work	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Chain of Custody	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
QAPP Addendum	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Brendon Kelly	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
Site Reconnaissance	4/23/12	4/23/12	Already Completed
QAPP preparation	4/25/12	4/25/12	In progress
QAPP approval	4/25/12	5/16/12	Assuming three week turnaround
Monitoring well Sampling	5/17/12	5/31/12	Sampled within 2 weeks of QAPP approval
Report Preparation	6/1/12	6/22/12	Three weeks to prepare/submit report

Item	Start Date	End Date	Comments

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

***Estimate* the number of samples of each matrix that are expected to be collected:**

Soil	_____
Ground Water from monitoring wells	_____30____
From Drinking/Irrigation water wells	_____
Field Duplicate Collection	_____2____
Field Blank Collection	_____1____
Trip Blank	_____1____
From surface water features	_____
Total number of Water samples	_____34____

Notes:
During the April 23, 2012 site visit, thirty (30) monitoring wells were located.

During the site visit, it was noted that all located monitoring wells were in good condition.

All monitoring wells and water supply well samples will be analyzed by Shealy Environmental Services, Inc. for BTEX, Naphthalene, MTBE, 1,2 DCA, 8 oxygenates (8260B), and EDB (8010).

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed.

Please see MECI Monitoring Well Sampling SOP for sampling procedures and type of materials used for sampling

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All equipment, excluding electronic water level indicators, field probes and turbidity tubes, is disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

Please see MECI Monitoring Well Sampling SOP for decontamination procedures.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

All samples will be shipped to the lab via courier or overnight shipping company. Please see MECI Monitoring Well Sampling SOP for sample shipping procedures.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Water level indicator not working properly	Attempt to clean probe, change battery, use back-up indicator if need be.	Record on field sheets, notify office staff. Take indicator out of rotation until problem identified and corrected.	Field Staff, Field Manager
Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
Wells not located	Use metal detector, measure from known points, contact project manager for additional information.	Record method used to attempt to locate the well on field sheets, and possibly reasoning for the well to be missing	Field Staff

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. ***How will the samples get from the Site to the Lab to ensure holding requirements are met?***

Following sample collection, the samples are immediately place in a laboratory provided cooler, pre-filled with wet ice obtained from the MECI office. Samples are transported to the MECI office once a sampling event is complete. A Chain of Custody (CoC) is filled out following the sampling event by the field staff. See attached CoC. If a lab provided courier is scheduled to visit the MECI offices the day following a sampling event, sampling coolers are repacked with wet ice, and left at the office for pick-up the following morning. If no courier is schedule to visit the MECI office the day following a sampling event, all sampling coolers are repacked with ice and are dropped off at a lab approved shipping company for overnight delivery to the lab.

2. ***How will the contactors cool the samples and keep the samples cool?***

All samples are kept on wet ice, obtained from MECI office.

3. ***How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?***

A calibrated thermometer and temperature blank will be used to document sample temperature. The temperature blank is immediately checked by the sample receiving technician upon arrival at the laboratory.

4. ***Where will the samples be stored in the Lab once they are received?***

All samples are stored in clean refrigeration units monitored and maintained at 4 degrees C + or – 2 degrees. Volatile organic samples are stored separately form all other samples.

5. ***Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.***

A chain of custody (COC) will be filled out for each sampling event at each project site. COC to be signed by MECI and Shealy Environmental technician at time physical transfer of samples occurs to courier. Shealy uses the following COC procedures to protect sample integrity following pickup by their courier: A full time Sample Receiving Technician receives all samples and completes a Sample Receipt Checklist (SRC), which will identify any anomalies, if any exist the Sample Receiving Technician or Project Manager must resolve the deviation internally and/or notify the client to resolve the anomaly

B4 Analytical Methods

1. ***Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:***

Parameter	SOP ID*	Method Referenced	Equipment	Comments
BTEX+Naph+MTBE+Oxygentaes	S-VO-002	8260B	GC/MS	
PAH's	S-SV-021	8270D	GC/MS	
EDB	S-SV-012	8011	GC	
Lead,T.	S-IM-022	6010C	ICP	
Ferrous Iron	S-IN-009	SM 3500-FED	Spectrophotometer	
Nitrate	S-IN-042	353.2	Auto-analyzer/Lachate	
Sulfate	S-IN-010	300.0	Ion Chromatograph	
Methane	S-VO-004	RSK-175	GC	
TOC	S-IN-030	Walkley-Black	N/A	
DRO - TPH	S-SV-001	8015C	GC	
pH	MECI SOP 4.3.6	*	YSI 63	
Conductivity	MECI SOP 4.3.6	*	YSI 63	
Dissolved Oxygen	MECI SOP 4.3.6	*	YSI 550A	

Temperature	MECI SOP 4.3.6	*	YSI 550A	
Turbidity	MECI SOP 4.3.6	*	60 cm Turbidity Tube	

Table 7A Analytical SOPs and Referenced Methods

- **This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-VO-002	S-VO-002	GC/MS VOLATILES ANALYSIS BASED ON EPA METHODS 8260B AND 624 PREPARED BY EPA METHODS 5030B, 5035 AND 3585
S-SV-021	S-SV-021	GC/MS ANALYSIS BASED ON EPA METHOD 8270D PREPARED BY EPA METHODS 3520C, 3550C AND 3580A
S-SV-012	S-SV-012	GC/ECD ANALYSIS OF EDB AND DBCP BASED ON METHOD 8011 & 504.1
S-IM-022	S-IM-022	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY-PECTROMETRIC METHOD for TRACE ELEMENT ANALYSES METHOD 6010C
S-IN-009	S-IN-009	FERROUS IRON (PHENANTHROLINE METHOD) STANDARD METHOD 3500-Fe D
S-IN-042	S-IN-042	NITRATE+NITRITE NITROGEN BY EPA METHOD 353.2, NITRATE NITROGEN BY 353.2 SUBTRACTION, AND NITRITE NITROGEN BY EPA METHOD 353.2
S-IN-010	S-IN-010	INORGANIC ANIONS BY ION CHROMATOGRAPHY EPA METHOD 300.0 and SW-846 9056 and 9056A
S-VO-004	S-VO-004	STANDARD OPERATING PROCEDURE GC ANALYSIS BASED ON METHOD RSKSOP-175
S-IN-030	S-IN-030	TOTAL ORGANIC CARBON (TOC) WALKLEY-BLACK PROCEDURE
S-SV-001	S-SV-001	GC/FID DIESEL RANGE ORGANICS ANALYSIS BASED ON METHOD 8015B and/or 8015C PREPARED BY EPA METHODS 3520C, 3550C and 3580A
MECI SOP 4.3.6	MECI SOP 4.3.6	Sampling Standard operating procedures

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible
Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
COC or	Call Client	Sample Receiving Checklist	PM – Kelly Maberry

Sample Receiving issues		(SRC)	kmaberry@shealylab.com
Analytical errors	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com
QA/QC Failure	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com
On time delivery	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
BTEX+Naph+MTBE+Oxygenates	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
PAH's	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
EDB	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Lead	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as	

			Hazardous or non-Hazardous waste.	
Ferrous Iron	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Nitrate,Sulfate	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Methane	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
All	Water	On-Site	Portable Granulated Activated Carbon (GAC) Unit	All waste water produced from sampling and decontamination activities will be run through a GAC unit

Table 10A Sample Disposal Procedures

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Volatiles Mass Spec	Shealy SOP S-SV-021 Page 7	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Semivolatile Mass Specc	Shealy SOP S-SV-021 Page 7	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	Shealy SOP S-SV-012 Page 5	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Dionex IC	Shealy SOP S-IN-010 Page 6	Replace auto sampler filter, tubing, line filter, sample Line and Waste Line, as needed. Check Reagent levels, flow rate, waste line.	Periodic	Laboratory	IC Analyst
ICP	Shealy SOP S-IM-005 Page 6 & 7	Clean Sample introduction system , auto sampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst
Leeman Mercury Analyzer	Shealy SOP S-IM-006 Page 5	Clean GLS, Change Pump tubing, Nafion Dryer, Lamp	Periodic	Laboratory	Mercury Analyst
Flow Injection Analysis – Lachat 8000	Shealy SOP S-IN-042 Page 5	Replace sample and reagent lines, replace light source, re-wrap heating coil, replace column	Periodic/As Needed	Laboratory	Nitrate Analyst
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace probe tip	Yearly	Order from YSI	B. Kelly
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace batteries	As Needed	In stock at office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	Check buffer solutions for expiration	Weekly	In stock at office	B. Kelly
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace membrane	4 to 8 weeks	In stock at office	Field Staff
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace batteries	As Needed	In stock at office	Field Staff

YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
Turbidity Tube	#1, #2, #3	General inspection for wear and tear on equipment, clarity of Secchi Disk	Daily	Tubes will be cleaned/fixed in office	Field Staff

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Volatiles Mass Spec Shealy SOP S-SV-021 Page 7	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance
Semi-volatiles Mass Spec Shealy SOP S-SV-021 Page 7	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance
ECD GC Shealy SOP S-SV-012 Page 5	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance
Dionex IC Shealy SOP S-IN-010 Page 6	Daily calibration check	Method Requirements	IC Analyst	Recalibration or instrument maintenance
ICP Shealy SOP S-IM-005 Page 6 & 7	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance
Leeman Mercury Analyzer Shealy SOP S-IM-006 Page 5	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance
Flow Injection Analysis – Lachat 8000 Shealy SOP S-IN-042 Page 5	Daily and continuing calibration check	See calibration criteria	Nitrate Analyst	Recalibration or instrument maintenance
YSI 63 - 09C 101302, 10K 101895, 07M 100905	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
YSI 550A - 04L 2026AK, 08B 101407, 04A 0912AI	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by continuous calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-VO-002
Semi-volatile Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	MSSV Analyst	S-SV-021
GC ECD	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-SV-012
Dionex IC	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	IC Analyst	S-IN-010
ICP	Minimum of 3 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-IM-022
Cetac Mercury Analyzer	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	Mercury Analyst	S-IM-006
Lacaht QuickChem 8000	Minimum of 5 calibration standards	Daily or when indicated by calibration verification standard	Method Criteria	Detailed in SOP	Nitrate Analyst	S-IN-042
YSI 63	pH Calibration	Daily	+/- 0.2 pH units	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 63	Conductivity	As directed by	+/- 10 uS	clean/replace	Field Staff	4.3.6

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
	Calibration	manufacturer		probe tip, recalibrate		
YSI 550A	DO calibration	Daily	+/- 0.25 mg/l	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 550A	Temperature Calibration	Daily	+/- 1 °C	clean/replace probe tip, recalibrate	Field Staff	4.3.6
Electronic Water Level Indicator	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***
Oil/Water Interface probe	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***

Table 13A Instrument Calibration Criteria and Corrective Action

*** This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.**

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Laboratory Chemicals	Fisher,VWR	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory standards	O2Si, Restek, High Purity, VHG, Supelco	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, QEC	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel
Clear, Disposable polyethylene Bailers	Preferred Pump	Individual sleeves intact, ball valve operational	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nylon Rope	Preferred Pump	Covered with plastic	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nitrile Gloves	Preferred Pump	Unopened box, no holes	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
40 mL HCL preserved amber vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
250 mL HNO3 preserved metals vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff

Coolers	Shealy Environmental Services	Intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
pH Buffer	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
Conductivity Standard	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
DO Membranes	YSI, Enviroequipment	Clean, in box	Stored in calibration room	B. Kelly, Field Staff
Batteries	Any Store	Not previously used	Stored in calibration room	B. Kelly, Field Staff

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Historical Data	Site Maps and Well Construction Information	Well Location and Detail	

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

There are no non-direct measurements in this project

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

Following sample collection and chain of custody production, samples are shipped to the lab. Field work from the field staff is reviewed by the MECI project manager, and converted into digital form. All data entry is subsequently checked to validate the data entry. The original copies of the field work are stored in MECI files for a minimum of 5 years. Digital copies of the work are stored on the MECI server, which is backed up weekly, and stored for a minimum of 5 years. The digital copy of the field work is presented to SCDHEC with the final report.

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

The laboratory maintains comprehensive Quality Control and Training Programs. All sample receipt data, sample log-in, and analytical data is peer reviewed, including review for inappropriate changes. Data management, review procedures and the Quality Systems Program are documented in the laboratory's Quality Manual and Standard Operating Procedures. The Quality Assurance Department oversees adherence to and review of these programs.

All MECI field work is produced using ink-pens. Any attempt to alter field data, after sampling is complete, can be readily identified. MECI keeps a carbon copy of the chain of custody after it is shipped to the lab. This copy is kept with the field work. If any change to the CoC are suspected, this original carbon copy can be use to identify potential changes.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?

Sample data acquisition software is reviewed periodically. The LIMS database is backed up daily and is able to be restored in the event of a system failure. These procedures are documented in laboratory SOP S-AD-003, LIMS. The IT Manager is responsible for these systems and procedures."

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Laboratory Hardcopy data stored off site is logged, maintained and archived by the Quality Assurance Department. Laboratory Electronic Data Reports are maintained through IT back up under the responsibility of the IT Systems Manager.

MECI keeps all field work and paper copies of reports in its in-house filing system. All paper copies are stored for a minimum of 5 years. Any file can be retrieved easily by going to the correct filing cabinet/box.

All electronic copies of reports generated are kept on the MECI server. This server is backed-up on a weekly basis. Any file stored on the MECI server can be retrieved instantly, by accessing the server. All electronic files are stored for a minimum of 5 years on the server.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits can be conducted on any field personnel at any time. MECI field audits can be conducted by the Field Manger, who will be responsible for ensuring that field personnel adhere to the QAPP. If during a random field audit, severe problems are found, work will be stopped by the field manager and the QA officer contacted to determine corrective action. All problems must be corrected prior to any additional work being performed. Should it be requested, an On-site Field Audit can be scheduled with the SCDHEC project manager. If severe problems are identified by the SCDHEC project manager, the project manager can stop the work until the problems are corrected.

2. *The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?*

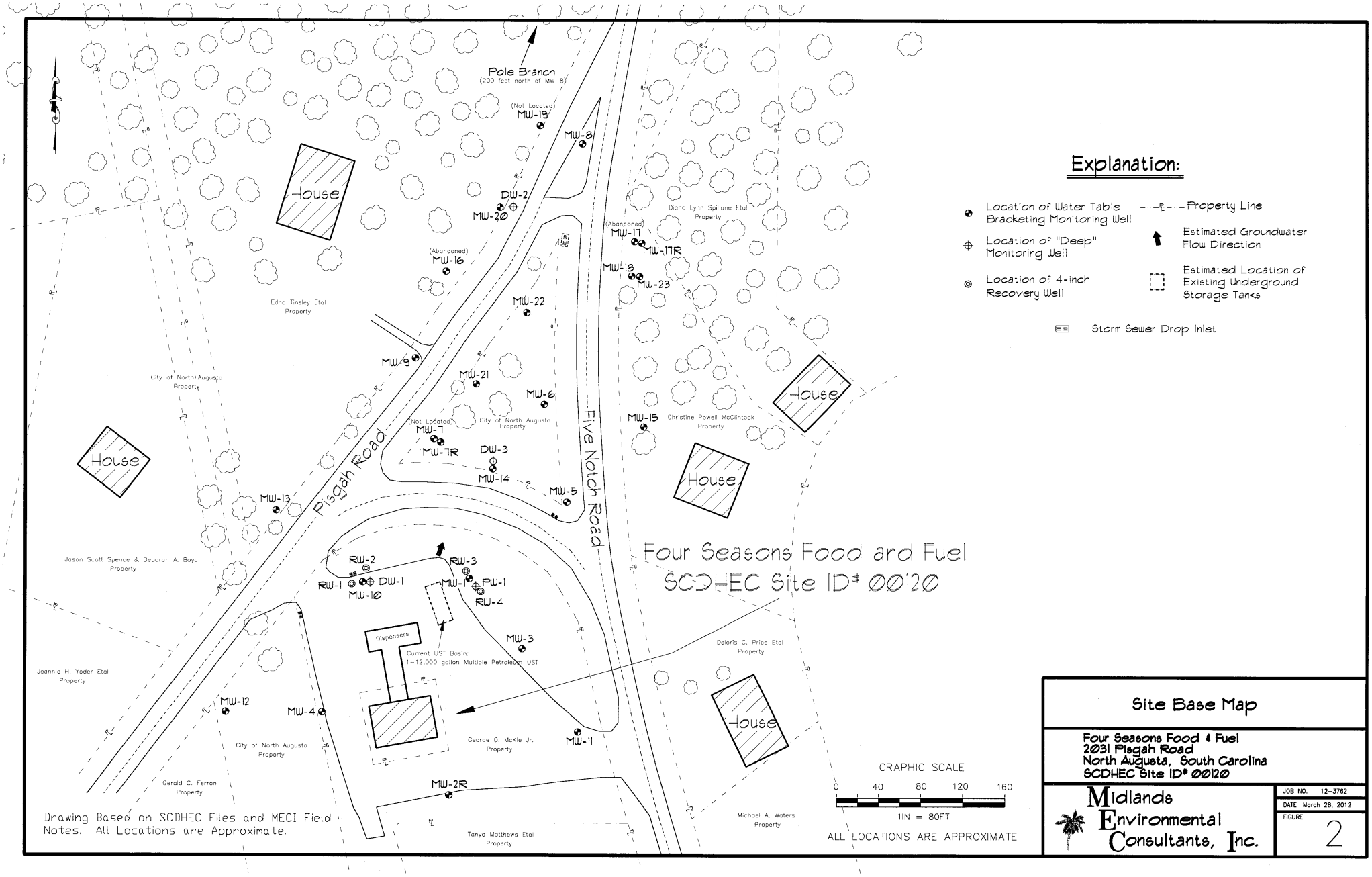
The laboratory participates in annual Proficiency Testing through an approved vendor, Wibby Environmental. If during a random audit, severe problems are found, work will be stopped by the according Wibby Environmental representative and the QA officer contacted to determine corrective action. Proficiency Testing results are provided to the Office of Environmental Laboratory Certification.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).



Site Base Map

Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO. 12-3762
DATE March 28, 2012
FIGURE 2

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 12602

Client	Report to Contact	Sampler (Printed Name)	Quote No.
Address	Telephone No. / Fax No. / Email	Waybill No.	Page ___ of ___
City / State / Zip Code	Preservative 1. Unpres. 4. HNO3 7. NaOH 2. NaOH/ZnA 5. HCL 3. H2SO4 6. Na Thio.		
Project Name			
Project Number	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis												Number of Containers / Bottle (See Instructions on back) / Preservative / Lot No. / Remarks / Cooler ID

Turn Around Time Required (Prior lab approval required for expedited TAT)
☐ Standard ☐ Rush (Please Specify)

Sample Disposal
☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify)

Possible Hazard Identification
☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

1. Relinquished by / Sampler	Date	Time	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. _____ °C
Temp. Blank ☐ Y / ☐ N

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

UST DOCKETING

APR 2 7 2012

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

Re: **Notice to Proceed-Groundwater Sampling/QAPP Contractor Addendum Approval**
Groundwater Sampling Contract
Solicitation # IFB-5400002759, PO#4600088529
FOUR SEASONS FOOD & FUEL 5: 2031 Pisgah Rd, N Augusta, SC 29841
UST Permit #00120
MECI CA#: 43514 Shealy CA#: 43513
AIKEN

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400002759 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Contractor Addendum has been reviewed and approved. In accordance with the QAPP, a weekly status report of the project should be provided via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

The final report should contain the requirements of Section III.2.15 of the bid solicitation. The final report should be submitted to Debra Thoma, the contract manager.

If you have any site-specific questions, please contact me at (803) 896-6649 or via e-mail at ebingedj@dhec.sc.gov. If you have any contract specific questions, please contact Debra Thoma at (803) 896-6397 or via e-mail at thomadl@dhec.sc.gov.

Sincerely,

David J Ebinger, Project Manager
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved QAPP Contractor Addendum Signature Page
Approved Cost Agreement

cc: Debra Thoma, Corrective Action Section, UST Management Division
Kelly Maberry, Shealy Environmental, 106 Vantage Point Dr., West Columbia, SC, 29172 (w/ approved CA)
Technical Files (w/ Finalized & Approved QAPP Signature Page)

Approved Cost Agreement 43513

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

EBINGEDJ

PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
11 ANALYSES					
	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	34.0000	35.00	1,190.00
		F EDB	33.0000	20.00	660.00
			Total Amount		1,850.00

Approved Cost Agreement 43514

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

EBINGEDJ

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	3.0000	100.00	300.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	30.0000	4.50	135.00
		D	GROUNDWATER NO-PURGE	2.0000	4.50	9.00
		H	FIELD BLANK	1.0000	2.00	2.00
17 DISPOSAL						
		A	WASTEWATER	100.0000	0.10	10.00
18 MISCELLANEOUS						
			QAPP PREP	1.0000	0.00	0.00
				Total Amount		456.00

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
HQ Heath Self Serve 1, SCDHEC Site ID# 08937

2031 Pisgah Road, North Augusta, South Carolina

Prepared by:
Courtney M. Sanders
Staff Biologist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: April 25, 2012

Approvals

David J. Ebinger SC DHEC Project Manager	Signature	Date 4/26/12
Brendon P. Kelly Contractor QA Manager	Signature	Date 4/25/12
Jeff L. Coleman Site Rehabilitation Contractor	Signature	Date 4/25/12
Michael Woodrum Laboratory Director	Signature	Date 4-25-12

Midlands
Environmental
Consultants, Inc.

May 14, 2012

Ms. Debra Thoma, Hydrogeologist
Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
David
MAY 1 8 2012
PROGRAM

UST
#31
DOCKETING

Subject: Report of Groundwater Sampling
Four Seasons Food & Fuel 5
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID Number 00120; CA # 43514
MECI Project Number 12-3933
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling for the referenced site. This report describes site activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control's (SCDHEC) Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP).

PROJECT INFORMATION

The subject site (Four Seasons Food & Fuel) is located at 2031 Pisgah Road, North Augusta, Aiken County, South Carolina. The subject site formerly maintained three 4,000 gallon gasoline underground storage tanks (UST's). These UST's were abandoned by removal from ground in January of 1999. SCDHEC reported and confirmed a release of petroleum product from the subject UST's in November of 1997. The subject site is currently rated a class 1D.

The above information is based on reports and correspondence obtained from MECI field notes and SCDHEC files.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On May 2, 2012, MECI personnel collected groundwater samples from twenty-nine (29) monitoring wells at the subject site. Monitoring well MW-1 was gauged and determined to be dry. MECI personnel utilized an electronic water level indicator for water level measurements and an oil/water interface probe for free phase petroleum product level measurements. Based on a request by SCDHEC personnel, all of the wells were to be purged prior to sampling. Twenty-eight (28)

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

monitoring wells were purged prior to sampling. Monitoring well MW-3 contained insufficient water to be purged. Monitoring Purging was completed by bailing at least three well volumes of water from the well, until pH, conductivity, dissolved oxygen stabilized to within 10%, or all water was evacuated from the well, whichever occurred first. Sampling/purging was completed utilizing a prepackaged, clear, disposable polyethylene bailer and nylon rope. A new set of nitrile gloves were worn at each monitoring well, and at all time samples were handled. Field measurements of pH, conductivity, dissolved oxygen, water temperature, and turbidity were obtained before well sampling process. MECI utilized YSI550A meter for DO (mg/L) and temperature readings (°C), YSI63 meters for pH and conductivity (uS) readings and a 60 cm turbidity tube for turbidity readings. The attached Field Data Information Sheets presents the results of the field measurements obtained. The wells were sampled in accordance with SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP, Dated June 2011) and MECI's Standard Operating Procedures (MECI SOP, Dated August, 2011).

Groundwater samples obtained were sent to Shealy Environmental Services, Inc. of West Columbia, SC (SCDHEC Laboratory Certification #32010) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
					Analyte Sampled									
MW-1			X											
MW-2R	X				X	X	X	X						
MW-3		X			X	X	X	X						
MW-4	X				X	X	X	X						
MW-5	X				X	X	X	X						
MW-6	X				X	X	X	X						
MW-7R	X				X	X	X	X						
MW-8	X				X	X	X	X						
MW-9	X				X	X	X	X						
MW-10	X				X	X	X	X						
MW-11	X				X	X	X	X						
MW-12	X				X	X	X	X						
MW-13	X				X	X	X	X						
MW-14	X				X	X	X	X						
MW-15	X				X	X	X	X						
MW-17R	X				X	X	X	X						
MW-18	X				X	X	X	X						
MW-19	X				X	X	X	X						
MW-20	X				X	X	X	X						
MW-21	X				X	X	X	X						

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons
Trip Blank provided by Shealy Environmental, temperature obtained upon receipt at Laboratory

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
					Analyte Sampled									
MW-22	X				X	X	X	X						
PW-1	X				X	X	X	X						
DW-1	X				X	X	X	X						
DW-2	X				X	X	X	X						
DW-3	X				X	X	X	X						
RW-1	X				X	X	X	X						
RW-2	X				X	X	X	X						
RW-3	X				X	X	X	X						
RW-4	X				X	X	X	X						
MW-23	X				X	X	X	X						
MW-6 Duplicate					X	X	X	X						
RW-3 Duplicate					X	X	X	X						
Field Blank					X	X	X	X						
Trip Blank					X		X	X						

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons
Trip Blank provided by Shealy Environmental, temperature obtained upon receipt at Laboratory

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 86.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

Contractor Checklist

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

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

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food & Fuel 5
County: Aiken
Field Personnel: B. Owen, K. Pudney

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-1	N	***	***	15-25	***	Dry	***	***	***	Gauged Dry
MW-2R	Y	5/2/12	16:15	15-30	***	26.43	***	4.83	0.5	No Odor
MW-3	Y	5/2/12	15:55	17-27	***	25.18	***	4.83	0.0	No Odor / Insufficient water to purge
MW-4	Y	5/2/12	16:25	17-27	***	25.18	***	5.12	0.5	No Odor / 2 Bolts Added
MW-5	Y	5/2/12	12:25	10-20	***	13.55	***	5.86	0.5	No Odor
MW-6	Y	5/2/12	12:00	9-19	***	12.81	***	1.36	0.5	Odor
MW-7R	Y	5/2/12	12:51	10-30	***	18.83	***	3.11	2.0	Odor
MW-8	Y	5/2/12	10:15	5-15	***	8.04	***	15.45	1.0	No Odor
MW-9	Y	5/2/12	11:42	10-20	***	15.67	***	6.32	0.5	No Odor
MW-10	Y	5/2/12	14:42	15-30	***	24.41	***	3.76	0.5	Odor
MW-11	Y	5/2/12	16:05	15-30	***	24.31	***	3.48	1.5	No Odor
MW-12	Y	5/2/12	16:35	15-30	***	22.15	***	5.93	2.0	No Odor
MW-13	Y	5/2/12	13:04	15-30	***	21.68	***	3.23	0.5	No Odor
MW-14	Y	5/2/12	12:35	9-24	***	17.00	***	4.09	0.5	No Odor
MW-15	Y	5/2/12	12:16	5-15	***	6.60	***	1.84	1.5	No Odor
									12.0	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food & Fuel 5
County: Aiken
Field Personnel: B. Owen, K. Pudney

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-16	N	***	***	***	***	***	***	***	***	Previously Abandoned
MW-17R	Y	5/2/12	10:47	2-12	***	3.25	***	7.88	1.5	No Odor
MW-18	Y	5/2/12	10:58	5-15	***	2.20	***	3.86	1.0	No Odor
MW-19	Y	5/2/12	10:15	5-15	***	7.95	***	3.44	1.0	No Odor
MW-20	Y	5/2/12	11:24	5-15	***	8.10	***	5.48	0.5	No Odor
MW-21	Y	5/2/12	11:49	5-15	***	12.64	***	2.18	0.5	No Odor
MW-22	Y	5/2/12	11:32	5-15	***	8.10	***	3.12	1.0	No Odor
PW-1	Y	5/2/12	15:33	41-46	***	25.35	***	5.63	5.5	No Odor
DW-1	Y	5/2/12	14:25	55-60	***	24.07	***	4.11	10.0	No Odor
DW-2	Y	5/2/12	11:20	55-60	***	8.88	***	4.12	12.0	No Odor
DW-3	Y	5/2/12	12:40	55-60	***	18.37	***	8.76	11.0	No Odor
RW-1	Y	5/2/12	14:52	15-30	***	24.12	***	2.31	11.5	Odor
RW-2	Y	5/2/12	15:00	15-30	***	24.00	***	2.02	5.0	Odor
RW-3	Y	5/2/12	15:20	15-30	***	24.63	***	1.49	6.0	Odor
RW-4	Y	5/2/12	15:48	15-30	***	24.46	***	2.27	6.0	Odor
									84.5	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food & Fuel 5
County: Aiken
Field Personnel: B. Owen, K. Pudney

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-23	Y	5/2/12	10:34	5-15	***	2.39	***	5.12	2.0	No Odor
MW-6 Duplicate	Y	5/2/12	12:00	***	***	***	***	***	***	MW-6 Duplicate Sample
RW-3 Duplicate	Y	5/2/12	15:20	***	***	***	***	***	***	RW-3 Duplicate Sample
Field Blank	Y	5/2/12	16:30	***	***	***	***	***	***	Field Blank
Trip Blank	Y	5/2/12	16:30	***	***	***	***	***	***	Trip Blank
									86.5	TOTAL GALLONS PURGED

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-2R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	26.43			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			3.57	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.58	gallons
3 casing volume (3 X CV)=		3	1.75	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	16:10	16:15						
pH (s.u.)	6.12	6.15						
Specific Conductivity (µmhos/cm)	228.2	232.8						
Water Temperature (°C)	17.7	17.6						
Dissolved Oxygen	4.83	3.99						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 16:15 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	25.18			feet
Total Well Depth (TWD)	27			feet
Length of the water column (LWC=TWD-DGW)			1.82	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.30	gallons
3 casing volume (3 X CV)=		3	0.89	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	15:55							
pH (s.u.)	4.17							
Specific Conductivity (µmhos/cm)	30.8							
Water Temperature (°C)	19.4							
Dissolved Oxygen	4.83							
Turbidity (NTU)	240+							
PID readings, if required								

Remarks: Sample Time: 15:55 Insufficient water for additional field measurements/Purging

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	25.18			feet
Total Well Depth (TWD)	27			feet
Length of the water column (LWC=TWD-DGW)			1.82	feet
1 casing volume (CV=LWC X C)=	X	0.163	0.30	gallons
3 casing volume (3 X CV)=		3	0.89	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	16:20	16:25						
pH (s.u.)	5.81	5.84						
Specific Conductivity (µmhos/cm)	87.3	90.2						
Water Temperature (°C)	18.5	18.4						
Dissolved Oxygen	5.12	4.95						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 16:25 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-5

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	13.55			feet
Total Well Depth (TWD)	20			feet
Length of the water column (LWC=TWD-DGW)			6.45	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.05	gallons
3 casing volume (3 X CV)=		3	3.15	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:20	12:25						
pH (s.u.)	5.37	5.30						
Specific Conductivity (μmhos/cm)	62.0	60.1						
Water Temperature (°C)	17.9	17.1						
Dissolved Oxygen	5.86	4.39						
Turbidity (NTU)	14	240+						
PID readings, if required								

Remarks: Sample Time: 12:25 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-6

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	12.81			feet
Total Well Depth (TWD)	19			feet
Length of the water column (LWC=TWD-DGW)			6.19	feet
1 casing volume (CV=LWC X C)=	X	0.163	1.01	gallons
3 casing volume (3 X CV)=		3	3.03	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:54	12:00						
pH (s.u.)	5.27	5.48						
Specific Conductivity (µmhos/cm)	51.6	51.4						
Water Temperature (°C)	18.1	18.2						
Dissolved Oxygen	1.36	0.89						
Turbidity (NTU)	<5	150						
PID readings, if required								

Remarks: Sample Time: 12:00 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-7R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	18.83			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			11.17	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.82	gallons
3 casing volume (3 X CV)=		3	5.46	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:47	12:51						
pH (s.u.)	5.67	5.69						
Specific Conductivity (µmhos/cm)	46.4	56.1						
Water Temperature (°C)	18.8	18.6						
Dissolved Oxygen	3.11	2.88						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 12:51 Dry @ 2.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-8

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	8.04			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			6.96	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.13	gallons
3 casing volume (3 X CV)=		3	3.40	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:13	10:15						
pH (s.u.)	6.30	5.81						
Specific Conductivity (µmhos/cm)	83.1	79.2						
Water Temperature (°C)	19.6	19.0						
Dissolved Oxygen	15.45	14.60						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 10:15 Dry @ 1.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-9

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	15.67			feet
Total Well Depth (TWD)	20			feet
Length of the water column (LWC=TWD-DGW)			4.33	feet
1 casing volume (CV=LWC X C)=	_____ X	0.163	0.71	gallons
3 casing volume (3 X CV)=		3	2.12	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:40	11:42						
pH (s.u.)	4.98	5.36						
Specific Conductivity (µmhos/cm)	83.9	95.6						
Water Temperature (°C)	17.6	17.4						
Dissolved Oxygen	6.32	5.08						
Turbidity (NTU)	<5	240+						
PID readings, if required								

Remarks: Sample Time: 11:42 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-10

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.41			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			5.59	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.91	gallons
3 casing volume (3 X CV)=		3	2.73	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:40	14:42						
pH (s.u.)	5.04	4.60						
Specific Conductivity (µmhos/cm)	73.7	66.9						
Water Temperature (°C)	19.3	19.1						
Dissolved Oxygen	3.76	3.52						
Turbidity (NTU)	200	240+						
PID readings, if required								

Remarks: Sample Time: 14:42 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-11

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.31			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			5.69	feet
1 casing volume (CV=LWC X C)=	X	0.163	0.93	gallons
3 casing volume (3 X CV)=		3	2.78	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	16:00	16:05						
pH (s.u.)	4.66	4.40						
Specific Conductivity (μmhos/cm)	42.8	42.2						
Water Temperature (°C)	18.6	17.7						
Dissolved Oxygen	3.48	3.10						
Turbidity (NTU)	150	240+						
PID readings, if required								

Remarks: Sample Time: 16:05 Dry @ 1.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-12

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.15			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			7.85	feet
1 casing volume (CV=LWC X C)=	X	0.163	1.28	gallons
3 casing volume (3 X CV)=		3	3.84	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	16:30	16:35						
pH (s.u.)	6.04	6.02						
Specific Conductivity (µmhos/cm)	66.5	70.9						
Water Temperature (°C)	18.5	18.2						
Dissolved Oxygen	5.93	5.24						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 16:35 Dry @ 2.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-13

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.68			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			8.32	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.36	gallons
3 casing volume (3 X CV)=		3	4.07	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:00	13:04						
pH (s.u.)	5.79	5.71						
Specific Conductivity (µmhos/cm)	175.7	176.9						
Water Temperature (°C)	18.1	18.0						
Dissolved Oxygen	3.23	3.21						
Turbidity (NTU)	50	240+						
PID readings, if required								

Remarks: Sample Time: 13:04 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-14

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	17.00			feet
Total Well Depth (TWD)	24			feet
Length of the water column (LWC=TWD-DGW)			7	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.14	gallons
3 casing volume (3 X CV)=		3	3.42	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:30	12:35						
pH (s.u.)	7.90	7.97						
Specific Conductivity (µmhos/cm)	59.5	60.1						
Water Temperature (°C)	19.5	19.4						
Dissolved Oxygen	4.09	3.21						
Turbidity (NTU)	<5	240+						
PID readings, if required								

Remarks: Sample Time: 12:35 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-15

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	6.60			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			8.4	feet
1 casing volume (CV=LWC X C)=	X	0.163	1.37	gallons
3 casing volume (3 X CV)=		3	4.11	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:14	12:16						
pH (s.u.)	5.56	5.24						
Specific Conductivity (μmhos/cm)	33.0	31.3						
Water Temperature (°C)	18.4	18.2						
Dissolved Oxygen	1.84	1.41						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 12:16 Dry @ 1.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-17R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	3.25			feet
Total Well Depth (TWD)	12			feet
Length of the water column (LWC=TWD-DGW)			8.75	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.43	gallons
3 casing volume (3 X CV)=		3	4.28	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:44	10:47						
pH (s.u.)	5.11	5.06						
Specific Conductivity (μmhos/cm)	45.0	43.3						
Water Temperature (°C)	19.0	19.1						
Dissolved Oxygen	7.88	3.40						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 10:47 Dry @ 1.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-18

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	2.20			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			12.8	feet
1 casing volume (CV=LWC X C)=	____ X	0.163	2.09	gallons
3 casing volume (3 X CV)=		3	6.26	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:56	10:58						
pH (s.u.)	3.86	4.13						
Specific Conductivity (µmhos/cm)	41.4	41.5						
Water Temperature (°C)	18.9	18.6						
Dissolved Oxygen	3.86	3.81						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 10:58 Dry @ 2.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-19

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	7.95			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			7.05	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.15	gallons
3 casing volume (3 X CV)=		3	3.45	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:20	10:24						
pH (s.u.)	4.15	4.69						
Specific Conductivity (μmhos/cm)	59.4	56.0						
Water Temperature (°C)	19.6	18.8						
Dissolved Oxygen	3.44	3.18						
Turbidity (NTU)	150	240+						
PID readings, if required								

Remarks: Sample Time: 10:24 Dry @ 1.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-20

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	8.10			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			6.9	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.12	gallons
3 casing volume (3 X CV)=		3	3.37	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:22	11:24						
pH (s.u.)	5.67	5.81						
Specific Conductivity (µmhos/cm)	87.0	66.0						
Water Temperature (°C)	18.6	18.7						
Dissolved Oxygen	3.48	3.32						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 11:24 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-21

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	12.64			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			2.36	feet
1 casing volume (CV=LWC X C)=	X	0.163	0.38	gallons
3 casing volume (3 X CV)=		3	1.15	gallons

Total Volume of Water Purged Before Sampling 0.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:47	11:49						
pH (s.u.)	4.50	4.38						
Specific Conductivity (µmhos/cm)	52.7	47.7						
Water Temperature (°C)	17.4	17.3						
Dissolved Oxygen	2.18	3.05						
Turbidity (NTU)	100	240+						
PID readings, if required								

Remarks: Sample Time: 11:49 Dry @ 0.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-22

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	9.45			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			5.55	feet
1 casing volume (CV=LWC X C)=	X	0.163	0.90	gallons
3 casing volume (3 X CV)=		3	2.71	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:30	11:32						
pH (s.u.)	4.66	4.99						
Specific Conductivity (µmhos/cm)	65.2	80.2						
Water Temperature (°C)	19.6	19.8						
Dissolved Oxygen	3.12	3.19						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 11:32 Dry @ 1.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912A1	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** MW-23

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	2.39			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			12.61	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	2.06	gallons
3 casing volume (3 X CV)=		3	6.17	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:50	10:54						
pH (s.u.)	4.33	4.42						
Specific Conductivity (µmhos/cm)	43.2	41.6						
Water Temperature (°C)	18.6	18.8						
Dissolved Oxygen	5.12	4.84						
Turbidity (NTU)	100	240+						
PID readings, if required								

Remarks: Sample Time: 10:54 Dry @ 2.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.07			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			35.93	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	5.86	gallons
3 casing volume (3 X CV)=		3	17.57	gallons

Total Volume of Water Purged Before Sampling 10 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:20	14:25						
pH (s.u.)	6.67	6.03						
Specific Conductivity (µmhos/cm)	100.9	94.3						
Water Temperature (°C)	18.4	18.2						
Dissolved Oxygen	4.11	4.00						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 14:25 Dry @ 10.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** DW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	8.88			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			51.12	feet
1 casing volume (CV=LWC X C)=	X	0.163	8.33	gallons
3 casing volume (3 X CV)=		3	25.00	gallons

Total Volume of Water Purged Before Sampling 12 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:11	11:20						
pH (s.u.)	5.96	5.91						
Specific Conductivity (µmhos/cm)	75.0	74.6						
Water Temperature (°C)	19.1	19.0						
Dissolved Oxygen	4.12	3.99						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 11:20 Dry @ 12.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** DW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	18.37			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			41.63	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.79	gallons
3 casing volume (3 X CV)=		3	20.36	gallons

Total Volume of Water Purged Before Sampling 11 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:30	12:40						
pH (s.u.)	8.44	9.33						
Specific Conductivity (µmhos/cm)	133.0	149.0						
Water Temperature (°C)	19.2	19.0						
Dissolved Oxygen	8.76	5.21						
Turbidity (NTU)	100	150						
PID readings, if required								

Remarks: Sample Time: 12:40 Dry @ 11.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	25.35			feet
Total Well Depth (TWD)	46			feet
Length of the water column (LWC=TWD-DGW)			20.65	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.37	gallons
3 casing volume (3 X CV)=		3	10.10	gallons

Total Volume of Water Purged Before Sampling 5.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	15:24	15:33						
pH (s.u.)	5.19	4.98						
Specific Conductivity (µmhos/cm)	53.8	49.7						
Water Temperature (°C)	19.2	20.1						
Dissolved Oxygen	5.63	3.85						
Turbidity (NTU)	12	240+						
PID readings, if required								

Remarks: Sample Time: 15:33 Dry @ 5.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** RW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 4 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.12			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			5.88	feet
1 casing volume (CV=LWC X C)= _____ X		0.652	3.83	gallons
3 casing volume (3 X CV)=		3	11.50	gallons

Total Volume of Water Purged Before Sampling 11.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:45	14:52						
pH (s.u.)	4.36	4.77						
Specific Conductivity (µmhos/cm)	75.7	73.7						
Water Temperature (°C)	19.8	19.6						
Dissolved Oxygen	2.64	2.31						
Turbidity (NTU)	12	240+						
PID readings, if required								

Remarks: Sample Time: 14:52

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** RW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 4 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness: _____ feet
Depth to Free Product (DFP) _____ feet
Depth to Ground Water (DGW) 24.00 feet
Total Well Depth (TWD) 30 feet
Length of the water column (LWC=TWD-DGW) 6 feet
1 casing volume (CV=LWC X C)= _____ X 0.652 3.91 gallons
3 casing volume (3 X CV)= 3 11.74 gallons

Total Volume of Water Purged Before Sampling 5 gals.
*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:55	15:00						
pH (s.u.)	4.30	4.48						
Specific Conductivity (µmhos/cm)	65.1	68.4						
Water Temperature (°C)	19.8	19.6						
Dissolved Oxygen	2.02	1.99						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 15:00 Dry @ 5.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** RW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 4 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.63			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			5.37	feet
1 casing volume (CV=LWC X C)= _____ X		0.652	3.50	gallons
3 casing volume (3 X CV)=		3	10.50	gallons

Total Volume of Water Purged Before Sampling 6 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	15:10	15:20						
pH (s.u.)	5.59	5.22						
Specific Conductivity (µmhos/cm)	50.0	50.4						
Water Temperature (°C)	20.7	20.0						
Dissolved Oxygen	1.49	1.17						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 15:20 Dry @ 6.0 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/2/2012

Field Personnel: B. Owen, K. Pudney

General Weather Conditions: Mostly Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302	X	04L 2026AK	X
10K 101895		08B 101895	
07M 100905		04A 0912AI	
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** RW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 4 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

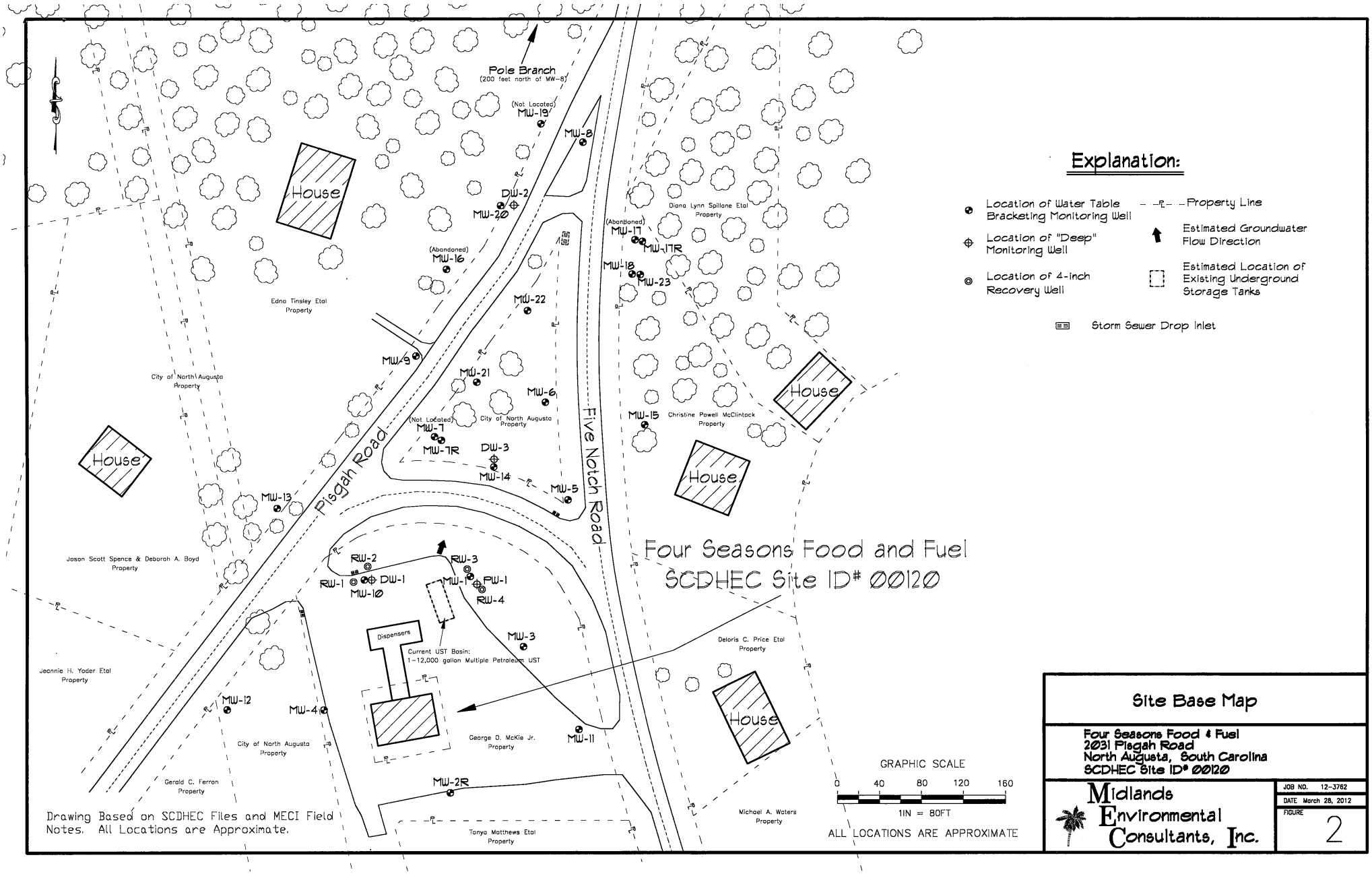
* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	24.46			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			5.54	feet
1 casing volume (CV=LWC X C)= _____ X		0.652	3.61	gallons
3 casing volume (3 X CV)=		3	10.84	gallons

Total Volume of Water Purged Before Sampling 6 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	15:40	15:48						
pH (s.u.)	4.37	4.34						
Specific Conductivity (µmhos/cm)	66.9	67.5						
Water Temperature (°C)	19.4	19.2						
Dissolved Oxygen	2.27	1.48						
Turbidity (NTU)	240+	240+						
PID readings, if required								

Remarks: Sample Time: 15:48 Dry @ 6.0 gallons


Pole Branch
(200 feet north of MW-8)
(Not Located)
MW-19
MW-8
DW-2
MW-20
(Abandoned)
MW-16
House
Edna Tinsley Etal Property
MW-22
MW-9
MW-21
MW-6
City of North Augusta Property
(Not Located)
MW-7
MW-7R
City of North Augusta Property
DW-3
MW-14
MW-5
MW-13
Pisgah Road
Five Notch Road
Jason Scott Spence & Deborah A. Boyd Property
RW-2
RW-3
RW-1
DW-1
MW-10
MW-1
PW-1
RW-4
Dispensers
Current UST Basin:
1-12,000 gallon Multiple Petroleum UST
MW-3
Jeannie H. Yoder Etal Property
MW-12
MW-4
City of North Augusta Property
George D. McKie Jr. Property
MW-11
Gerald C. Ferron Property
MW-2R
Tonya Matthews Etal Property
Diana Lynn Spillane Etal Property
(Abandoned)
MW-17
MW-17R
MW-18
MW-23
MW-15
Christine Powell McClintock Property
Deloris C. Price Etal Property
Michael A. Waters Property
Four Seasons Food and Fuel
SCDHEC Site ID# 00120
Explanation:
Location of Water Table Bracketing Monitoring Well
Location of "Deep" Monitoring Well
Location of 4-inch Recovery Well
Property Line
Estimated Groundwater Flow Direction
Estimated Location of Existing Underground Storage Tanks
Storm Sewer Drop Inlet
GRAPHIC SCALE
0 40 80 120 160
1IN = 80FT
ALL LOCATIONS ARE APPROXIMATE
Drawing Based on SCDHEC Files and MECI Field Notes. All Locations are Approximate.
Site Base Map
Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120
Midlands Environmental Consultants, Inc.
JOB NO. 12-3762
DATE March 28, 2012
FIGURE 2

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 05685

Client: SCDHHC	Report to Contact: D Thomas	Sampler (Printed Name): Kyle Tudnry	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 1 of 4
City: Columbia, State: SC, Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name: Four Seasons Food + Fuel			
Project Number: 00120/43513	P.O Number: 460000-809		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: 8260B (Water)	1,4 DXA	8260B (Water)	8260B (Water)								Remarks / Cooler ID
Number of Containers									3		3									
Bottle (See Instructions on back)									A		A									
Preservative									5		5									
~~MW-1~~																				DRY
MW-2R	5/2	1615	G	X					X	X	X	X								No odor
MW-3		1555																		No odor
MW-4		1525																		No odor
MW-5		1525																		No odor
MW-6		12																		odor
MW-7R		12 51																		odor
MW-8		10 15																		No Odor
MW-9		1 32																		No odor
MW-10	5/2	14 41	G	X					X	X	X	X								odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	5-2-12	1800	1. Received by	5-2-12	1800
2. Relinquished by	5-3-12	1410	2. Received by	5-3-12	1410
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	5-3-12	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. _____ °C Temp. Blank ☐ Y / ☐ N

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 09099

Client: SCDHEC	Report to Contact: D. Thomas	Sampler (Printed Name): K. Fortney	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 2 of 4
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name: Former Sensor Prod & Fuel			Bottle (See Instructions on back)
			Preservative
Project Number: 00120143513	P.O. Number: 4600045829		Lot No.

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix GW	DW	WW	S	Other	Analysis: Metals (6020)	1,2 DCA	8260B	VOC (9011)	Remarks / Cooler ID
MW 11	5/2	16 05	G	X					X	X	X	X	No odor
MW 12		16 35											No odor
MW-13		13 04											No odor
MW-14		12 35											No odor
MW-15		12 16											No odor
~~MW-16~~		—											Abandoned
MW-17R		16 47											No odor
MW-18		10 55											No odor
MW-19		12 15											No odor
MW 20	5/2	11 4	G	X					X	X	X	X	No odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: K. Fortney	5-2-12	1800	1. Received by: [signature]	5-2-12	1800
2. Relinquished by: [signature]	5-3-12	1410	2. Received by: [signature]	5-3-12	1410
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by: [signature]	5-3-12	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. _____ °C
Temp. Blank ☐ Y / ☐ N

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 05686

Client: SCDHEC	Report to Contact: D Thomas	Sampler (Printed Name): K Rudney	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 3 of 4
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCl 6. Na Thio. 7. NaOH		
Project Name: Low Pressure Field Test			
Project Number: 00120 / 42512	P.O Number		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix GW	DW	WW	S	Other	Analysis: MTBE (8260)	1,2 DCA	8 Oxygenates (8260)	BTEX (8260)	Remarks / Cooler ID
									Number of Containers: 3	1	1	3	
									Bottle (See Instructions on back): X			A	
									Preservative: S			r	
									Lot No.				
PW-1	5/2	1533	G	X					X	X	X	X	No odor
DW-1		1425											No odor
DW-2		1120											No odor
DW-3		1140											No odor
RW-1		1450											odor
RW-2		1500											odor
RW-3		1520											odor
RW-4		1548											odor
MW-21		1144											No odor
MW-22	5/2	1132	G	X					X	X	X	X	No odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler	5-2-12	1400	1. Received by	5-2-12	1800
2. Relinquished by	5-3-12	1410	2. Received by	5-3-12	1410
3. Relinquished by			3. Received by		
4. Relinquished by			4. Laboratory Received by		

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. _____ °C Temp. Blank ☐ Y / ☐ N

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Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 14601

Client: SCDHEC	Report to Contact: D. Thoma	Sampler (Printed Name): K. Rudney	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 4 of 4
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers / Bottle (See Instructions on back) / Preservative
Project Name: Four Seasons Food Fair			Lot No.
Project Number: 00120 / 435IB	P.O Number: 4600055829		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: 601 Halogenated (601/8011)	1,2 DCA	Bromodichloromethane (601/8011)									Remarks / Cooler ID
									3		3	3								
									A		A	A								
									S		S	S								
MW-23	5/2	10 34	G	X					X	X	X	X								No odor
MW-6 Dup	↓	12 00	↓	↓					X	X	X	X								— odor
RW-3 Dup.	↓	15:20	↓	↓					X	X	X	X								— odor
Field Blank	↓	16 30	↓	↓					X	X	X	X								—
Trip Blank	5/2	16 30	G	X					X	X	X									—

Turn Around Time Required (Prior lab approval required for expedited TAT) ☐ Standard ☐ Rush (Please Specify)	Sample Disposal ☐ Return to Client ☐ Disposal by Lab		QC Requirements (Specify)	Possible Hazard Identification ☑ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown	
1. Relinquished by / Sampler: K. Rudney	Date: 5.2.12	Time: 1800	1. Received by: [signature]	Date: 5.2.12	Time: 1800
2. Relinquished by: [signature]	Date: 5.3.12	Time: 1410	2. Received by: [signature]	Date: 5.3.12	Time: 1410
3. Relinquished by	Date	Time	3. Received by	Date	Time
4. Relinquished by	Date	Time	4. Laboratory Received by	Date	Time

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. _____ °C Temp. Blank ☐ Y / ☐ N

Midlands
Environmental
Consultants, Inc.

May 14, 2012

Re: Treatment of Purge Water
Four Season Food & Fuel 5
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 12-3933

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.
2. No free-product was detected in any of the purge water drums.
3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.
5. Record of usage is maintained by Contractor.
6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.
7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 86.5 gallons were treated on May 2, 2012 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

UST
MAY 18 2012
PROGRAM

SC DHEC - UST Management
2600 Bull Street
Columbia, SC 29201
Attention: Debra Thoma

Project Name: **Four Seasons Food & Fuel**

Project Number: **UST Permit #00120/CA #43513**

Lot Number: **NE03031**

Date Completed: **05/14/2012**

Kelly M. Maberry
Project Manager

ACCREDITED IN ACCORDANCE WITH nelac

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

Case Narrative
SC DHEC - UST Management
Lot Number: NE03031

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.

Sample Receiving
Samples -009, -032 and -033 for volatiles analysis contained vials with air bubbles greater than ¼" or 6mm in diameter. The laboratory uses these vials for screening and the vials without bubbles for analysis whenever possible. Condition of samples is documented on the Sample Receipt Checklist (SRC).

GC/MS Volatiles
The LCS/LCSD associated with batches 84058, 84129, 84375 and 84473 had ethanol recovered above the acceptance limits. This demonstrates a high bias on analytical results. There were no detections for this compound in the samples associated with these batches; therefore, data quality is not impacted.

The MS associated with samples -003 and -010 had several compounds recovered outside of the acceptance limits. This demonstrates a matrix effect and data quality is not impacted.

EDB/DBCP
The sample results for -023, -024, -025 and -031 have a P qualifier because the relative percent difference (RPD) between the two dissimilar phase GC columns exceeds 40%. Section 7.10.4 of SW-846 method 8000B states the higher of the two results is reported; however the lower results are reported for these samples. The higher result for sample -023 was 0.10 ug/L. The higher result for sample -024 was 0.16 ug/L. The higher result for sample -025 was 0.20 ug/L. The higher result for sample -031 was 0.18 ug/L

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary
SC DHEC - UST Management
Lot Number: NE03031

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-2R	Aqueous	05/02/2012 1615	05/03/2012
002	MW-3	Aqueous	05/02/2012 1555	05/03/2012
003	MW-4	Aqueous	05/02/2012 1625	05/03/2012
004	MW-5	Aqueous	05/02/2012 1225	05/03/2012
005	MW-6	Aqueous	05/02/2012 1200	05/03/2012
006	MW-7R	Aqueous	05/02/2012 1251	05/03/2012
007	MW-8	Aqueous	05/02/2012 1015	05/03/2012
008	MW-9	Aqueous	05/02/2012 1142	05/03/2012
009	MW-10	Aqueous	05/02/2012 1442	05/03/2012
010	MW-11	Aqueous	05/02/2012 1605	05/03/2012
011	MW-12	Aqueous	05/02/2012 1635	05/03/2012
012	MW-13	Aqueous	05/02/2012 1304	05/03/2012
013	MW-14	Aqueous	05/02/2012 1235	05/03/2012
014	MW-15	Aqueous	05/02/2012 1216	05/03/2012
015	MW-17R	Aqueous	05/02/2012 1047	05/03/2012
016	MW-18	Aqueous	05/02/2012 1058	05/03/2012
017	MW-19	Aqueous	05/02/2012 1015	05/03/2012
018	MW-20	Aqueous	05/02/2012 1124	05/03/2012
019	PW-1	Aqueous	05/02/2012 1533	05/03/2012
020	DW-1	Aqueous	05/02/2012 1425	05/03/2012
021	DW-2	Aqueous	05/02/2012 1120	05/03/2012
022	DW-3	Aqueous	05/02/2012 1240	05/03/2012
023	RW-1	Aqueous	05/02/2012 1452	05/03/2012
024	RW-2	Aqueous	05/02/2012 1500	05/03/2012
025	RW-3	Aqueous	05/02/2012 1520	05/03/2012
026	RW-4	Aqueous	05/02/2012 1548	05/03/2012
027	MW-21	Aqueous	05/02/2012 1149	05/03/2012
028	MW-22	Aqueous	05/02/2012 1132	05/03/2012
029	MW-23	Aqueous	05/02/2012 1034	05/03/2012
030	MW-6 Dup	Aqueous	05/02/2012 1200	05/03/2012
031	RW-3 dup	Aqueous	05/02/2012 1520	05/03/2012
032	Field Blank	Aqueous	05/02/2012 1630	05/03/2012
033	Trip Blank	Aqueous	05/02/2012 1630	05/03/2012

(33 samples)

Executive Summary
SC DHEC - UST Management
Lot Number: NE03031

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
005	MW-6	Aqueous	Benzene	8260B	800		ug/L	15
005	MW-6	Aqueous	Ethylbenzene	8260B	680		ug/L	15
005	MW-6	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1500		ug/L	15
005	MW-6	Aqueous	Naphthalene	8260B	210		ug/L	15
005	MW-6	Aqueous	Toluene	8260B	11000		ug/L	15
005	MW-6	Aqueous	Xylenes (total)	8260B	3600		ug/L	15
005	MW-6	Aqueous	Diisopropyl ether (IPE)	8260B	27	J	ug/L	15
005	MW-6	Aqueous	tert-Amyl alcohol (TAA)	8260B	2100		ug/L	15
005	MW-6	Aqueous	tert-butyl alcohol (TBA)	8260B	1100	J	ug/L	15
005	MW-6	Aqueous	1,2-Dibromoethane (EDB)	8011	0.095		ug/L	16
006	MW-7R	Aqueous	Benzene	8260B	1800		ug/L	17
006	MW-7R	Aqueous	Ethylbenzene	8260B	760		ug/L	17
006	MW-7R	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	20000		ug/L	17
006	MW-7R	Aqueous	Naphthalene	8260B	170	J	ug/L	17
006	MW-7R	Aqueous	Toluene	8260B	22000		ug/L	17
006	MW-7R	Aqueous	Xylenes (total)	8260B	3700		ug/L	17
006	MW-7R	Aqueous	Diisopropyl ether (IPE)	8260B	56	J	ug/L	17
006	MW-7R	Aqueous	tert-Amyl alcohol (TAA)	8260B	20000		ug/L	17
006	MW-7R	Aqueous	tert-butyl alcohol (TBA)	8260B	43000		ug/L	17
007	MW-8	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.45	J	ug/L	19
009	MW-10	Aqueous	Benzene	8260B	5000		ug/L	23
009	MW-10	Aqueous	Ethylbenzene	8260B	870		ug/L	23
009	MW-10	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	180	J	ug/L	23
009	MW-10	Aqueous	Toluene	8260B	38000		ug/L	23
009	MW-10	Aqueous	Xylenes (total)	8260B	5900		ug/L	23
009	MW-10	Aqueous	Diisopropyl ether (IPE)	8260B	59	J	ug/L	23
009	MW-10	Aqueous	tert-Amyl alcohol (TAA)	8260B	2000	J	ug/L	23
009	MW-10	Aqueous	1,2-Dibromoethane (EDB)	8011	0.78		ug/L	24
013	MW-14	Aqueous	Benzene	8260B	870		ug/L	31
013	MW-14	Aqueous	1,2-Dichloroethane	8260B	19		ug/L	31
013	MW-14	Aqueous	Ethylbenzene	8260B	860		ug/L	31
013	MW-14	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	650		ug/L	31
013	MW-14	Aqueous	Naphthalene	8260B	250		ug/L	31
013	MW-14	Aqueous	Toluene	8260B	17000		ug/L	31
013	MW-14	Aqueous	Xylenes (total)	8260B	5200		ug/L	31
013	MW-14	Aqueous	Diisopropyl ether (IPE)	8260B	18		ug/L	31
013	MW-14	Aqueous	tert-Amyl alcohol (TAA)	8260B	1300		ug/L	31
013	MW-14	Aqueous	tert-Amyl methyl ether (TAME)	8260B	12		ug/L	31
013	MW-14	Aqueous	tert-butyl alcohol (TBA)	8260B	420		ug/L	31
013	MW-14	Aqueous	1,2-Dibromoethane (EDB)	8011	0.28		ug/L	32
021	DW-2	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1.4	J	ug/L	47
022	DW-3	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.54	J	ug/L	49
023	RW-1	Aqueous	Benzene	8260B	1600		ug/L	51
023	RW-1	Aqueous	Ethylbenzene	8260B	1200		ug/L	51
023	RW-1	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2000		ug/L	51

Executive Summary (Continued)

Lot Number: NE03031

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
023	RW-1	Aqueous	Naphthalene	8260B	200	J	ug/L	51
023	RW-1	Aqueous	Toluene	8260B	45000		ug/L	51
023	RW-1	Aqueous	Xylenes (total)	8260B	5800		ug/L	51
023	RW-1	Aqueous	tert-Amyl alcohol (TAA)	8260B	3800	J	ug/L	51
023	RW-1	Aqueous	tert-butyl alcohol (TBA)	8260B	880	J	ug/L	51
023	RW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	0.058	P	ug/L	52
024	RW-2	Aqueous	Benzene	8260B	2200		ug/L	53
024	RW-2	Aqueous	Ethylbenzene	8260B	860		ug/L	53
024	RW-2	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	5400		ug/L	53
024	RW-2	Aqueous	Naphthalene	8260B	170	J	ug/L	53
024	RW-2	Aqueous	Toluene	8260B	35000		ug/L	53
024	RW-2	Aqueous	Xylenes (total)	8260B	4500		ug/L	53
024	RW-2	Aqueous	tert-Amyl alcohol (TAA)	8260B	10000		ug/L	53
024	RW-2	Aqueous	tert-butyl alcohol (TBA)	8260B	4800	J	ug/L	53
024	RW-2	Aqueous	1,2-Dibromoethane (EDB)	8011	0.099	P	ug/L	54
025	RW-3	Aqueous	Benzene	8260B	1100		ug/L	55
025	RW-3	Aqueous	Ethylbenzene	8260B	520		ug/L	55
025	RW-3	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1000		ug/L	55
025	RW-3	Aqueous	Naphthalene	8260B	300		ug/L	55
025	RW-3	Aqueous	Toluene	8260B	24000		ug/L	55
025	RW-3	Aqueous	Xylenes (total)	8260B	5100		ug/L	55
025	RW-3	Aqueous	tert-Amyl alcohol (TAA)	8260B	1200	J	ug/L	55
025	RW-3	Aqueous	tert-Amyl methyl ether (TAME)	8260B	36	J	ug/L	55
025	RW-3	Aqueous	1,2-Dibromoethane (EDB)	8011	0.11	P	ug/L	56
026	RW-4	Aqueous	Benzene	8260B	200		ug/L	57
026	RW-4	Aqueous	Ethylbenzene	8260B	43	J	ug/L	57
026	RW-4	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	34	J	ug/L	57
026	RW-4	Aqueous	Toluene	8260B	1900		ug/L	57
026	RW-4	Aqueous	Xylenes (total)	8260B	820		ug/L	57
026	RW-4	Aqueous	tert-Amyl alcohol (TAA)	8260B	370	J	ug/L	57
027	MW-21	Aqueous	Benzene	8260B	24	J	ug/L	59
027	MW-21	Aqueous	Ethylbenzene	8260B	18	J	ug/L	59
027	MW-21	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	480		ug/L	59
027	MW-21	Aqueous	Toluene	8260B	260		ug/L	59
027	MW-21	Aqueous	Xylenes (total)	8260B	78		ug/L	59
027	MW-21	Aqueous	tert-Amyl alcohol (TAA)	8260B	510		ug/L	59
027	MW-21	Aqueous	tert-butyl alcohol (TBA)	8260B	620		ug/L	59
028	MW-22	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	3.1	J	ug/L	61
029	MW-23	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0.44	J	ug/L	63
030	MW-6 Dup	Aqueous	Benzene	8260B	1000		ug/L	65
030	MW-6 Dup	Aqueous	1,2-Dichloroethane	8260B	32	J	ug/L	65
030	MW-6 Dup	Aqueous	Ethylbenzene	8260B	860		ug/L	65
030	MW-6 Dup	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2000		ug/L	65
030	MW-6 Dup	Aqueous	Naphthalene	8260B	290		ug/L	65
030	MW-6 Dup	Aqueous	Toluene	8260B	9700		ug/L	65
030	MW-6 Dup	Aqueous	Xylenes (total)	8260B	4600		ug/L	65
030	MW-6 Dup	Aqueous	Diisopropyl ether (IPE)	8260B	35	J	ug/L	65
030	MW-6 Dup	Aqueous	tert-Amyl alcohol (TAA)	8260B	3200		ug/L	65

Executive Summary (Continued)

Lot Number: NE03031

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
030	MW-6 Dup	Aqueous	tert-butyl alcohol (TBA)	8260B	1600	J	ug/L	65
030	MW-6 Dup	Aqueous	1,2-Dibromoethane (EDB)	8011	0.11		ug/L	66
031	RW-3 dup	Aqueous	Benzene	8260B	1200		ug/L	67
031	RW-3 dup	Aqueous	Ethylbenzene	8260B	620		ug/L	67
031	RW-3 dup	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1000		ug/L	67
031	RW-3 dup	Aqueous	Naphthalene	8260B	320		ug/L	67
031	RW-3 dup	Aqueous	Toluene	8260B	22000		ug/L	67
031	RW-3 dup	Aqueous	Xylenes (total)	8260B	6200		ug/L	67
031	RW-3 dup	Aqueous	tert-Amyl alcohol (TAA)	8260B	1100	J	ug/L	67
031	RW-3 dup	Aqueous	tert-Amyl methyl ether (TAME)	8260B	39	J	ug/L	67
031	RW-3 dup	Aqueous	1,2-Dibromoethane (EDB)	8011	0.10	P	ug/L	68

(104 detections)

Client: **SC DHEC - UST Management**
Description: **MW-2R**
Date Sampled: **05/02/2012 1615**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-001**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/07/2012 1723	DLB		84146

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		85	70-130
Toluene-d8		88	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/07/2012 1723	DLB		84146

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		85	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2148	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-2R**
Date Sampled: **05/02/2012 1615**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-001**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2148	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		113	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-3**
Date Sampled: **05/02/2012 1555**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-002**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/06/2012 1545	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/06/2012 1545	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2210	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-3**
Date Sampled: **05/02/2012 1555**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-002**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2210	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		113	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-4**
Date Sampled: **05/02/2012 1625**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-003**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/06/2012 1608	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		113	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/06/2012 1608	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2314	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-4**
Date Sampled: **05/02/2012 1625**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-003**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2314	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-5**
Date Sampled: **05/02/2012 1225**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-004**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1346	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		88	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1346	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2335	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-5**
Date Sampled: **05/02/2012 1225**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-004**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2335	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.022	0.022	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-6**
Date Sampled: **05/02/2012 1200**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-005**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	05/06/2012 1823	DJK		84129
2	5030B	8260B	100	05/07/2012 1110	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**800**		**100**	**4.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		100	6.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**680**		**100**	**34**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1500**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**210**		**100**	**34**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**11000**		**500**	**170**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**3600**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		118	70-130		113	70-130
Bromofluorobenzene		108	70-130		107	70-130
Toluene-d8		104	70-130		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	05/06/2012 1823	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**27**	**J**	**200**	**8.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		20000	660	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		2000	4.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2100**		**2000**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		200	4.0	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**1100**	**J**	**2000**	**130**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2000	20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		108	70-130
1,2-Dichloroethane-d4		118	70-130
Toluene-d8		104	70-130

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-6**
Date Sampled: **05/02/2012 1200**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-005**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/04/2012 2357	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.095**		**0.019**	**0.019**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		110	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-7R**
Date Sampled: **05/02/2012 1251**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-006**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	40	05/06/2012 1930	DJK		84129
2	5030B	8260B	200	05/07/2012 1133	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1800**		**200**	**8.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		200	12	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**760**		**200**	**68**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**20000**		**1000**	**80**	**ug/L**	**2**
Naphthalene	**91-20-3**	**8260B**	**170**	**J**	**200**	**68**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**22000**		**1000**	**340**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**3700**		**200**	**68**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		116	70-130		111	70-130
Bromofluorobenzene		105	70-130		105	70-130
Toluene-d8		103	70-130		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	40	05/06/2012 1930	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**56**	**J**	**400**	**16**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		40000	1300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		4000	40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		4000	8.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**20000**		**4000**	**270**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		400	8.0	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**43000**		**4000**	**270**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		4000	40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		116	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-7R**
Date Sampled: **05/02/2012 1251**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-006**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0018	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		107	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**	Laboratory ID: **NE03031-007**
Description: **MW-8**	Matrix: **Aqueous**
Date Sampled: **05/02/2012 1015**	
Date Received: **05/03/2012**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	05/07/2012 1322	DLB		84134

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	2
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.45**	**J**	**5.0**	**0.40**	**ug/L**	**2**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	2
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	05/07/2012 1322	DLB		84134

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	2
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	2
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0039	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-8**
Date Sampled: **05/02/2012 1015**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-007**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0039	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		109	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-9**
Date Sampled: **05/02/2012 1142**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1030	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		89	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1030	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		89	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0100	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-9**
Date Sampled: **05/02/2012 1142**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-008**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0100	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		111	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-10**
Date Sampled: **05/02/2012 1442**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-009**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	05/06/2012 2100	DJK		84129
2	5030B	8260B	1000	05/07/2012 1157	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**5000**		**500**	**20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**870**		**500**	**170**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**180**	**J**	**500**	**40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		500	170	ug/L	1
Toluene	**108-88-3**	**8260B**	**38000**		**5000**	**1700**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**5900**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		116	70-130		113	70-130
Bromofluorobenzene		106	70-130		106	70-130
Toluene-d8		103	70-130		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	05/06/2012 2100	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**59**	**J**	**1000**	**40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		100000	3300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	100	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10000	20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2000**	**J**	**10000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		10000	670	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		10000	100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		116	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-10**
Date Sampled: **05/02/2012 1442**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-009**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0121	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.78**		**0.026**	**0.026**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		119	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-11**
Date Sampled: **05/02/2012 1605**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-010**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1051	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		89	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1051	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		89	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0142	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-11**
Date Sampled: **05/02/2012 1605**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-010**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0142	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-12**
Date Sampled: **05/02/2012 1635**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-011**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1113	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		89	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1113	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		89	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0203	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-12**
Date Sampled: **05/02/2012 1635**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-011**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0203	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-13**
Date Sampled: **05/02/2012 1304**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-012**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1135	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		88	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1135	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0224	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-13**
Date Sampled: **05/02/2012 1304**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-012**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0224	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		115	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-14**
Date Sampled: **05/02/2012 1235**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-013**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/10/2012 0057	DD		84473
2	5030B	8260B	100	05/10/2012 1946	JJG		84580

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**870**		**500**	**20**	**ug/L**	**2**
1,2-Dichloroethane	**107-06-2**	**8260B**	**19**		**5.0**	**0.30**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**860**		**500**	**170**	**ug/L**	**2**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**650**		**500**	**40**	**ug/L**	**2**
Naphthalene	**91-20-3**	**8260B**	**250**		**5.0**	**1.7**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**17000**		**500**	**170**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**5200**		**500**	**170**	**ug/L**	**2**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		87	70-130		102	70-130
Bromofluorobenzene		97	70-130		98	70-130
Toluene-d8		93	70-130		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/10/2012 0057	DD		84473

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**18**		**10**	**0.40**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**1300**		**100**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**12**		**10**	**0.20**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**420**		**100**	**6.7**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-14**
Date Sampled: **05/02/2012 1235**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-013**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0246	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.28**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		115	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-15**
Date Sampled: **05/02/2012 1216**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-014**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1156	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		95	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		88	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1156	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0307	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-15**
Date Sampled: **05/02/2012 1216**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-014**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0307	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		119	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-17R**
Date Sampled: **05/02/2012 1047**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1218	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		87	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1218	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		87	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0328	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-17R**
Date Sampled: **05/02/2012 1047**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-015**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0328	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		116	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-18**
Date Sampled: **05/02/2012 1058**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-016**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1239	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130
Bromofluorobenzene		94	70-130
Toluene-d8		88	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1239	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		88	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0349	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-18**
Date Sampled: **05/02/2012 1058**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-016**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0349	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		116	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-19**
Date Sampled: **05/02/2012 1015**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-017**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1301	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		93	70-130
Bromofluorobenzene		89	70-130
Toluene-d8		84	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1301	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		89	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		84	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0410	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-19**
Date Sampled: **05/02/2012 1015**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-017**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0410	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL

E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)

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

Client: **SC DHEC - UST Management**
Description: **MW-20**
Date Sampled: **05/02/2012 1124**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-018**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1323	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		87	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1323	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		87	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0431	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-20**
Date Sampled: **05/02/2012 1124**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-018**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0431	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		116	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **PW-1**
Date Sampled: **05/02/2012 1533**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-019**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1443	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1443	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0452	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **PW-1**
Date Sampled: **05/02/2012 1533**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-019**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0452	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **DW-1**
Date Sampled: **05/02/2012 1425**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-020**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1504	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		105	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1504	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		90	70-130
1,2-Dichloroethane-d4		105	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0513	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **DW-1**
Date Sampled: **05/02/2012 1425**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-020**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/05/2012 0513	MSM	05/04/2012 1343	84048

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **DW-2**
Date Sampled: **05/02/2012 1120**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-021**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1526	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1.4**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1526	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1742	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **DW-2**
Date Sampled: **05/02/2012 1120**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-021**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1742	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		117	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **DW-3**
Date Sampled: **05/02/2012 1240**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-022**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1547	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.54**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1547	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1803	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **DW-3**
Date Sampled: **05/02/2012 1240**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-022**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1803	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		117	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **RW-1**
Date Sampled: **05/02/2012 1452**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-023**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	05/06/2012 2122	DJK		84129
2	5030B	8260B	500	05/07/2012 1220	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1600**		**500**	**20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1200**		**500**	**170**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2000**		**500**	**40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**200**	**J**	**500**	**170**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**45000**		**2500**	**850**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**5800**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		116	70-130		110	70-130
Bromofluorobenzene		106	70-130		106	70-130
Toluene-d8		103	70-130		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	05/06/2012 2122	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	40	ug/L	1
Ethanol	64-17-5	8260B	ND		100000	3300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	100	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10000	20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3800**	**J**	**10000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**880**	**J**	**10000**	**670**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		10000	100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		116	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **RW-1**
Date Sampled: **05/02/2012 1452**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-023**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1824	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.058**	**P**	**0.024**	**0.024**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		128	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **RW-2**
Date Sampled: **05/02/2012 1500**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-024**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	05/06/2012 2144	DJK		84129
2	5030B	8260B	200	05/07/2012 1243	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**2200**		**500**	**20**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**860**		**500**	**170**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**5400**		**500**	**40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**170**	**J**	**500**	**170**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**35000**		**1000**	**340**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**4500**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130		108	70-130
Bromofluorobenzene		106	70-130		103	70-130
Toluene-d8		103	70-130		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	05/06/2012 2144	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	40	ug/L	1
Ethanol	64-17-5	8260B	ND		100000	3300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	100	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10000	20	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**10000**		**10000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**4800**	**J**	**10000**	**670**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		10000	100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **RW-2**
Date Sampled: **05/02/2012 1500**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-024**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1846	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.099**	**P**	**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		119	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **RW-3**
Date Sampled: **05/02/2012 1520**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-025**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	05/06/2012 2015	DJK		84129
2	5030B	8260B	200	05/07/2012 1307	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1100**		**250**	**10**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**520**		**250**	**85**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1000**		**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**300**		**250**	**85**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**24000**		**1000**	**340**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**5100**		**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130		108	70-130
Bromofluorobenzene		106	70-130		105	70-130
Toluene-d8		103	70-130		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	05/06/2012 2015	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	20	ug/L	1
Ethanol	64-17-5	8260B	ND		50000	1700	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		5000	50	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5000	10	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**1200**	**J**	**5000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**36**	**J**	**500**	**10**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		5000	340	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5000	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **RW-3**
Date Sampled: **05/02/2012 1520**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-025**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1907	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.11**	**P**	**0.019**	**0.019**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		114	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **RW-4**
Date Sampled: **05/02/2012 1548**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-026**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	05/06/2012 1845	DJK		84129
2	5030B	8260B	20	05/07/2012 1330	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**200**		**100**	**4.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		100	6.0	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**43**	**J**	**100**	**34**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**34**	**J**	**100**	**8.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		100	34	ug/L	1
Toluene	**108-88-3**	**8260B**	**1900**		**100**	**34**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**820**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130		108	70-130
Bromofluorobenzene		104	70-130		105	70-130
Toluene-d8		103	70-130		102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	05/06/2012 1845	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		200	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	660	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		2000	4.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**370**	**J**	**2000**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		200	4.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	130	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2000	20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **RW-4**
Date Sampled: **05/02/2012 1548**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-026**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1928	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		116	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-21**
Date Sampled: **05/02/2012 1149**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-027**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	05/06/2012 1738	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**24**	**J**	**25**	**1.0**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**18**	**J**	**25**	**8.5**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**480**		**25**	**2.0**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		25	8.5	ug/L	1
Toluene	**108-88-3**	**8260B**	**260**		**25**	**8.5**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**78**		**25**	**8.5**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		117	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	05/06/2012 1738	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		50	2.0	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	170	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		500	5.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	1.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**510**		**500**	**34**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	1.0	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**620**		**500**	**34**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		117	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1949	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-21**
Date Sampled: **05/02/2012 1149**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-027**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 1949	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.021	0.021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		122	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-22**
Date Sampled: **05/02/2012 1132**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-028**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1653	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**3.1**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		90	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/04/2012 1653	AAC		84058

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		90	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2010	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-22**
Date Sampled: **05/02/2012 1132**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-028**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2010	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		122	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-23**
Date Sampled: **05/02/2012 1034**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-029**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	05/07/2012 1344	DLB		84134

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	2
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	2
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.44**	**J**	**5.0**	**0.40**	**ug/L**	**2**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	2
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	2
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		107	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	5030B	8260B	1	05/07/2012 1344	DLB		84134

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	2
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	2
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	2
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	2
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	2
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	2

Surrogate	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2032	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **MW-23**
Date Sampled: **05/02/2012 1034**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-029**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2032	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		113	57-137

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-6 Dup**
Date Sampled: **05/02/2012 1200**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-030**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	05/06/2012 1907	DJK		84129
2	5030B	8260B	100	05/07/2012 1353	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1000**		**100**	**4.0**	**ug/L**	**1**
1,2-Dichloroethane	**107-06-2**	**8260B**	**32**	**J**	**100**	**6.0**	**ug/L**	**1**
Ethylbenzene	**100-41-4**	**8260B**	**860**		**100**	**34**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2000**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**290**		**100**	**34**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**9700**		**500**	**170**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**4600**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		115	70-130		103	70-130
Bromofluorobenzene		106	70-130		103	70-130
Toluene-d8		102	70-130		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	05/06/2012 1907	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	**108-20-3**	**8260B**	**35**	**J**	**200**	**8.0**	**ug/L**	**1**
Ethanol	64-17-5	8260B	ND		20000	660	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		2000	4.0	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**3200**		**2000**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		200	4.0	ug/L	1
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**1600**	**J**	**2000**	**130**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2000	20	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **MW-6 Dup**
Date Sampled: **05/02/2012 1200**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-030**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2053	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.11**		**0.021**	**0.021**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		125	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **RW-3 dup**
Date Sampled: **05/02/2012 1520**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-031**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	05/06/2012 2037	DJK		84129
2	5030B	8260B	200	05/07/2012 1416	DJK		84195

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	**71-43-2**	**8260B**	**1200**		**250**	**10**	**ug/L**	**1**
1,2-Dichloroethane	107-06-2	8260B	ND		250	15	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**620**		**250**	**85**	**ug/L**	**1**
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1000**		**250**	**20**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**320**		**250**	**85**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**22000**		**1000**	**340**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**6200**		**250**	**85**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		116	70-130		107	70-130
Bromofluorobenzene		107	70-130		104	70-130
Toluene-d8		103	70-130		104	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	05/06/2012 2037	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	20	ug/L	1
Ethanol	64-17-5	8260B	ND		50000	1700	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		5000	50	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5000	10	ug/L	1
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**1100**	**J**	**5000**	**340**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**39**	**J**	**500**	**10**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		5000	340	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5000	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		116	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

Client: **SC DHEC - UST Management**
Description: **RW-3 dup**
Date Sampled: **05/02/2012 1520**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-031**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2114	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.10**	**P**	**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		106	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **Field Blank**
Date Sampled: **05/02/2012 1630**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-032**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/06/2012 1458	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		112	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/06/2012 1458	DJK		84129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		112	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2135	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **Field Blank**
Date Sampled: **05/02/2012 1630**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-032**
Matrix: **Aqueous**

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	05/07/2012 2135	MSM	05/04/2012 1726	84099

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		131	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"
* = Reportable result (only when report all runs)

Client: **SC DHEC - UST Management**
Description: **Trip Blank**
Date Sampled: **05/02/2012 1630**
Date Received: **05/03/2012**

Laboratory ID: **NE03031-033**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/09/2012 0943	AAC		84375

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		93	70-130
Toluene-d8		89	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	05/09/2012 0943	AAC		84375

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		89	70-130

PQL = Practical quantitation limit
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
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
* = Reportable result (only when report all runs)
H = Out of holding time
N = Recovery is out of criteria

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84058-001
Batch: 84058
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	05/04/2012 0944
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	05/04/2012 0944
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	05/04/2012 0944
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	05/04/2012 0944
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	05/04/2012 0944
Ethanol	ND		1	1000	33	ug/L	05/04/2012 0944
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	05/04/2012 0944
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	05/04/2012 0944

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		90	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84058-002
Batch: 84058
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1200		1	117	70-130	05/04/2012 0718
tert-Amyl methyl ether (TAME)	50	62		1	124	70-130	05/04/2012 0718
tert-Butyl formate (TBF)	250	270		1	108	70-130	05/04/2012 0718
Diisopropyl ether (IPE)	50	52		1	103	70-130	05/04/2012 0718
3,3-Dimethyl-1-butanol	1000	1200		1	121	70-130	05/04/2012 0718
Ethanol	5000	6500		1	129	70-130	05/04/2012 0718
Ethyl-tert-butyl ether (ETBE)	50	50		1	100	70-130	05/04/2012 0718
tert-butyl alcohol (TBA)	1000	1000		1	104	70-130	05/04/2012 0718

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84058-003
Batch: 84058
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	115	1.9	70-130	20	05/04/2012 0739
tert-Amyl methyl ether (TAME)	50	63		1	126	1.5	70-130	20	05/04/2012 0739
tert-Butyl formate (TBF)	250	270		1	110	1.3	70-130	20	05/04/2012 0739
Diisopropyl ether (IPE)	50	53		1	107	3.3	70-130	20	05/04/2012 0739
3,3-Dimethyl-1-butanol	1000	1200		1	120	1.3	70-130	20	05/04/2012 0739
Ethanol	5000	6700	N	1	134	3.2	70-130	20	05/04/2012 0739
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	2.5	70-130	20	05/04/2012 0739
tert-butyl alcohol (TBA)	1000	1000		1	102	1.7	70-130	20	05/04/2012 0739

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84058-001
Batch: 84058
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	05/04/2012 0944
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	05/04/2012 0944
Ethylbenzene	ND		1	5.0	1.7	ug/L	05/04/2012 0944
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	05/04/2012 0944
Naphthalene	ND		1	5.0	1.7	ug/L	05/04/2012 0944
Toluene	ND		1	5.0	1.7	ug/L	05/04/2012 0944
Xylenes (total)	ND		1	5.0	1.7	ug/L	05/04/2012 0944

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		90	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84058-002
Batch: 84058
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	51		1	102	70-130	05/04/2012 0718
1,2-Dichloroethane	50	55		1	110	70-130	05/04/2012 0718
Ethylbenzene	50	54		1	109	70-130	05/04/2012 0718
Methyl tertiary butyl ether (MTBE)	50	54		1	107	70-130	05/04/2012 0718
Naphthalene	50	54		1	109	70-130	05/04/2012 0718
Toluene	50	51		1	103	70-130	05/04/2012 0718
Xylenes (total)	100	110		1	111	70-130	05/04/2012 0718

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84058-003
Batch: 84058
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	52		1	104	1.9	70-130	20	05/04/2012 0739
1,2-Dichloroethane	50	54		1	108	1.5	70-130	20	05/04/2012 0739
Ethylbenzene	50	56		1	111	2.3	70-130	20	05/04/2012 0739
Methyl tertiary butyl ether (MTBE)	50	55		1	109	1.9	70-130	20	05/04/2012 0739
Naphthalene	50	54		1	109	0.00	70-130	20	05/04/2012 0739
Toluene	50	52		1	104	1.4	70-130	20	05/04/2012 0739
Xylenes (total)	100	110		1	113	1.3	70-130	20	05/04/2012 0739

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NE03031-008DU
Batch: 84058
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Benzene	ND	ND		1	0.00	20	05/04/2012 1715
1,2-Dichloroethane	ND	ND		1	0.00	20	05/04/2012 1715
Ethylbenzene	ND	ND		1	0.00	20	05/04/2012 1715
Methyl tertiary butyl ether (MTBE)	ND	ND		1	0.00	20	05/04/2012 1715
Naphthalene	ND	ND		1	0.00	20	05/04/2012 1715
Toluene	ND	ND		1	0.00	20	05/04/2012 1715
Xylenes (total)	ND	ND		1	0.00	20	05/04/2012 1715

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		107	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS - MS

Sample ID: NE03031-010MS
Batch: 84058
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	ND	20	24		1	118	70-130	05/04/2012 1737
1,2-Dichloroethane	ND	20	28	N	1	140	70-130	05/04/2012 1737
Ethylbenzene	ND	20	23		1	115	70-130	05/04/2012 1737
Methyl tertiary butyl ether (MTBE)	ND	20	22		1	112	70-130	05/04/2012 1737
Naphthalene	ND	20	18		1	92	70-130	05/04/2012 1737
Toluene	ND	20	23		1	116	70-130	05/04/2012 1737
Xylenes (total)	ND	40	46		1	116	70-130	05/04/2012 1737

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		108	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84129-001
Batch: 84129
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	05/06/2012 1423
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	05/06/2012 1423
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	05/06/2012 1423
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	05/06/2012 1423
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	05/06/2012 1423
Ethanol	ND		1	1000	33	ug/L	05/06/2012 1423
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	05/06/2012 1423
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	05/06/2012 1423

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84129-002
Batch: 84129
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	920		1	92	70-130	05/06/2012 1253
tert-Amyl methyl ether (TAME)	50	47		1	95	70-130	05/06/2012 1253
tert-Butyl formate (TBF)	250	280		1	112	70-130	05/06/2012 1253
Diisopropyl ether (IPE)	50	51		1	102	70-130	05/06/2012 1253
3,3-Dimethyl-1-butanol	1000	930		1	93	70-130	05/06/2012 1253
Ethanol	5000	7500	N	1	149	70-130	05/06/2012 1253
Ethyl-tert-butyl ether (ETBE)	50	53		1	105	70-130	05/06/2012 1253
tert-butyl alcohol (TBA)	1000	940		1	94	70-130	05/06/2012 1253

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84129-003
Batch: 84129
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	101	9.8	70-130	20	05/06/2012 1316
tert-Amyl methyl ether (TAME)	50	47		1	94	0.76	70-130	20	05/06/2012 1316
tert-Butyl formate (TBF)	250	270		1	110	1.9	70-130	20	05/06/2012 1316
Diisopropyl ether (IPE)	50	50		1	101	1.1	70-130	20	05/06/2012 1316
3,3-Dimethyl-1-butanol	1000	1000		1	101	8.8	70-130	20	05/06/2012 1316
Ethanol	5000	7900	N	1	158	6.1	70-130	20	05/06/2012 1316
Ethyl-tert-butyl ether (ETBE)	50	52		1	103	2.0	70-130	20	05/06/2012 1316
tert-butyl alcohol (TBA)	1000	1000		1	104	9.2	70-130	20	05/06/2012 1316

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NE03031-002DU
Batch: 84129
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	ND		1	0.00	20	05/06/2012 2207
tert-Amyl methyl ether (TAME)	ND	ND		1	0.00	20	05/06/2012 2207
tert-Butyl formate (TBF)	ND	ND		1	0.00	20	05/06/2012 2207
Diisopropyl ether (IPE)	ND	ND		1	0.00	20	05/06/2012 2207
3,3-Dimethyl-1-butanol	ND	ND		1	0.00	20	05/06/2012 2207
Ethanol	ND	ND		1	0.00	20	05/06/2012 2207
Ethyl-tert-butyl ether (ETBE)	ND	ND		1	0.00	20	05/06/2012 2207
tert-butyl alcohol (TBA)	ND	ND		1	0.00	20	05/06/2012 2207

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: NE03031-003MS
Batch: 84129
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	ND	1000	590	N	1	59	70-130	05/06/2012 2229
tert-Amyl methyl ether (TAME)	ND	50	37		1	75	70-130	05/06/2012 2229
tert-Butyl formate (TBF)	ND	250	11	N	1	4.3	70-130	05/06/2012 2229
Diisopropyl ether (IPE)	ND	50	40		1	80	70-130	05/06/2012 2229
3,3-Dimethyl-1-butanol	ND	1000	580	N	1	58	70-130	05/06/2012 2229
Ethanol	ND	5000	3100	N	1	63	70-130	05/06/2012 2229
Ethyl-tert-butyl ether (ETBE)	ND	50	44		1	89	70-130	05/06/2012 2229
tert-butyl alcohol (TBA)	ND	1000	680	N	1	68	70-130	05/06/2012 2229

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		108	70-130
1,2-Dichloroethane-d4		122	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84129-001
Batch: 84129
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	05/06/2012 1423
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	05/06/2012 1423
Ethylbenzene	ND		1	5.0	1.7	ug/L	05/06/2012 1423
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	05/06/2012 1423
Naphthalene	ND		1	5.0	1.7	ug/L	05/06/2012 1423
Toluene	ND		1	5.0	1.7	ug/L	05/06/2012 1423
Xylenes (total)	ND		1	5.0	1.7	ug/L	05/06/2012 1423

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84129-002
Batch: 84129
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	48		1	97	70-130	05/06/2012 1253
1,2-Dichloroethane	50	54		1	108	70-130	05/06/2012 1253
Ethylbenzene	50	50		1	99	70-130	05/06/2012 1253
Methyl tertiary butyl ether (MTBE)	50	51		1	103	70-130	05/06/2012 1253
Naphthalene	50	44		1	87	70-130	05/06/2012 1253
Toluene	50	48		1	96	70-130	05/06/2012 1253
Xylenes (total)	100	100		1	101	70-130	05/06/2012 1253

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		114	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84129-003
Batch: 84129
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	47		1	95	2.2	70-130	20	05/06/2012 1316
1,2-Dichloroethane	50	53		1	106	2.3	70-130	20	05/06/2012 1316
Ethylbenzene	50	49		1	98	0.87	70-130	20	05/06/2012 1316
Methyl tertiary butyl ether (MTBE)	50	51		1	101	1.1	70-130	20	05/06/2012 1316
Naphthalene	50	46		1	92	4.5	70-130	20	05/06/2012 1316
Toluene	50	47		1	94	1.9	70-130	20	05/06/2012 1316
Xylenes (total)	100	100		1	100	1.2	70-130	20	05/06/2012 1316

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		113	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84134-001
Batch: 84134
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	05/07/2012 0836
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	05/07/2012 0836
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	05/07/2012 0836
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	05/07/2012 0836
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	05/07/2012 0836
Ethanol	ND		1	1000	33	ug/L	05/07/2012 0836
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	05/07/2012 0836
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	05/07/2012 0836

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84134-002
Batch: 84134
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	990		1	99	70-130	05/07/2012 0732
tert-Amyl methyl ether (TAME)	50	52		1	105	70-130	05/07/2012 0732
tert-Butyl formate (TBF)	250	290		1	116	70-130	05/07/2012 0732
Diisopropyl ether (IPE)	50	53		1	105	70-130	05/07/2012 0732
3,3-Dimethyl-1-butanol	1000	1100		1	107	70-130	05/07/2012 0732
Ethanol	5000	6200		1	123	70-130	05/07/2012 0732
Ethyl-tert-butyl ether (ETBE)	50	53		1	106	70-130	05/07/2012 0732
tert-butyl alcohol (TBA)	1000	960		1	96	70-130	05/07/2012 0732

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84134-001
Batch: 84134
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	05/07/2012 0836
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	05/07/2012 0836
Ethylbenzene	ND		1	5.0	1.7	ug/L	05/07/2012 0836
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	05/07/2012 0836
Naphthalene	ND		1	5.0	1.7	ug/L	05/07/2012 0836
Toluene	ND		1	5.0	1.7	ug/L	05/07/2012 0836
Xylenes (total)	ND		1	5.0	1.7	ug/L	05/07/2012 0836

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84134-002
Batch: 84134
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	50		1	101	70-130	05/07/2012 0732
1,2-Dichloroethane	50	52		1	105	70-130	05/07/2012 0732
Ethylbenzene	50	54		1	109	70-130	05/07/2012 0732
Methyl tertiary butyl ether (MTBE)	50	52		1	104	70-130	05/07/2012 0732
Naphthalene	50	52		1	104	70-130	05/07/2012 0732
Toluene	50	51		1	103	70-130	05/07/2012 0732
Xylenes (total)	100	110		1	112	70-130	05/07/2012 0732

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		95	70-130
Toluene-d8		94	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84146-001
Batch: 84146
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	05/07/2012 0928
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	05/07/2012 0928
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	05/07/2012 0928
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	05/07/2012 0928
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	05/07/2012 0928
Ethanol	ND		1	1000	33	ug/L	05/07/2012 0928
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	05/07/2012 0928
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	05/07/2012 0928

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		90	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		86	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84146-002
Batch: 84146
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	110	70-130	05/07/2012 0755
tert-Amyl methyl ether (TAME)	50	49		1	99	70-130	05/07/2012 0755
tert-Butyl formate (TBF)	250	250		1	100	70-130	05/07/2012 0755
Diisopropyl ether (IPE)	50	51		1	101	70-130	05/07/2012 0755
3,3-Dimethyl-1-butanol	1000	1000		1	100	70-130	05/07/2012 0755
Ethanol	5000	4700		1	94	70-130	05/07/2012 0755
Ethyl-tert-butyl ether (ETBE)	50	47		1	94	70-130	05/07/2012 0755
tert-butyl alcohol (TBA)	1000	1000		1	103	70-130	05/07/2012 0755

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84146-003
Batch: 84146
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	930		1	93	16	70-130	20	05/07/2012 0818
tert-Amyl methyl ether (TAME)	50	51		1	101	2.7	70-130	20	05/07/2012 0818
tert-Butyl formate (TBF)	250	250		1	100	0.23	70-130	20	05/07/2012 0818
Diisopropyl ether (IPE)	50	52		1	104	2.7	70-130	20	05/07/2012 0818
3,3-Dimethyl-1-butanol	1000	850		1	85	16	70-130	20	05/07/2012 0818
Ethanol	5000	4200		1	84	11	70-130	20	05/07/2012 0818
Ethyl-tert-butyl ether (ETBE)	50	49		1	99	4.7	70-130	20	05/07/2012 0818
tert-butyl alcohol (TBA)	1000	900		1	90	14	70-130	20	05/07/2012 0818

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		90	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84146-001
Batch: 84146
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	05/07/2012 0928
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	05/07/2012 0928
Ethylbenzene	ND		1	5.0	1.7	ug/L	05/07/2012 0928
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	05/07/2012 0928
Naphthalene	ND		1	5.0	1.7	ug/L	05/07/2012 0928
Toluene	ND		1	5.0	1.7	ug/L	05/07/2012 0928
Xylenes (total)	ND		1	5.0	1.7	ug/L	05/07/2012 0928

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		90	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		86	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84146-002
Batch: 84146
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	47		1	94	70-130	05/07/2012 0755
1,2-Dichloroethane	50	50		1	100	70-130	05/07/2012 0755
Ethylbenzene	50	51		1	102	70-130	05/07/2012 0755
Methyl tertiary butyl ether (MTBE)	50	50		1	99	70-130	05/07/2012 0755
Naphthalene	50	59		1	118	70-130	05/07/2012 0755
Toluene	50	50		1	99	70-130	05/07/2012 0755
Xylenes (total)	100	100		1	103	70-130	05/07/2012 0755

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		93	70-130
Toluene-d8		93	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84146-003
Batch: 84146
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	47		1	94	0.71	70-130	20	05/07/2012 0818
1,2-Dichloroethane	50	50		1	100	0.15	70-130	20	05/07/2012 0818
Ethylbenzene	50	52		1	104	1.8	70-130	20	05/07/2012 0818
Methyl tertiary butyl ether (MTBE)	50	51		1	102	3.2	70-130	20	05/07/2012 0818
Naphthalene	50	54		1	107	9.6	70-130	20	05/07/2012 0818
Toluene	50	49		1	97	2.3	70-130	20	05/07/2012 0818
Xylenes (total)	100	110		1	105	2.8	70-130	20	05/07/2012 0818

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		90	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84195-001
Batch: 84195
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	05/07/2012 1020
Toluene	ND		1	5.0	1.7	ug/L	05/07/2012 1020

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		109	70-130
1,2-Dichloroethane-d4		115	70-130
Toluene-d8		103	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84195-002
Batch: 84195
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Methyl tertiary butyl ether (MTBE)	50	56		1	112	70-130	05/07/2012 0847
Toluene	50	51		1	103	70-130	05/07/2012 0847

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		113	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84195-003
Batch: 84195
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Methyl tertiary butyl ether (MTBE)	50	56		1	113	1.2	70-130	20	05/07/2012 0910
Toluene	50	51		1	103	0.34	70-130	20	05/07/2012 0910

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84195-003
Batch: 84195
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		113	70-130
1,2-Dichloroethane-d4		110	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NE03031-005DU
Batch: 84195
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Methyl tertiary butyl ether (MTBE)	1500	1300		100	14	20	05/07/2012 1854
Toluene	11000	11000		100	1.3	20	05/07/2012 1854

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		100	70-130
Toluene-d8		104	70-130

Volatile Organic Compounds by GC/MS - MS

Sample ID: NE03031-006MS
Batch: 84195
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Methyl tertiary butyl ether (MTBE)	20000	10000	28000		200	77	70-130	05/07/2012 1917
Toluene	22000	10000	33000		200	111	70-130	05/07/2012 1917

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		111	70-130
Toluene-d8		106	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84375-001
Batch: 84375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	05/09/2012 0922
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	05/09/2012 0922
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	05/09/2012 0922
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	05/09/2012 0922
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	05/09/2012 0922
Ethanol	ND		1	1000	33	ug/L	05/09/2012 0922
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	05/09/2012 0922
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	05/09/2012 0922

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		89	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84375-002
Batch: 84375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	103	70-130	05/09/2012 0716
tert-Amyl methyl ether (TAME)	50	52		1	105	70-130	05/09/2012 0716
tert-Butyl formate (TBF)	250	290		1	115	70-130	05/09/2012 0716
Diisopropyl ether (IPE)	50	54		1	108	70-130	05/09/2012 0716
3,3-Dimethyl-1-butanol	1000	1100		1	108	70-130	05/09/2012 0716
Ethanol	5000	7900	N	1	158	70-130	05/09/2012 0716
Ethyl-tert-butyl ether (ETBE)	50	53		1	106	70-130	05/09/2012 0716
tert-butyl alcohol (TBA)	1000	980		1	98	70-130	05/09/2012 0716

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		92	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84375-003
Batch: 84375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	990		1	99	3.8	70-130	20	05/09/2012 0737
tert-Amyl methyl ether (TAME)	50	53		1	106	0.81	70-130	20	05/09/2012 0737
tert-Butyl formate (TBF)	250	290		1	116	0.82	70-130	20	05/09/2012 0737
Diisopropyl ether (IPE)	50	53		1	106	1.7	70-130	20	05/09/2012 0737
3,3-Dimethyl-1-butanol	1000	1100		1	105	2.7	70-130	20	05/09/2012 0737
Ethanol	5000	7100	N	1	143	10	70-130	20	05/09/2012 0737
Ethyl-tert-butyl ether (ETBE)	50	54		1	107	1.0	70-130	20	05/09/2012 0737
tert-butyl alcohol (TBA)	1000	970		1	97	0.86	70-130	20	05/09/2012 0737

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84375-001
Batch: 84375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	05/09/2012 0922
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	05/09/2012 0922
Ethylbenzene	ND		1	5.0	1.7	ug/L	05/09/2012 0922
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	05/09/2012 0922
Naphthalene	ND		1	5.0	1.7	ug/L	05/09/2012 0922
Toluene	ND		1	5.0	1.7	ug/L	05/09/2012 0922
Xylenes (total)	ND		1	5.0	1.7	ug/L	05/09/2012 0922

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		93	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		89	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84375-002
Batch: 84375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	52		1	104	70-130	05/09/2012 0716
1,2-Dichloroethane	50	51		1	102	70-130	05/09/2012 0716
Ethylbenzene	50	55		1	109	70-130	05/09/2012 0716
Methyl tertiary butyl ether (MTBE)	50	52		1	105	70-130	05/09/2012 0716
Naphthalene	50	52		1	104	70-130	05/09/2012 0716
Toluene	50	52		1	103	70-130	05/09/2012 0716
Xylenes (total)	100	110		1	112	70-130	05/09/2012 0716

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		86	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84375-003
Batch: 84375
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	52		1	103	0.32	70-130	20	05/09/2012 0737
1,2-Dichloroethane	50	50		1	100	2.0	70-130	20	05/09/2012 0737
Ethylbenzene	50	55		1	111	1.1	70-130	20	05/09/2012 0737
Methyl tertiary butyl ether (MTBE)	50	53		1	105	0.47	70-130	20	05/09/2012 0737
Naphthalene	50	51		1	102	1.9	70-130	20	05/09/2012 0737
Toluene	50	51		1	102	1.0	70-130	20	05/09/2012 0737
Xylenes (total)	100	110		1	112	0.38	70-130	20	05/09/2012 0737

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		91	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84473-001
Batch: 84473
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	05/09/2012 2018
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	05/09/2012 2018
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	05/09/2012 2018
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	05/09/2012 2018
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	05/09/2012 2018
Ethanol	ND		1	1000	33	ug/L	05/09/2012 2018
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	05/09/2012 2018
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	05/09/2012 2018

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		90	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84473-002
Batch: 84473
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	106	70-130	05/09/2012 1852
tert-Amyl methyl ether (TAME)	50	50		1	100	70-130	05/09/2012 1852
tert-Butyl formate (TBF)	250	280		1	111	70-130	05/09/2012 1852
Diisopropyl ether (IPE)	50	51		1	103	70-130	05/09/2012 1852
3,3-Dimethyl-1-butanol	1000	1100		1	113	70-130	05/09/2012 1852
Ethanol	5000	7200	N	1	143	70-130	05/09/2012 1852
Ethyl-tert-butyl ether (ETBE)	50	51		1	101	70-130	05/09/2012 1852
tert-butyl alcohol (TBA)	1000	1000		1	104	70-130	05/09/2012 1852

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		91	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84473-003
Batch: 84473
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	990		1	99	6.8	70-130	20	05/09/2012 1913
tert-Amyl methyl ether (TAME)	50	50		1	101	0.42	70-130	20	05/09/2012 1913
tert-Butyl formate (TBF)	250	280		1	112	0.57	70-130	20	05/09/2012 1913
Diisopropyl ether (IPE)	50	51		1	101	1.3	70-130	20	05/09/2012 1913
3,3-Dimethyl-1-butanol	1000	1100		1	108	4.7	70-130	20	05/09/2012 1913
Ethanol	5000	6400		1	127	12	70-130	20	05/09/2012 1913
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	0.97	70-130	20	05/09/2012 1913
tert-butyl alcohol (TBA)	1000	980		1	98	6.1	70-130	20	05/09/2012 1913

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84473-001
Batch: 84473
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	05/09/2012 2018
Naphthalene	ND		1	5.0	1.7	ug/L	05/09/2012 2018

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		90	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84473-002
Batch: 84473
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dichloroethane	50	49		1	98	70-130	05/09/2012 1852

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84473-002
Batch: 84473
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	50		1	100	70-130	05/09/2012 1852

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		94	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84473-003
Batch: 84473
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dichloroethane	50	49		1	98	0.57	70-130	20	05/09/2012 1913
Naphthalene	50	49		1	99	1.7	70-130	20	05/09/2012 1913

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		95	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84580-001
Batch: 84580
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	05/10/2012 1819
Ethylbenzene	ND		1	5.0	1.7	ug/L	05/10/2012 1819
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	05/10/2012 1819
Toluene	ND		1	5.0	1.7	ug/L	05/10/2012 1819
Xylenes (total)	ND		1	5.0	1.7	ug/L	05/10/2012 1819

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ84580-001
Batch: 84580
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		97	70-130
1,2-Dichloroethane-d4		102	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ84580-002
Batch: 84580
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	45		1	90	70-130	05/10/2012 1646
Ethylbenzene	50	47		1	93	70-130	05/10/2012 1646
Methyl tertiary butyl ether (MTBE)	50	48		1	95	70-130	05/10/2012 1646
Toluene	50	46		1	93	70-130	05/10/2012 1646
Xylenes (total)	100	94		1	94	70-130	05/10/2012 1646

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		107	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84580-003
Batch: 84580
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	48		1	97	7.1	70-130	20	05/10/2012 1709
Ethylbenzene	50	49		1	98	5.0	70-130	20	05/10/2012 1709
Methyl tertiary butyl ether (MTBE)	50	52		1	104	8.8	70-130	20	05/10/2012 1709
Toluene	50	48		1	96	3.3	70-130	20	05/10/2012 1709
Xylenes (total)	100	98		1	98	4.5	70-130	20	05/10/2012 1709

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ84580-003
Batch: 84580
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		101	70-130
Toluene-d8		102	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: NQ84048-001 **Matrix:** Aqueous
Batch: 84048 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 05/04/2012 1343

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	05/04/2012 2106

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		115	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: NQ84048-002 **Matrix:** Aqueous
Batch: 84048 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 05/04/2012 1343

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.27		1	107	60-140	05/04/2012 2127

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		116	57-137

EDB & DBCP by Microextraction - MS

Sample ID: NE03031-002MS **Matrix:** Aqueous
Batch: 84048 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 05/04/2012 1343

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.26		1	104	60-140	05/04/2012 2231

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		105	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: NE03031-002MD
Batch: 84048
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/04/2012 1343

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.26		1	105	0.16	60-140	20	05/04/2012 2253

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		107	57-137

EDB & DBCP by Microextraction - MB

Sample ID: NQ84099-001
Batch: 84099
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/04/2012 1726

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	05/07/2012 1616

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		127	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: NQ84099-002
Batch: 84099
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 05/04/2012 1726

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.27		1	107	60-140	05/07/2012 1638

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		124	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N - Recovery is out of criteria
+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 05685

Client: SC DHEC	Report to Contact: D. Thomas	Sampler (Printed Name): Kyle Pudney	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 1 of 4
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		
Project Name: Four Seasons Food & Fuel			Lot No. NE0030 31
Project Number: 00120/43513	P.O Number: 4600055829		

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix GW	DW	WW	S	Other	Analysis: Diesel Range Organics (8015B)	1,2-DCA	Glycosynthetic	EDB (8011)	Remarks / Cooler ID
									3			3	
									A			A	
									5			5	
~~MW-1~~													DRY
MW-2R	5/2	16:15	G	X					X	X	X	X	No odor
MW-3		15:55											No odor
MW-4		16:25											No odor
MW-5		12:25											No odor
MW-6		12:00											odor
MW-7R		12:51											odor
MW-8		10:15											No Odor
MW-9		11:42											No odor
MW 10	5/2	14:42	G	X					X	X	X	X	Odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: K. Pudney	5.2.12	1800	1. Received by:	5.2.12	1800
2. Relinquished by:	5.3.12	1410	2. Received by:	5.3.12	1410
3. Relinquished by			3. Received by		
4. Relinquished by	5.3.12	1435	4. Laboratory Received by:	5.3.12	1435

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack Receipt Temp. 1.0 °C Temp. Blank ☐ Y / ☐ N

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www.shealylab.com

SHEALY **Chain of Custody Record** **Number** 09099

Client: SCDHEC	Report to Contact: P. Thomas	Sampler (Printed Name): K. Rudney	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 2 of 4
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name: Four Seasons Food & Fuel			Bottle (See Instructions on back)
			Preservative
Project Number: 00120/43513; P.O Number: 4600055829			Lot No. NE63031

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis: Metals (8260B)	EDB (8260B)	Ethanol (8260B)	EDB (8011)	Remarks / Cooler ID
MW-11	5/2	16:05	G	X					X	X	X	X	No odor
MW-12		16:35											No odor
MW-13		13:04											No odor
MW-14		12:35											No odor
MW-15		12:16											No odor
~~MW-16~~		—											Abandoned
MW-17R		10:47											No odor
MW-18		10:58											No odor
MW-19		10:15											No odor
MW-20	5/2	11:24	G	X					X	X	X	X	No odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: K. Rudney	5.2.12	1800	1. Received by: [signature]	5.2.12	1800
2. Relinquished by: [signature]	5.3.12	1410	2. Received by: [signature]	5.3.12	1410
3. Relinquished by			3. Received by		
4. Relinquished by: [signature]	5-3-12	1435	4. Laboratory Received by: [signature]	5-3-12	1435

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☑ Yes ☐ No ☐ Ice Pack Receipt Temp. 2.0 °C Temp. Blank ☑ Y / ☐ N

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 05686

Client: SCDHEC	Report to Contact: D. Thomas	Sampler (Printed Name): K. Pudney	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 3 of 4
City: Columbia; State: SC; Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers
Project Name: Four Seasons Food & Fuel			Bottle (See Instructions on back)
			Preservative
Project Number: 00120/43513	P.O Number		Lot No.: NE03031

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	Matrix: GW	DW	WW	S	Other	Analysis	BTEX Naph, MTBE (8260B)	1,2 DCA	8 oxygenates	EDB (8011)	Remarks / Cooler ID
PW-1	5/2	15:33	G	X						X	X	X	X	No odor
DW-1	↓	14:25	↓	↓						↓	↓	↓	↓	No odor
DW-2	↓	11:20	↓	↓						↓	↓	↓	↓	No odor
DW-3	↓	12:40	↓	↓						↓	↓	↓	↓	No odor
RW-1	↓	14:52	↓	↓						↓	↓	↓	↓	odor
RW-2	↓	15:00	↓	↓						↓	↓	↓	↓	odor
RW-3	↓	15:20	↓	↓						↓	↓	↓	↓	odor
RW-4	↓	15:48	↓	↓						↓	↓	↓	↓	odor
MW-21	↓	11:49	↓	↓						↓	↓	↓	↓	No odor
MW-22	5/2	11:32	G	X						X	X	X	X	No odor

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐Non-Hazard ☐Flammable ☐Skin Irritant ☐Poison ☐Unknown

	Date	Time		Date	Time
1. Relinquished by / Sampler: K. Pudney	5.2.12	1800	1. Received by: [signature]	5.2.12	1800
2. Relinquished by: [signature]	5.3.12	1410	2. Received by: [signature]	5.3.12	1410
3. Relinquished by			3. Received by		
4. Relinquished by: [signature]	5-3-12	1435	4. Laboratory Received by: [signature]	5-3-12	1435

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☑ Yes ☐ No ☐ Ice Pack
Receipt Temp. 1.0 °C
Temp. Blank ☑ Y / ☐ N

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number 14601

Client: SCDHEC	Report to Contact: D. Thomas	Sampler (Printed Name): K. Rudney	Quote No.
Address: 2600 Bull Street	Telephone No. / Fax No. / Email	Waybill No.	Page 4 of 4
City: Columbia State: SC Zip Code: 29201	Preservative: 1. Unpres. 2. NaOH/ZnA 3. H2SO4 4. HNO3 5. HCL 6. Na Thio. 7. NaOH		Number of Containers: 3 / Bottle (See Instructions on back): A / Preservative: 5
Project Name: Four Seasons Food & Fuel			Lot No.
Project Number: 00120 / 43513	P.O Number: 4600055829		NE03031

Analysis: BTEX/MtBE (8021B) / 1,2 DCA / Glycols / EDB (8011)

Sample ID / Description (Containers for each sample may be combined on one line)	Date	Time	G=Grab C=Composite	GW	DW	WW	S	Other	BTEX/MtBE (8021B)	1,2 DCA	Glycols	EDB (8011)	Remarks / Cooler ID
MW-23	5/2	10:34	G	X					X	X	X	X	No odor
MW-6 Dup		12:00							X	X	X	X	— odor
RW-3 Dup.		15:20							X	X	X	X	— odor
Field Blank		16:30							X	X	X	X	—
Trip Blank	5/2	16:30	G	X					X	X	X		—

Turn Around Time Required (Prior lab approval required for expedited TAT): ☐ Standard ☐ Rush (Please Specify)

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

QC Requirements (Specify):

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

	Date	Time		Date	Time
1. Relinquished by: K. Rudney	5-2-12	1800	1. Received by	5-2-12	1800
2. Relinquished by	5-3-12	1410	2. Received by	5-3-12	1410
3. Relinquished by			3. Received by		
4. Relinquished by	5-3-12	1425	4. Laboratory Received by	5-3-12	1425

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY
Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack
Receipt Temp. 1.0 °C
Temp. Blank ☐ Y / ☐ N

Sample Receipt Checklist (SRC)

Client: SCDHEC Cooler Inspected by/date: 15/3/12 Lot #: NE63031

Means of receipt: ☒ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other

Yes ☐	No ☒		1. Were custody seals present on the cooler?
Yes ☐	No ☒		2. If custody seals were present, were they intact and unbroken?

Cooler ID/temperature upon receipt 1.9 °C ___/___ °C ___/___ °C ___/___ °C
Method: ☒ Temperature Blank ☐ Against Bottles
Method of coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.

Yes ☐	No ☐	NA ☒	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other:_____. (For coolers received via commercial courier, PMs are to be notified immediately.
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 ☐	No ☐	NA ☒	5a Were samples relinquished by client to commercial courier?
Yes ☒	No ☐		6. Were sample IDs listed?
Yes ☒	No ☐		7. Was collection date & time listed?
Yes ☒	No ☐		8. Were tests to be performed listed on the COC?
Yes ☒	No ☐		9. Did all samples arrive in the proper containers for each test?
Yes ☒	No ☐		10. Did all container label information (ID, date, time) agree with COC?
Yes ☒	No ☐		11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☒	No ☐		12. Was adequate sample volume available?
Yes ☒	No ☐		13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☒		14. Were any samples containers missing?
Yes ☐	No ☒		15. Were there any excess 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 ☒	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?
Yes ☐	No ☐	NA ☒	19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) samples free of residual 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…) correctly transcribed from the COC into the comment section in LIMS?

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_2SO_4,HNO_3,HCl,NaOH) with the SR # (number)

Sample(s) -009(1) 032(1) -033(1) were received with bubbles >6 mm in diameter.

Sample(s)_____were received with TRC >0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐ Did client respond: Yes ☐ No ☐

SESI employee: _____ Date of response: _____

Comments:

Verification, Validation and Usability Report (VVUR)

UST Permit #: 00120 **Docket** Tech 31 **Date** May 23, 2012

Facility Name: FOUR SEASONS FOOD & FUEL 5 **Report Received:** May 18, 2012 **Signature:**

Cost Agreement: 43514 **UST Project Manager:** David Ebinger

Project Objective: Site status prior to road construction that will result in abandonment of several wells / critical to decisions regarding number and placement of replacement wells

Scope of Work: CA#43513/43514> Shealy/MECI> Groundwater Sampling:MW-1, 2R, 3, 4, 5, 6, 7R, 8, 9, 10, 11, 12, 13, 14, 15, 17R, 18, 19, 20, 21, 22, 23, DW-1, 2, 3, RW-1, 2, 3, 4, PW-1
Parameters: BTEX + Naphthalene + MtBE + 1,2-DCA + Oxygenates + EDB

	Item	Comments	Impact on Usability	Corrective Action
Completeness	**Data Deliverables and QAPP** Ensure that all required information on sampling and analysis was provided (including planning documents). Note both Present / Missing items SRC = Sample Receipt Checklist COC = Chain of Custody LCN = Lab Case Narrative (or similar report containing qualifications)	Present: Report, Contractor Checklist, Field Data (tabular form), Site Map, COC(copy), Purge Notes, Disposal Manifest (onsite treatment) Laboratory Report: LCN, Sample Summary, Executive Summary, Analytical Data, QC Summary, COC, SRC Missing: none	--	
	Meteorological Data and Site Conditions Evaluate the possible effects of meteorological (e.g., wind, rain, temperature) and site conditions on sample results. Review field reports to identify whether any unusual conditions were present and how the sampling plan was executed.	Ambient temperature: 33 deg C / Mostly Sunny No other conditions provided	--	
	Verification Report (Contractor Checklist) Summarize deviations from methods, procedures, or contracts. Include qualified data and explanation of all data qualifiers.	#37 No topo has been provided, nor is it required - N/A is appropriate response	--No impact	Ignore
	Analytes Ensure that required lists of analytes were reported as specified.	Complete	--	
	Sampling Plan Ensure that required sample locations were reported as specified. Determine if alterations to sample locations continue to satisfy the project objectives.	Missing samples: MW-1 (dry)	--Unlikely	
	Chain-of-Custody Examine the traceability of the data from time of sample collection until reporting of data. Examine chain-of-custody records against contract, method, or procedural requirements. Establish that any problems with documentation or custody procedures do not prevent the data from being used for the intended purpose.	Sampler's (Kyle Pudney) signature does not appear on chain - Printed name appears (presumably written by recipient (Courtney)	--Unlikely	Notify contractor
	Work Scope Examine deviations from contract / work plan - repairs, waste disposal etc (no impact on data quality)	Midlands Site Activity Summary sheets list MW-23 as screened "5-15" - actual screen interval is 2'-12' per installation directive, 1903 logs and installation report		
formance	**Sample Receipt Checklist (or equivalent)** Ensure consistency with COC, LCN. Examine checklist against contract, method or procedural requirements.	SRC, LCN and COC are consistent	--	
	Holding Times Identify holding time criteria, and either confirm that they were met or document any deviations. Ensure that samples were analyzed within holding times specified in method, procedure, or contract requirements. If holding times were not met, confirm that deviations were documented, that appropriate notifications were made (consistent with procedural requirements), and that approval to proceed was received prior to analysis.	Specified hold time for VOCs with preservative: 14 days sampled 5/2/12 all analysis completed by: 5/14/12	--	
	Sample Handling Ensure that required sample handling, receipt, and storage procedures were followed, and that any deviations were documented.	Samples not deliverable on day of sampling are to be delivered to courier during AM of following day. Shealy courier does not pick up until afternoon.	--Unlikely	
	Sampling Methods and Procedures Establish that required sampling methods were used and that any deviations were noted. Ensure that the sampling procedures and field measurements met performance criteria and that any deviations were documented (e.g., techniques, equipment, decontamination, volume, temperature, preservatives, etc.)	MW-3 insufficient water for purging All other wells: purged dry MW-10, Field Blank, Trip Blank: bubbles in 1 vial for volatiles (lab used these for screening)	--Unlikely	
	Analytical Methods and Procedures Establish that required analytical methods were used and that any deviations were noted. Ensure that the QC samples met performance criteria and that any deviations were documented.	RW-1, RW-2, RW-3, RW-3 Duplicate: RPD > 40% P qualified - QA/QC data does not indicate same?	--	Emailed lab for explanation
	Lab Data Qualifiers Determine that the laboratory data qualifiers were defined and applied as specified in methods, procedures, or contracts.	As specified	--	

Con	**Confirmatory Analyses** Evaluate agreement of laboratory results. Evaluate the implications of unacceptable QC sample results on the data usability for the associated samples: blank contamination, matrix effects . .	Trip blanks - ND Field blanks: ND	~~Statistically~~	
	Co-located Field Duplicates Compare results of collocated field duplicates with criteria established in the QAPP. RPD (%) = [((CS – CD)/(CS + CD)/2)] x 100	#00120 05-02-2012 MW-6Dup Benzene RPD: 22 Toluene RPD: 13 Ethylbenzene RPD: 23 Tot Xylenes RPD: 24 MtBE RPD: 29 Naphthalene RPD: 32 1,2-DCA RPD: 137J (MDL used for nd) EDB RPD: 15 TAA RPD: 42 TBA RPD: 37J DIPE RPD: 26J --- 05-02-2012 RW-3 Benzene RPD: 9 Toluene RPD: 9 Ethylbenzene RPD: 18 Tot Xylenes RPD: 19 MtBE RPD: 0 Naphthalene RPD: 6 EDB RPD: 10 TAA RPD: 9J TAME RPD: 8J --- 01-00-1900	++Limited	

Comments

Reconciliation with User Requirements	**Completeness** Evaluate the impact of missing information. Ensure that enough information was obtained for the data to be usable (completeness as defined in DQOs documented in the QAPP) **Critical Samples** Establish that critical samples and critical target analytes/COCs, as defined in the QAPP, were collected and analyzed. Determine if the results meet criteria specified in the QAPP.	RW-1 data is adequate under scope DQO's for missing MW-1 data
	Conformance Criteria Evaluate QC data against project-specific performance criteria in the QAPP (i.e., evaluate quality parameters beyond those outlined in the methods) Describe the exact process for handling data that do not meet DQOs (i.e., when measurement performance criteria are not met). Depending on how those data will be used, specify the restrictions on use of those data for environmental decision-making.	RPD's on MW-6/MW-6Dup exceed QAPP standards - loss of volatiles during purging or sample handling is possibility: consider all data as biased low. EDB data should be considered biased low for this sampling event. Data is usable for scope objectives.
	Comparability Ensure that results from different data collection activities achieve an acceptable level of agreement.	Data was collected and analyzed according to historically utilized SOPs and appears to be consistent with previously obtained data

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

UST DOCKETING 033tech

JUL 0 5 2012

MR BRIAN SHANE PG
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

Re: AFVR/passive skimmer installation
Bid #IBF-36815-8/27/09-EMW; PO #4500011659
Notice to proceed

Dear Mr. Shane:

Under the terms and conditions of the referenced bid, free-phase product (FPP) recovery using aggressive fluid vapor recovery (AFVR) or passive skimmers has been approved for the Underground Storage Tank (UST) facilities listed below. Enclosed are packets containing necessary information to perform FPP recovery at each facility. Midlands Environmental Consultants, Inc. may commence with a site reconnaissance before conducting AFVR and/or passive skimmer installation. If the targeted recovery wells do not contain measurable (0.01') FPP, please contact the UST Project Manager for further instructions. Each facility has been assigned an individual cost agreement (CA) number and report due date. As specified in the bid, a report and invoice must be submitted on the designated due date. The appropriate CA number and Purchase Order (PO) #4500011659 should be referenced on each invoice submitted.

All AFVR events must be conducted in accordance with Section B of the UST Quality Assurance Program Plan (QAPP). Further, all wells other then targeted recovery wells must remain capped (sealed) during AFVR events.

UST Permit #	Facility	County	Work Scope	Cost Agreement	Due Date
00120	Four Seasons Food & Fuel #5	Aiken	Four 8-hour events	43681	10/1/12
12205	S&S Truck	Aiken	Two 8-hour events	43954	10/1/12
12614	Frank's Amoco	Lexington	Three 8-hour events	44016	10/1/12
18131	Former Fast Fare	Greenwood	Four 8-hour events	43758	10/1/12

The aforementioned scope of work at each facility will be performed on behalf of the UST Owner/Operator (O/O) and payment will be made from the SUPERB Account. The O/O has no obligation to pay for the scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from SCDHEC is obtained.

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by UST Management Division in order for Midlands Environmental Consultants to seek payment. Please contact the UST Project Manager for technical and/or financial approval. Any item that is not clearly or completely addressed in the report **WILL NOT** be compensated by SUPERB.

The Division grants pre-approval for transportation of FPP and petroleum-contaminated groundwater from the referenced UST facility to a permitted treatment facility. The FPP and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, Geologist/Hydrologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Information packets

cc: Technical file (w/o enc)

Midlands
Environmental
Consultants, Inc.

July 23, 2012

UST
JUL 25 2012
PROGRAM

UST
DOCKETING

Mr. David Ebinger, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Four Seasons Food & Fuel 5
North Augusta, South Carolina
SCDHEC Site ID # 00120; CA # 43681
MECI Project Number 12-4068A
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Ebinger,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

A site visit was conducted at Four Seasons Food & Fuel 5 on July 17, 2012 to locate/gauge monitoring wells and to evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Four Seasons Food & Fuel 5 on July 18, 2012. The event was conducted on recovery wells RW-1, RW-2, and monitoring well MW-10 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the wells prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 15.98 pounds or approximately 2.76 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 2.00 pounds per hour. Concentrations of off gas produced during the event were recorded from 298 parts per million by volume (PPM) to 9,999+ PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 19.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1A.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2A. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from recovery wells RW-1, RW-2 and monitoring well MW-10 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1
AFVR MONITORING DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068A
SCDHEC SITE ID NUMBER 00120

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
RW-1	07/18/12	10:00	0.50	19.0	9,999	1,390	125.10	15.01	7.51
RW-2	07/18/12	10:30	0.50	19.0	3,784	1,360	122.40	5.56	2.78
MW-10	07/18/12	11:00	0.50	12.0	365	1,830	164.70	0.72	0.36
	07/18/12	11:30	0.50	12.0	358	1,770	159.30	0.68	0.34
	07/18/12	12:00	0.50	12.0	352	1,720	154.80	0.65	0.33
	07/18/12	12:30	0.50	12.0	348	1,690	152.10	0.64	0.32
	07/18/12	13:00	0.50	12.0	322	1,670	150.30	0.58	0.29
	07/18/12	13:30	0.50	12.0	315	1,650	148.50	0.56	0.28
	07/18/12	14:00	0.50	12.0	298	1,640	147.60	0.53	0.26
	07/18/12	14:30	0.50	12.0	516	1,750	157.50	0.98	0.49
	07/18/12	15:00	0.50	12.0	488	1,780	160.20	0.94	0.47
	07/18/12	15:30	0.50	12.0	474	1,810	162.90	0.93	0.46
	07/18/12	16:00	0.50	12.0	441	1,850	166.50	0.88	0.44
	07/18/12	16:30	0.50	12.0	409	1,880	169.20	0.83	0.42
	07/18/12	17:00	0.50	12.0	425	1,920	172.80	0.88	0.44
	07/18/12	17:30	0.50	12.0	381	1,900	171.00	0.78	0.39
	07/18/12	18:00	0.50	12.0	394	1,910	171.90	0.81	0.41
									TOTAL
									15.98

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
RW-1	4"	15-30	***	23.83	***	***	23.80	***	0.03
RW-2	4"	15-30	***	24.20	***	***	24.22	***	-0.02
MW-10	2"	15-30	***	24.13	***	***	24.43	***	-0.30

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	RW-1	24.00
Truck Operator:	C. Lashley	RW-2	25.00
Stack I.D. (feet)	0.33 feet	MW-10	25.00

Recovery / Disposal Information

Hydro carbons Removed (vapor):	15.98	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.76	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	150	Gallons

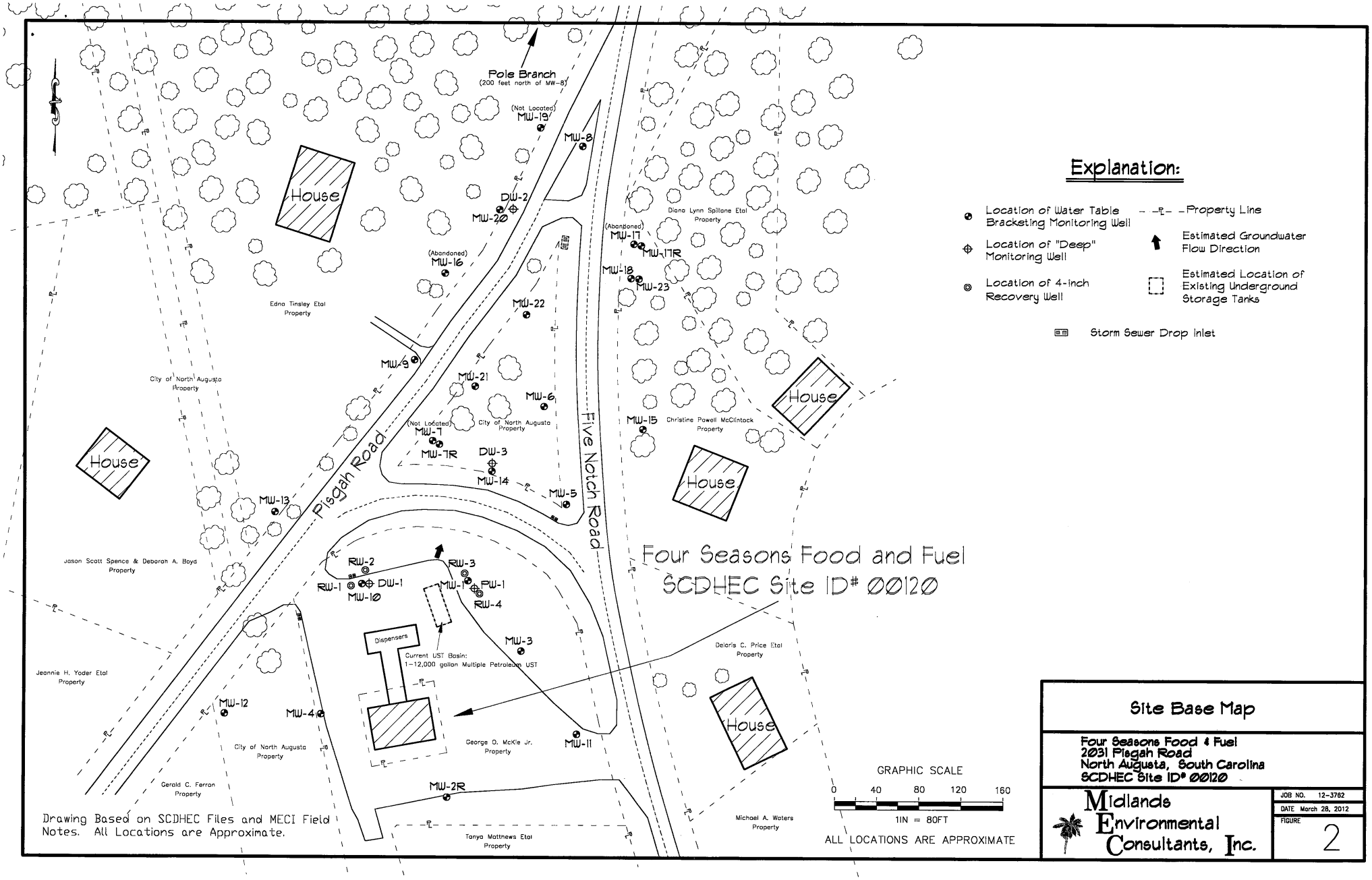
TABLE 2
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068A
SCDHEC SITE ID NUMBER 00120

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-4	**MW-7R**	**MW-14**
Nearest Extraction Well:		RW-1	RW-2	RW-2
Approximate Distance:		135 ft	150 ft	160 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
10:00	0.0	0	0	0
10:30	0.5	0	0	0
11:00	1.0	0	0	0
11:30	1.5	0	0	0
12:00	2.0	0	0	0
12:30	2.5	0	0	0
13:00	3.0	0	0	0
13:30	3.5	0	0	0
14:00	4.0	0	0	0
14:30	4.5	0	0	0
15:00	5.0	0	0	0
15:30	5.5	0	0	0
16:00	6.0	0	0	0
16:30	6.5	0	0	0
17:00	7.0	0	0	0
17:30	7.5	0	0	0
18:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-4	**MW-7R**	**MW-14**
Nearest Extraction Well:		RW-1	RW-2	RW-2
Approximate Distance:		135 ft	150 ft	160 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		24.80	18.61	16.80
14:00	4 hours	24.80	18.62	16.80
18:00	8 hours	24.79	18.62	16.80
Maximum Change:		0.01	-0.01	0.00



Site Base Map

Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO. 12-3762
DATE March 28, 2012
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number 10825

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON, SC 29073

Generator's Phone: 803-360-7957

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: T K TANK SERVICES,INC

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

T K TANK SERVICES INC
425 BOULEVARD RD.
SUMTER, SC

Facility's Phone: 803-418-5314

U.S. EPA ID Number

9. Waste Shipping Name and Description	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt/Vol.
	1	TT	3250	gallons

SCDHEC Site	Permit Number	Gallons Produced
Boles Enterprises	04768	150
Boles Enterprises	04768	150
Former Royal Petroleum	19426	200
Matheny's Service Station	00820	300
Glover's Gulf Service	06994	100
Macks Camp	01253	200
Former Gulf Station	18447	125
Former McCoy Oil Site	19002	275
Mary Moorhead Property	16009	0
EZ Stop	06097	100
Brown Brothers	04145	200
Stewart Sandwich Shop	04474	50
Former Royal Petroleum	19426	250
Munn'E Saver	11776	175
Ma-Shakit	06382	150
Former Price Service Center	19411	175
Breaker's 1	12898	150
Glover's Gulf Service	06994	150
Baxley Lawn & Saw	00892	50
Four Seasons	00120	150
Four Seasons	00120	150

accurately described above by the proper shipping name, and are classified, packaged, national and national governmental regulations.

Month Day Year

INT'L

Port of entry/exit:

Transporter Signature (for exports only):

Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A. Gamble

Signature: Steve A. Gamble

Month 7 Day 23 Year 12

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tommy Keels

Signature: Tommy Keels

Month 7 Day 23 Year 12

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

Midlands
Environmental
Consultants, Inc.

July 23, 2012

Mr. David Ebinger, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Four Seasons Food & Fuel 5
North Augusta, South Carolina
SCDHEC Site ID # 00120; CA # 43681
MECI Project Number 12-4068B
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Ebinger,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Four Seasons Food & Fuel 5 on July 18 & 19, 2012. The event was conducted on recovery wells RW-3 and monitoring well MW-1 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the wells prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 23.97 pounds or approximately 4.14 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 3.00 pounds per hour. Concentrations of off gas produced during the event were recorded from 984 parts per million by volume (PPM) to 2,201 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 10.0 to 18.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1B.

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Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2B. Monitoring well locations are depicted on attached Figure 1.

A total of 150 gallons of liquid was removed from recovery well RW-3 and monitoring well MW-1 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Staff Biologist

Brendon P. Kelly
Project Scientist

Attachments:

TABLE 1B
AFVR MONITORING DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068B
SCDHEC SITE ID NUMBER 00120

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (In. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
RW-3	07/18/12	18:00	0.50	18.0	1,395	1,390	125.10	2.09	1.05
MW-1	07/18/12	18:30	0.50	18.0	1,588	1,370	123.30	2.35	1.17
	07/18/12	19:00	0.50	18.0	2,201	1,350	121.50	3.21	1.60
	07/18/12	19:30	0.50	18.0	1,236	1,320	118.80	1.76	0.88
	07/18/12	20:00	0.50	10.0	1,872	2,250	202.50	4.55	2.27
	07/18/12	20:30	0.50	10.0	1,534	2,190	197.10	3.63	1.81
	07/18/12	21:00	0.50	10.0	1,211	2,180	196.20	2.85	1.43
	07/18/12	21:30	0.50	10.0	1,009	2,150	193.50	2.34	1.17
	07/18/12	22:00	0.50	10.0	1,254	2,120	190.80	2.87	1.44
	07/18/12	22:30	0.50	10.0	1,315	2,110	189.90	3.00	1.50
	07/18/12	23:00	0.50	10.0	1,388	2,090	188.10	3.13	1.57
	07/18/12	23:30	0.50	10.0	1,280	2,070	186.30	2.86	1.43
	07/19/12	0:00	0.50	10.0	1,001	2,050	184.50	2.22	1.11
	07/19/12	0:30	0.50	10.0	1,261	2,020	181.80	2.75	1.38
	07/19/12	1:00	0.50	10.0	984	2,030	182.70	2.16	1.08
	07/19/12	1:30	0.50	10.0	1,228	2,060	185.40	2.73	1.37
	07/19/12	2:00	0.50	10.0	1,509	2,110	189.90	3.44	1.72
									TOTAL 23.97

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
RW-3	4"	15-30	***	24.37	***	***	24.32	***	0.05
MW-1	2"	15-25	***	24.38	***	***	24.28	***	0.10

Vacuum Truck Information

Subcontractor: MECI
Truck Operator: C. Lashley
Stack I.D. (feet) 0.33 feet

Well ID	Stinger Depth
RW-3	25.00
MW-1	25.00

Recovery / Disposal Information

Hydro carbons Removed (vapor):	23.97	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	4.14	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	150	Gallons

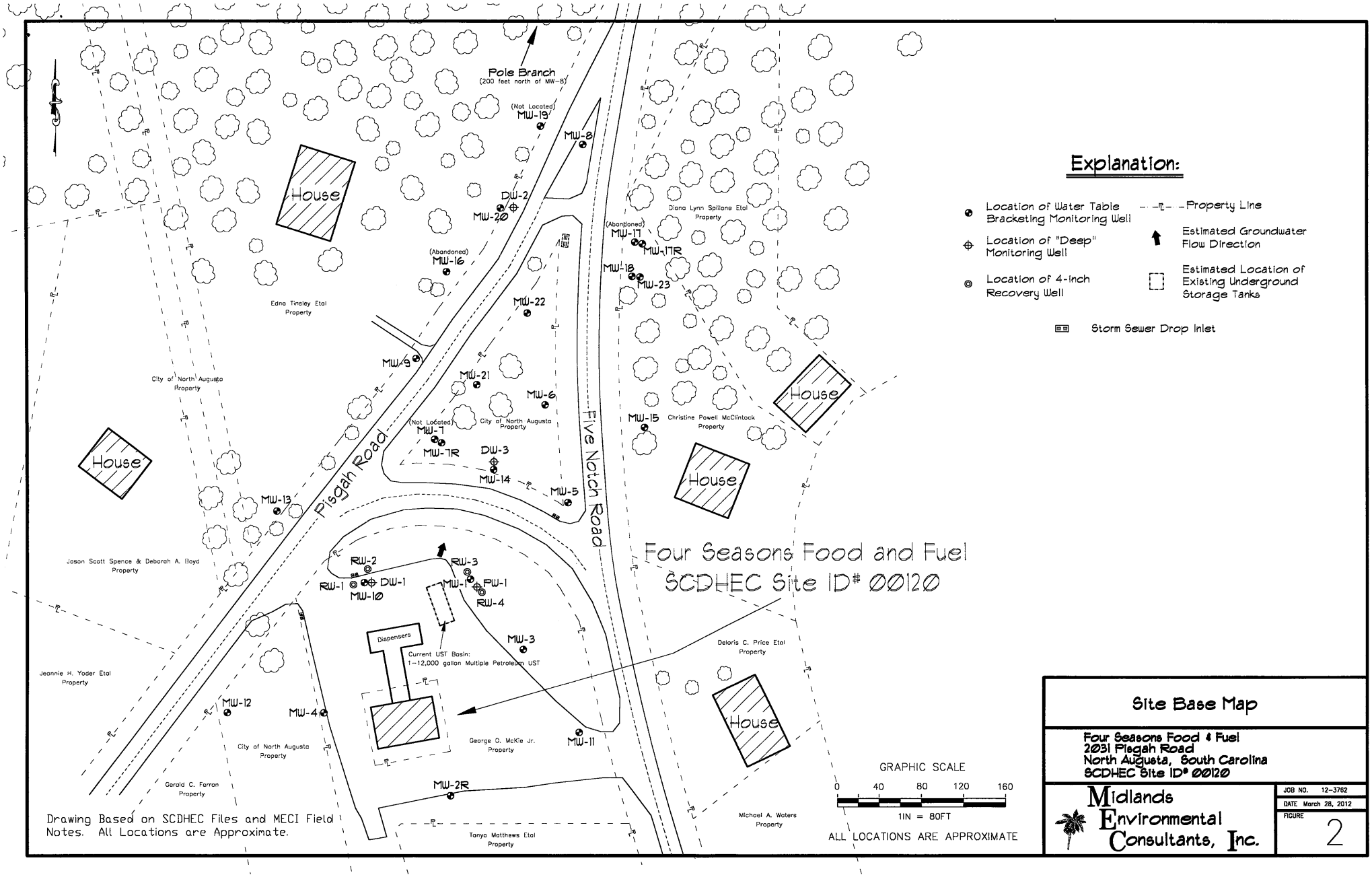
TABLE 2B
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068B
SCDHEC SITE ID NUMBER 00120

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-4	**MW-7R**	**MW-14**
Nearest Extraction Well:		MW-1	RW-3	RW-3
Approximate Distance:		210 ft	140 ft	110 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
18:00	0.0	0	0	0
18:30	0.5	0	0	0
19:00	1.0	0	0	0
19:30	1.5	0	0	0
20:00	2.0	0	0	0
20:30	2.5	0	0	0
21:00	3.0	0	0	0
21:30	3.5	0	0	0
22:00	4.0	0	0	0
22:30	4.5	0	0	0
23:00	5.0	0	0	0
23:30	5.5	0	0	0
0:00	6.0	0	0	0
0:30	6.5	0	0	0
1:00	7.0	0	0	0
1:30	7.5	0	0	0
2:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-4	**MW-7R**	**MW-14**
Nearest Extraction Well:		MW-1	RW-3	RW-3
Approximate Distance:		210 ft	140 ft	110 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		24.79	18.62	16.80
22:00	4 hours	24.80	18.63	16.80
2:00	8 hours	24.80	18.63	16.80
Maximum Change:		-0.01	-0.01	0.00



Site Base Map

Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO. 12-3762
DATE March 28, 2012
FIGURE 2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number

2. Page 1 of

3. Emergency Response Phone

4. Waste Tracking Number 10825

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON, SC 29073

Generator's Phone: 803-360-7957

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: T K TANK SERVICES,INC

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

T K TANK SERVICES INC.
425 BOULEVARD RD.
SUMTER, SC

Facility's Phone: 803-418-5314

U.S. EPA ID Number

9. Waste Shipping Name and Description	10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
	1	TT	3250	gallons

SCDHEC Site	Permit Number	Gallons Produced
Boles Enterprises	04768	150
Boles Enterprises	04768	150
Former Royal Petroleum	19426	200
Matheny's Service Station	00820	300
Glover's Gulf Service	06994	100
Macks Camp	01253	200
Former Gulf Station	18447	125
Former McCoy Oil Site	19002	275
Mary Moorhead Property	16009	0
EZ Stop	06097	100
Brown Brothers	04145	200
Stewart Sandwich Shop	04474	50
Former Royal Petroleum	19426	250
Munn E Saver	11776	175
Ma-Shakit	06382	150
Former Price Service Center	19411	175
Breaker's 1	12898	150
Glover's Gulf Service	06994	150
Baxley Lawn & Saw	00892	50
Four Seasons	00120	150
Four Seasons	00120	150

accurately described above by the proper shipping name, and are classified, packaged, ational and national governmental regulations.

Month Day Year

INT'L

Port of entry/exit:

Transporter Signature (for exports only):

Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A. Gamble

Signature: Steve A. Gamble

Month 7 Day 23 Year 12

Transporter 2 Printed/Typed Name

Signature

Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator)

U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator)

Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name: Tommy Keels

Signature: Tommy Keels

Month 7 Day 23 Year 12

169-BLC-O 5 11977 (Rev. 9/09)

DESIGNATED FACILITY TO GENERATOR

Midlands
Environmental
Consultants, Inc.

August 20, 2012

UST
AUG 21 2012
PROGRAM

Mr. David Ebinger, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
DOCKETING
35 kch

Subject: Aggressive Fluid Vapor Recovery Report
Four Seasons Food & Fuel 5
North Augusta, South Carolina
SCDHEC Site ID # 00120; CA # 43681
MECI Project Number 12-4068D
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Ebinger,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Four Seasons Food & Fuel 5 on August 7, 2012. The event was conducted on recovery wells RW-3 and monitoring well MW-1 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the wells prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 14.66 pounds or approximately 2.53 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 1.83 pounds per hour. Concentrations of off gas produced during the event were recorded from 97.2 parts per million by volume (PPM) to 1,564 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 14.0 to 18.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1D.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2D. Monitoring well locations are depicted on attached Figure 1.

A total of 250 gallons of liquid was removed from recovery well RW-3 and monitoring well MW-1 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

for Darcie L. Odom
Staff Biologist

Courtney M. Sanders
Project Scientist

Attachments:

TABLE 1D
AFVR MONITORING DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068D
SCDHEC SITE ID NUMBER 00120

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (In. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
RW-3	08/07/12	9:00	0.50	14.0	97.2	1,660	149.40	0.17	0.09
MW-1	08/07/12	9:30	0.50	14.0	708	1,650	148.50	1.26	0.63
	08/07/12	10:00	0.50	14.0	468	1,660	149.40	0.84	0.42
	08/07/12	10:30	0.50	14.0	641	1,580	142.20	1.09	0.55
	08/07/12	11:00	0.50	14.0	584	1,740	156.60	1.10	0.55
	08/07/12	11:30	0.50	15.0	1,479	1,450	130.50	2.32	1.16
	08/07/12	12:00	0.50	15.0	1,403	1,500	135.00	2.27	1.14
	08/07/12	12:30	0.50	15.0	1,441	1,360	122.40	2.12	1.06
	08/07/12	13:00	0.50	15.0	1,436	1,470	132.30	2.28	1.14
	08/07/12	13:30	0.50	15.0	1,387	1,390	125.10	2.08	1.04
	08/07/12	14:00	0.50	15.0	1,407	1,420	127.80	2.16	1.08
	08/07/12	14:30	0.50	18.0	1,396	1,230	110.70	1.85	0.93
	08/07/12	15:00	0.50	18.0	1,493	1,160	104.40	1.87	0.94
	08/07/12	15:30	0.50	18.0	1,521	1,290	116.10	2.12	1.06
	08/07/12	16:00	0.50	18.0	1,564	1,230	110.70	2.08	1.04
	08/07/12	16:30	0.50	18.0	1,464	1,180	106.20	1.87	0.93
	08/07/12	17:00	0.50	18.0	1,521	1,120	100.80	1.84	0.92
									TOTAL
									14.66

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
RW-3	4"	15-30	24.71	24.72	***	***	24.53	***	0.19
MW-1	2"	15-25	***	24.72	***	***	24.44	***	0.28

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	RW-3	25.00
Truck Operator:	P. Boylan	MW-1	25.00
Stack I.D. (feet)	0.33 feet		

Recovery / Disposal Information

Hydro carbons Removed (vapor):	14.66	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	2.53	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	250	Gallons

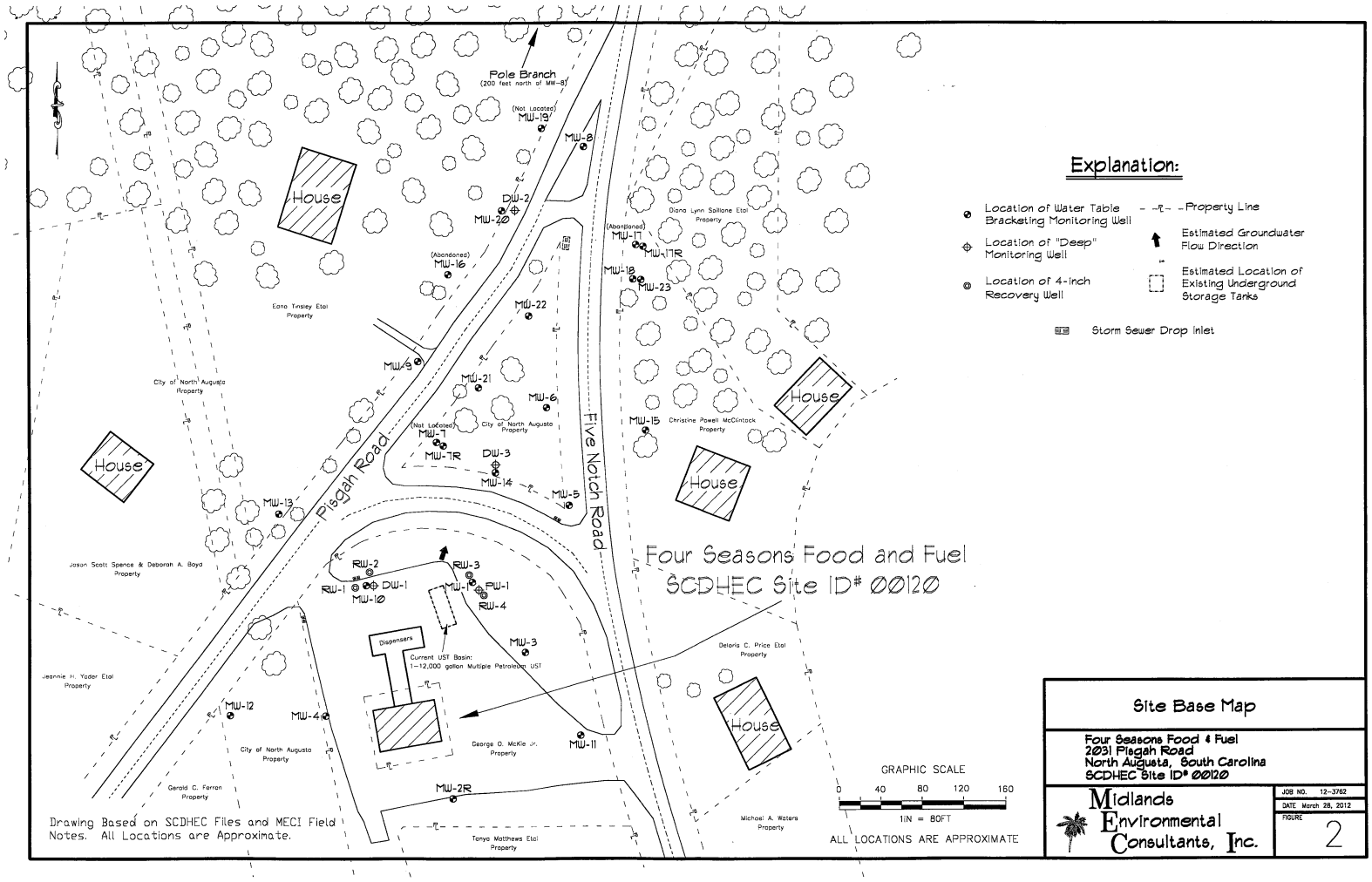
TABLE 2D
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068D
SCDHEC SITE ID NUMBER 00120

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-4	**MW-10**	**MW-3**
Nearest Extraction Well:		MW-1	RW-3	RW-3
Approximate Distance:		210 ft	100 ft	90 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:00	0.0	0	0	0
9:30	0.5	0	0	0
10:00	1.0	0	0	0
10:30	1.5	0	0	0
11:00	2.0	0	0	0
11:30	2.5	0	0	0
12:00	3.0	0	0	0
12:30	3.5	0	0	0
13:00	4.0	0	0	0
13:30	4.5	0	0	0
14:00	5.0	0	0	0
14:30	5.5	0	0	0
15:00	6.0	0	0	0
15:30	6.5	0	0	0
16:00	7.0	0	0	0
16:30	7.5	0	0	0
17:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-4	**MW-10**	**MW-3**
Nearest Extraction Well:		MW-1	RW-3	RW-3
Approximate Distance:		210 ft	100 ft	90 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		25.18	24.53	25.23
13:00	4 hours	25.18	24.62	25.31
17:00	8 hours	25.23	24.69	25.53
Maximum Change:		-0.05	-0.16	-0.08



Site Base Map

Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO.	12-3762
DATE	March 28, 2012
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON, SC 29073

Generator's Phone: 360-7157

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: T K TANK SERVICES INC

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

T K TANK SERVICES INC
425 BOULEVARD RD.
SUMTER, SC

Facility's Phone: 803-418-5314

U.S. EPA ID Number

SCDHEC Site	Permit Number	Gallons Produced
Ancrum	01617	150
Four Seasons	00120	200
Four Seasons	00120	250
Beaufort Patrol	01056	50
Garret Hampton	19466	250
Ben Altman Grocery	06216	0
Pantry 3418	05042	300
S&S Truck Stop	12205	150
S&S Truck Stop	12205	100
Mathenys	00820	300
Hilton's Grocery	12655	300
Franks Amoco	12614	300
Former Fast Fare	18131	150
Former Fast Fare	18131	100
Richland Landfill	11808	225
Phillips Rental	19328	50
Franks Service	08936	200
Prince Service	19411	100
Greenwave Amoco	12097	300
Glovers Gulf	06994	0
EZ Stop	06097	200

10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.	
1	TT	3675		

y and accurately described above by the proper shipping name, and are classified, packaged, nternational and national governmental regulations.

e — Month Day Year

GENERATOR

INT'L

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

TRANSPORTER

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A Gamble — Signature: Steve A. Gamble — Month 8 Day 27 Year 12

Transporter 2 Printed/Typed Name — Signature — Month Day Year

DESIGNATED FACILITY

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

Midlands
Environmental
Consultants, Inc.

August 20, 2012

UST
AUG 21 2012
PROGRAM

UST
DOCKETING

Mr. David Ebinger, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Aggressive Fluid Vapor Recovery Report
Four Seasons Food & Fuel 5
North Augusta, South Carolina
SCDHEC Site ID # 00120; CA # 43681
MECI Project Number 12-4068C
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Ebinger,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

A site visit was conducted at Four Seasons Food & Fuel 5 on July 17, 2012 to locate/gauge monitoring wells and to evaluate current site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Four Seasons Food & Fuel 5 on August 6, 2012. The event was conducted on recovery wells RW-1, RW-2, and monitoring well MW-10 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in the wells prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the wells immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 4.74 pounds or approximately 0.82 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.59 pounds per hour. Concentrations of off gas produced during the event were recorded from 83.6 parts per million by volume (PPM) to 1,268 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 14.0 to 20.0 inches of mercury during the event. A complete compilation of measurements recorded is presented in attached Table 1C.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2C. Monitoring well locations are depicted on attached Figure 1.

A total of 200 gallons of liquid was removed from recovery wells RW-1, RW-2 and monitoring well MW-10 during this event. Free phase petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to TK Tank Services, Sumter, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

for Darcie L. Odom
Staff Biologist

Courtney M. Sanders
Project Scientist

Attachments:

TABLE 1C
AFVR MONITORING DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068C
SCDHEC SITE ID NUMBER 00120

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements: Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
RW-1	08/06/12	9:00	0.50	14.0	83.6	1,640	147.60	0.15	0.07
RW-2	08/06/12	9:30	0.50	14.0	91.2	1,610	144.90	0.16	0.08
MW-10	08/06/12	10:00	0.50	14.0	86.7	1,660	149.40	0.16	0.08
	08/06/12	10:30	0.50	13.0	87.7	1,360	122.40	0.13	0.06
	08/06/12	11:00	0.50	13.0	102.0	1,370	123.30	0.15	0.08
	08/06/12	11:30	0.50	13.0	104.0	1,320	118.80	0.15	0.07
	08/06/12	12:00	0.50	13.0	103.0	1,300	117.00	0.14	0.07
	08/06/12	12:30	0.50	13.0	113.0	1,640	147.60	0.20	0.10
	08/06/12	13:00	0.50	18.0	301.0	1,230	110.70	0.40	0.20
	08/06/12	13:30	0.50	18.0	297.0	1,230	110.70	0.39	0.20
	08/06/12	14:00	0.50	19.0	300.0	1,320	118.80	0.43	0.21
	08/06/12	14:30	0.50	19.0	303.0	1,210	108.90	0.40	0.20
	08/06/12	15:00	0.50	19.0	321.0	1,360	122.40	0.47	0.24
	08/06/12	15:30	0.50	20.0	1,268.0	1,090	98.10	1.49	0.75
	08/06/12	16:00	0.50	20.0	1,243.0	1,180	106.20	1.58	0.79
	08/06/12	16:30	0.50	20.0	1,199.0	1,210	108.90	1.57	0.78
	08/06/12	17:00	0.50	20.0	1,182.0	1,190	107.10	1.52	0.76
									TOTAL
									4.74

Well Data: Well No.	Diameter (in)	Screened Interval (ft)	Pre AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Post AFVR Event: Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Corrected Depth to Water Change (ft)
RW-1	4"	15-30	24.24	24.25	0.01	***	***	***	#VALUE!
RW-2	4"	15-30	24.51	24.57	0.06	***	24.01	***	0.56
MW-10	2"	15-30	***	24.52	***	***	23.90	***	0.62

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	RW-1	25.00
Truck Operator:	P. Boylan	RW-2	25.00
Stack I.D. (feet)	0.33 feet	MW-10	25.00

Recovery / Disposal Information

Hydro carbons Removed (vapor):	4.74	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	0.82	Equivalent Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	TK Tank Services, Inc.	
Total Liquids Removed:	200	Gallons

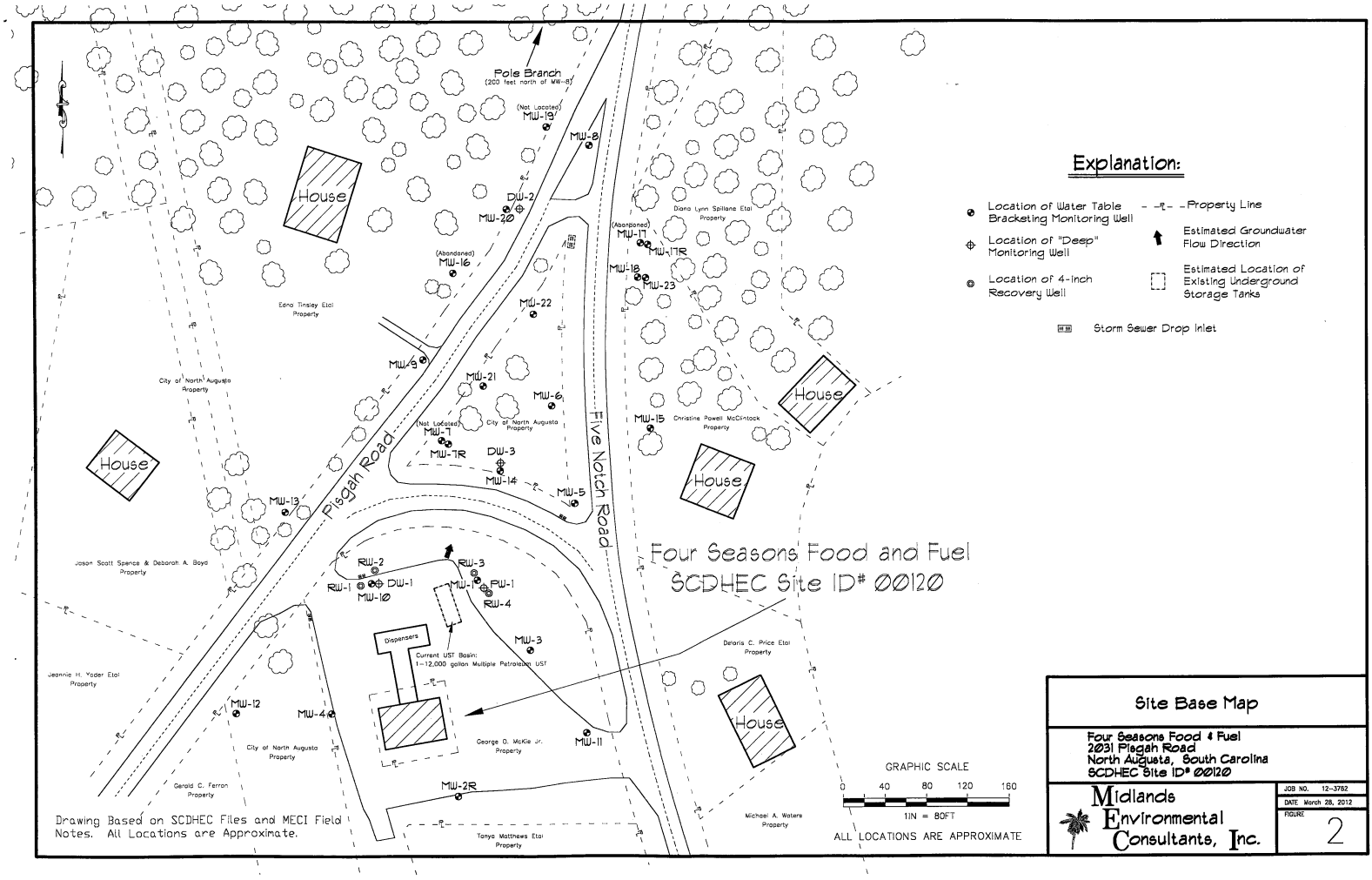
TABLE 2C
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
FOUR SEASONS FOOD & FUEL 5
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 12-4068C
SCDHEC SITE ID NUMBER 00120

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-4	**MW-1**	**MW-3**
Nearest Extraction Well:		RW-1	RW-2	MW-10
Approximate Distance:		135 ft	100 ft	160 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
9:00	0.0	0	0	0
9:30	0.5	0	0	0
10:00	1.0	0	0	0
10:30	1.5	0	0	0
11:00	2.0	0	0	0
11:30	2.5	0	0	0
12:00	3.0	0	0	0
12:30	3.5	0	0	0
13:00	4.0	0	0	0
13:30	4.5	0	0	0
14:00	5.0	0	0	0
14:30	5.5	0	0	0
15:00	6.0	0	0	0
15:30	6.5	0	0	0
16:00	7.0	0	0	0
16:30	7.5	0	0	0
17:00	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-4	**MW-1**	**MW-3**
Nearest Extraction Well:		RW-1	RW-2	MW-10
Approximate Distance:		135 ft	100 ft	160 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		25.22	24.75	25.25
13:00	4 hours	25.22	24.75	25.72
17:00	8 hours	25.21	24.72	25.73
Maximum Change:		0.01	0.03	-0.47



Site Base Map

Four Seasons Food & Fuel
2031 Piegah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO.	12-3782
DATE	March 28, 2012
FIGURE	2

NON-HAZARDOUS WASTE MANIFEST

1. Generator ID Number
2. Page 1 of
3. Emergency Response Phone
4. Waste Tracking Number

5. Generator's Name and Mailing Address

MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON, SC 29073

Generator's Phone: 360-7157

Generator's Site Address (if different than mailing address)

6. Transporter 1 Company Name: T K TANK SERVICES INC

U.S. EPA ID Number

7. Transporter 2 Company Name

U.S. EPA ID Number

8. Designated Facility Name and Site Address

T K TANK SERVICES INC
425 BOULEVARD RD.
SUMTER, SC

Facility's Phone: 803-418-5314

U.S. EPA ID Number

SCDHEC Site	Permit Number	Gallons Produced
Ancrum	01617	150
Four Seasons	00120	200
Four Seasons	00120	250
Beaufort Patrol	01056	50
Garret Hampton	19466	250
Ben Altman Grocery	06216	0
Pantry 3418	05042	300
S&S Truck Stop	12205	150
S&S Truck Stop	12205	100
Mathenys	00820	300
Hilton's Grocery	12655	300
Franks Amoco	12614	300
Former Fast Fare	18131	150
Former Fast Fare	18131	100
Richland Landfill	11808	225
Phillips Rental	19328	50
Franks Service	08936	200
Prince Service	19411	100
Greenwave Amoco	12097	300
Glovers Gulf	06994	0
EZ Stop	06097	200

10. Containers No.	Type	11. Total Quantity	12. Unit Wt./Vol.
1	TT	3675	

y and accurately described above by the proper shipping name, and are classified, packaged, nternational and national governmental regulations.

e — Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:

Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials

Transporter 1 Printed/Typed Name: Steve A Gamble — Signature: Steve A. Gamble — Month 8 Day 24 Year 12

Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy

17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection

Manifest Reference Number:

17b. Alternate Facility (or Generator) — U.S. EPA ID Number

Facility's Phone:

17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of materials covered by the manifest except as noted in Item 17a

Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

David E

#00120

csra TESTING AND ENGINEERING COMPANY, INC.

James M. Pope, P.E. 1005 Emmett Street • Suite A • Augusta, GA 30904 • (706) 733-6960

Transmittal Cover Sheet

SCDOT Intersection Project
SCDHEC Site #00120
Pisgah Road and Five Notch Road
North Augusta, South Carolina

Date: August 27, 2012 Report No.: H-034.12

Transmitted To	Transmitted By
Stacey Black Satterfield Construction Company P.O. Box 279 Greenwood, South Carolina 29648	Jon Pruett CSRA Testing and Engineering Co., Inc. 1005 Emmett Street, Suite A Augusta, Georgia 30904

Package Transmitted For	Delivered Via
☒ Information ☐ Approval ☐ Revision ☐ Other_____	Mail

Remarks

Mr. Black:

As requested, we have abandoned eleven (11) monitoring wells for Site #00120 that are within the construction area for the new intersection. The wells were abandoned in accordance with DHEC regulations. Please find the attached Water Well Record for each monitoring well abandoned.

Please do not hesitate to contact us if you have any questions or if we can be of further assistance.

UST DOCKETING 36 tech

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: DW-3 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 60 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: Site ID# 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.:
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
in. to ft. depth
in. to ft. depth
Height: Above /Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type
Well Disinfected ☐ Yes ☐ No Type: Amount:

18. PUMP: Date Installed: Not Installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: Tom M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-5 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 20 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:
Site ID# 00120

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.:
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
in. to ft. depth
in. to ft. depth
Height: Above /Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type
Well Disinfected ☐ Yes ☐ No Type: Amount:

18. PUMP: Date Installed: Not Installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Well Driller Date: 8/27/2012

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-6 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 19 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: Site ID# 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.:
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
in. to ft. depth
in. to ft. depth
Height: Above /Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type
Well Disinfected ☐ Yes ☐ No Type: Amount:

18. PUMP: Date Installed: Not Installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: James M Pope Date: 8/27/2012
Well Driller
If D Level Driller, provide supervising driller's name:

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-7 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 30 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:
Site ID# 00120

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
_____ ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive
North Augusta, SC 29841
Level: A B C D (circle one)
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-7R **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 30 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: Site ID# 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.:
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
in. to ft. depth
in. to ft. depth
Height: Above /Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Diam.:
Slot/Gauge: Length:
Set Between: ft. and ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from ft. to ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From ft. to ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type
Well Disinfected ☐ Yes ☐ No Type: Amount:

18. PUMP: Date Installed: Not installed ☐
Mfr. Name: Model No.:
H.P. Volts Length of drop pipe ft. Capacity gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-8 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 15 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:
Site ID# 00120

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
_____ ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-9 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 20 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: Site ID# 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
_____ ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-14 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 24 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:
Site ID# 00120

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
_____ ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-15 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 12 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: Site ID# 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
_____ ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-22 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 16 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: Site ID# 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
_____ ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL: MW-23 **COUNTY:** Aiken
Name: Four Seasons Food and Fuel
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: **PUBLIC SYSTEM NUMBER:**

4. ABANDONMENT: ☒ Yes ☐ No
Grouted Depth: from Surface ft. to 9 ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: Site ID# 00120

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started:
_____ ft. Date Completed:

10. CASING: ☐ Threaded ☐ Welded
Diam.: _____
Type: ☐ PVC ☐ Galvanized ☐ Steel ☐ Other
_____ in. to _____ ft. depth
_____ in. to _____ ft. depth
Height: Above /Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: _____ Diam.: _____
Slot/Gauge: _____ Length: _____
Set Between: _____ ft. and _____ ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL _____ ft. below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☐ Yes ☐ No
Installed from _____ ft. to _____ ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☐ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From _____ ft. to _____ ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date Installed: _____ Not Installed ☐
Mfr. Name: _____ Model No.: _____
H.P. _____ Volts _____ Length of drop pipe ___ ft. Capacity ___ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: James M. Pope **CERT. NO.:** A791
Address: (Print) 212 E. Shoreline Drive Level: A B C D (circle one)
North Augusta, SC 29841
Telephone No.: 706-733-6960 Fax No.: 706-737-0629

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: James M Pope Date: 8/27/2012
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Microsoft Office Excel 97-2003 Worksheet
SB-31.xls
Thursday, January 01, 1970 12:00:00 AM

02-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 10965
Project Name :Four Seasons Food & Fuel
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46203 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46203 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Brian Burns
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 10965

Client Project: Four Seasons Food & Fuel / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 1 page case narrative, 1 Chain of Custody page, 3 analytical results pages, and 2 QC surrogate recovery pages.

The following items were noted concerning this work order:

Receiving Notations:

1. Upon receipt, air bubbles greater than ¼ inch were noted in all vials submitted for Select VOCs by SW8260B analysis in GW-4.

Michael F. Broome — *September 29, 2006*
Receiving — Date

Select VOCs by SW8260B Notations:

1. The pH of each sample was <2.0 prior to analysis.

Mei Liang — *October 2, 2006*
Senior Analyst — Date

These Case Narrative Notations have been generated, reviewed, and edited by:

October 2, 2006
Brian Burns — Date
Client Services

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ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

46203

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

CHAIN OF CUSTODY

Company Name: Consultech Environmental

Address: Cary, NC

Results Sent to: (Client Contact): Joe Ghould

Email address:

Contact Phone #: 919.861.4314 Fax#: 4317

Project (Site) Name: Four Seasons Food & Fuel

Project Number: C.06.08.045

Billing address:

P.O.# (if required):

For Laboratory Use Only:
QC Level: (1) 2 3 4 CLP-Like
Custody Seal(s): ____ Y (N) Tape
AAL LIMS System ID: 14637
Receiver's Initials/Temp: —
AAL Work Order # 10965

Preservation Code: (See below)

Sampler(s): (signature): Van T. Chisholm

Sampler(s): (printed): Van T. Chisholm

Field Comments: RUSH BTEX

Line No.	Sample ID #	06' Sample Date / Time	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX	AAL Lab ID: 10965
1	GW. 4	9.28 / 1400		X		North Augusta, SC	2	2	001
2	GW. 5	/ 1430		X			2	2	002
3	GW - 6	/ 1500		X					003
4	GW. 3	1530		X					004
5	GW. 1	1600		X					005
6	GW. 2	1700		X					006
7									
8									
9									
10									

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
Van T. Chisholm	9.28.06/2000	[illegible]	9/29/06 0950	Fed Ex / (UPS) / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	Date / Time	4) Received By:	Date / Time	Turnaround Time Requested: RUSH

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 10965

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **GW-4** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-001** Date Collected: **Sep-28-06 14:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 15:11 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-5** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-002** Date Collected: **Sep-28-06 14:30** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 15:40 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-6** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-003** Date Collected: **Sep-28-06 15:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 16:07 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

*

Version: 1.000

Certificate of Analytical Results 10965

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **GW-3** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-004** Date Collected: **Sep-28-06 15:30** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 16:43 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-005** Date Collected: **Sep-28-06 16:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 17:10 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-2** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-006** Date Collected: **Sep-28-06 17:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 17:37 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

*

Version: 1.000

Certificate of Analytical Results 10965

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **30975 BLK**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **30975 BLK**	Date Collected:	Date Received:
Sample Depth:		

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 09:17 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01

Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

*

Version: 1.000

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/02/06 12:10

Work Order #: 10965

Project ID: C-06-08-045

Lab Batch #: 33681 **Sample:** 10965-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.5	50.0	91	53-159	
Bromofluorobenzene	47.3	50.0	95	30-186	
Toluene-d8	49.5	50.0	99	53-152	

Lab Batch #: 33681 **Sample:** 10965-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	32.6	50.0	65	53-159	
Bromofluorobenzene	48.5	50.0	97	30-186	
Toluene-d8	52.6	50.0	105	53-152	

Lab Batch #: 33681 **Sample:** 10965-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	42.4	50.0	85	53-159	
Bromofluorobenzene	67.8	50.0	136	30-186	
Toluene-d8	47.3	50.0	95	53-152	

Lab Batch #: 33681 **Sample:** 10965-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	52.4	50.0	105	53-159	
Bromofluorobenzene	45.2	50.0	90	30-186	
Toluene-d8	49.2	50.0	98	53-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/02/06 12:10

Work Order #: 10965

Project ID: C-06-08-045

Lab Batch #: 33681 **Sample:** 10965-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.1	50.0	88	53-159	
Bromofluorobenzene	47.8	50.0	96	30-186	
Toluene-d8	49.6	50.0	99	53-152	

Lab Batch #: 33681 **Sample:** 10965-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.5	50.0	89	53-159	
Bromofluorobenzene	47.5	50.0	95	30-186	
Toluene-d8	50.2	50.0	100	53-152	

Lab Batch #: 33681 **Sample:** 30975 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	41.7	50.0	83	49-146	
Bromofluorobenzene	48.7	50.0	97	77-117	
Toluene-d8	50.0	50.0	100	71-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

09-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 10967
Project Name :Four Seasons Fuel & Food #5
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46202 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46202 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Brian Burns
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)

6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 10967

Client Project: Four Seasons Fuel & Food #5 / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 1 page case narrative, 1 Chain of Custody page, 1 analytical results page, and 1 QC surrogate recovery page.

The following items were noted concerning this work order:

Receiving Notations:

1. Results are reported on a wet weight basis.

Michael F. Broome — *September 29, 2006*
Receiving — Date

Select VOCs by SW8260B Notations:

1. The sample was analyzed using Modified Preparatory Method SW5035; vials received had not been filled according to laboratory specification and could not be used. By Modified Preparatory Method SW5035 Modified, approximately 5g of sample was transferred from the 2 oz jar provided into an appropriate vial and analyzed.

Gary Blackmon — *October 5, 2006*
VOC Analyst — Date

This Case Narrative & Notations have been generated, reviewed, and edited by:

Brian Burns — *October 9, 2006*
Project Manager — Date

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46202

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

CHAIN OF CUSTODY

Company Name: Consultech Environmental
Address: Cary NC
Results Sent to: (Client Contact): Joe Chould
Email address:
Contact Phone #: 919. 861. 4314 Fax#: 4317
Project (Site) Name: Four Seasons Fuel + Food #5
Project Number: C.06.08.045

Billing address:
P.O.# (if required):

For Laboratory Use Only: AAL LIMS System ID: 14637
QC Level: 1 2 3 4 CLP-Like
Receiver's Initials/Temp: —
Custody Seal(s): Y N Tape
AAL Work Order # 10967

Preservation Code: (See below)

Sampler(s): (signature) Van T Chisholm
Sampler(s): (printed) Van T. Chisholm

Analysis Requested

Field Comments:

Line No.	Sample ID #	Sample Date / Time	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX NAPH 7	BTEX NAPH										AAL Lab ID: 10967
1	S-1	9.28.06/1200	X		S	N. Augusta, SC	4	3	1										↓001
2																			–
3																			–
4																			–
5																			–
6																			–
7																			–
8																			–
9																			–
10																			–

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
		[signature]	9/29/06 0950	Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	Date / Time	4) Received By:	Date / Time	Turnaround Time Requested: STD

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 10967

Consultech Environmental, Inc., Cary, NC

Four Seasons Fuel & Food #5

Sample Id: **S-1** Matrix: **SOIL** % Moisture:
Lab Sample Id: **10967-001** Date Collected: **Sep-28-06 12:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5035MOD

Date Analyzed: Oct-05-06 12:10 Analyst: GB01 Date Prep: Oct-05-06 10:08 Tech: GB01
Seq Number: 33728

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.71	ug/kg		1
Toluene	108-88-3	BRL	1.0	0.87	ug/kg		1
Ethylbenzene	100-41-4	BRL	1.0	0.87	ug/kg		1
Xylenes, Total	1330-20-7	BRL	2.0	1.9	ug/kg		1
Naphthalene	91-20-3	BRL	5.0	0.85	ug/kg		1

Sample Id: **31007 BLK** Matrix: **SOIL** % Moisture:
Lab Sample Id: **31007 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5035MOD

Date Analyzed: Oct-05-06 11:39 Analyst: GB01 Date Prep: Oct-05-06 10:08 Tech: GB01
Seq Number: 33728

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.71	ug/kg		1
Toluene	108-88-3	BRL	1.0	0.87	ug/kg		1
Ethylbenzene	100-41-4	BRL	1.0	0.87	ug/kg		1
Xylenes, Total	1330-20-7	BRL	2.0	1.9	ug/kg		1
Naphthalene	91-20-3	BRL	5.0	0.85	ug/kg		1

*

Version: 1.000

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Fuel & Food #5

Report Date: 10/09/06 12:31

Work Order #: 10967

Project ID: C-06-08-045

Lab Batch #: 33728 **Sample:** 10967-001 / SMP **Batch:** 1 **Matrix:** S

Units: ug/kg

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	53.95	50.00	108	83-136	
4-Bromofluorobenzene	46.08	50.00	92	76-161	
Toluene-d8	55.87	50.00	112	80-127	

Lab Batch #: 33728 **Sample:** 31007 BLK / BLK **Batch:** 1 **Matrix:** S

Units: ug/kg

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.97	50.00	92	63-135	
4-Bromofluorobenzene	46.86	50.00	94	79-122	
Toluene-d8	58.75	50.00	118	78-119	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

25-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 11032
Project Name :Four Seasons Food & Fuel
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46207 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46207 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Larry Gwinn
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 11032

Client Project: Four Seasons Food & Fuel #5 / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 2 page case narrative, 1 Chain of Custody page, 24 analytical results pages, 12 QC surrogate recovery pages, and a list of common EPA qualifier codes used by AAL.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples were filtered upon receipt at the laboratory, and their filtrates preserved to pH less than 2 with Nitric Acid, for the Dissolved Iron by SW6010B analysis.

Michael F. Broome — October 12, 2006
Receiving — Date

Methane by RSK 175 Notations:

1. The spike standard for the matrix spike and matrix spike duplicate was diluted out; therefore low recoveries were reported.

Dawn Sengsourichanh — October 16, 2006
GC Analyst — Date

PAHs by SW8270C Notations:

1. Batch QC consists of the Blank Spike sample and Blank Spike Duplicate sample recoveries due to limited sample volume.
2. The sample, DW-3, had a low surrogate recovery for Terphenyl-d14. However, the sample could not be re-extracted due to insufficient sample volume.

Chris Pittman — October 18, 2006
SVOC Analyst — Date

VOCs by SW8260B Notations:

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1. The pH of the water samples for work order # 11032 was <2.0 prior to the VOC analysis.

Mei Liang — October 20, 2006
Senior VOC Analyst — Date

Anions by SW9056 Notations:

1. The following samples were analyzed 8 days outside the EPA recommended holding time for nitrate analysis due to laboratory error.

   Anions-SW-846-9056
   (11032) DW-3

2. Matrix Spike and Matrix Spike Duplicate recoveries for Sulfate were outside the laboratory control limits due to matrix interference.

Lisandra J. Betancourt — October 24, 2006
IC Analyst — Date

This Case Narrative & Notations have been generated, reviewed, and edited by:

Larry M. Gwinn, Jr. — October 25, 2006
Laboratory Director — Date

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

46207

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech Environmental

Address: Cary NC

Results Sent to: (Client Contact): Joe Ghould

Email address: ~~Four Seasons Food & Fu~~

Contact Phone #: 919.861.4314 Fax#: 4317

Project (Site) Name: Four Seasons Food & Fuel #5 N. Augusta, SC

Project Number: C.06.08.045

Billing address:

P.O.# (if required):

For Laboratory Use Only: **AAL LIMS System ID:**

QC Level: 1 2 3 4 CLP-Like Receiver's Initials/Temp:

Custody Seal(s): Y N Tape AAL Work Order #

Preservation Code: (See below)

Sampler(s): (signature) Van T. Chisholm

Sampler(s): (printed) Van T. Chisholm

Analysis Requested

Field Comments:

Line No.	Sample ID #	Sample Date / Time (06)	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX NAPH, MTBE 1,2 dca, 8-oxygenate	EDB	Methane	lead	nitrate/sulfate Fe iron	PAH's						AAL Lab ID: 11032
1	MW. ~~1~~	10.11 / 1000		X	GW	N. Augusta, S.C.	9	2	2	2	1	1	1	NO SAMPLE					
2	. 3	1020		X							1	1	1						001
3	. 4	1040		X							1	1	1						002
4	. 5	1100		X							1	1	1						003
5	. 6	1120		X							1	1	1						004
6	. 7	1140		X							1	1	1						005
7	. 8	1200		X							1	1	1						006
8	MW. 9	1220		X							1	1	1						007
9	DW. 1	1300		X							1	1	1						008
10	DW. 2	1400		X							1	1	1						009
11	DW. 3	10.11 / 1500		X	GW	N. Augusta	9	2	2	2	1	1	1						010

1) Relinquished By: Van T. Chisholm Date / Time 10.11.06 / 1800

2) Received By: [signature] Date / Time 10/12/06 0957

Delivered by: (Circle One) Fed Ex / UPS / DHL / AAL Pickup / Hand / Other

3) Relinquished By: Date / Time

4) Received By: Date / Time

Turnaround Time Requested:

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-3**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-001**	Date Collected: **Oct-11-06 10:20**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:20 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 00:07 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 10:51 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0230	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 14:52 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 18:48 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.7	1.0	0.062	mg/L		1

*

Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-3**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-001**	Date Collected: **Oct-11-06 10:20**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 15:32 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 18:18 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01

Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

*

Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-4**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-002**	Date Collected: **Oct-11-06 10:40**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:46 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 00:25 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:17 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:10 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 19:38 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.86	0.10	0.027	mg/L		1
Sulfate	14808-79-8	10	1.0	0.062	mg/L		1

*

Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-4**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-002**	Date Collected: **Oct-11-06 10:40**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 15:52 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 18:45 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01

Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	9.7	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-5**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-003**	Date Collected: **Oct-11-06 11:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:51 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 00:42 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:23 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 12:28 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 19:54 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	9.1	0.10	0.027	mg/L		1
Sulfate	14808-79-8	2.4	1.0	0.062	mg/L		1

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Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-5**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-003**	Date Collected: **Oct-11-06 11:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 16:13 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 19:12 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01

Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-6**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-004**	Date Collected: **Oct-11-06 11:20**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:57 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	3.58	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 01:00 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.15	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:29 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:29 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.42	0.030	0.02	mg/L		10

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 20:10 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.6	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-6**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-004**	Date Collected: **Oct-11-06 11:20**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 16:33 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	20	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	41	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	170	20	3.0	ug/L		2
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 19:39 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01

Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	660	50	34	ug/L		50
Toluene	108-88-3	17000	100	68	ug/L		100
Ethylbenzene	100-41-4	660	50	33	ug/L		50
Xylenes, Total	1330-20-7	3500	50	90	ug/L		50
Methyl tert-butyl ether	1634-04-4	4000	50	31	ug/L		50
Naphthalene	91-20-3	BRL	250	200	ug/L		50
1,2-Dichloroethane	107-06-2	BRL	250	41	ug/L		50
Diisopropyl ether	108-20-3	BRL	250	45	ug/L		50
Ethanol	64-17-5	BRL	5000	2800	ug/L		50
Ethyl tert-butyl alcohol	590-36-3	BRL	1300	850	ug/L		50
Ethyl tert-butyl ether	637-92-3	BRL	250	55	ug/L		50
Tert-Amyl alcohol	75-85-4	3300	1300	750	ug/L		50
tert-Amyl methyl ether	994-05-8	BRL	250	55	ug/L		50
tert-Butyl alcohol	75-65-0	5400	1300	55	ug/L		50
tert-Butyl formate	762-75-4	BRL	1300	900	ug/L		50

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-7**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-005**	Date Collected: **Oct-11-06 11:40**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:03 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	2.32	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 01:18 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:52 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:12 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.012	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 20:27 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.66	0.10	0.027	mg/L		1
Sulfate	14808-79-8	10	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-7**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-005**	Date Collected: **Oct-11-06 11:40**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 16:54 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 18:25 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01

Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	120	1.0	0.67	ug/L		1
Toluene	108-88-3	1500	20	14	ug/L		20
Ethylbenzene	100-41-4	42	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	320	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	170	20	12	ug/L		20
Naphthalene	91-20-3	9.1	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	230	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	1300	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	170	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-8**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-006**	Date Collected: **Oct-11-06 12:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:08 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 01:35 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:58 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:00 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.043	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 20:43 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	4.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	13	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-8**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-006**	Date Collected: **Oct-11-06 12:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 17:14 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:23 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01

Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-9**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-007**	Date Collected: **Oct-11-06 12:20**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:14 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 01:53 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-17-06 23:09 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:01 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 21:00 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	3.8	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-9**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-007**	Date Collected: **Oct-11-06 12:20**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 17:35 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 19:19 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01

Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Four Seasons Food & Fuel

Sample Id: **DW-1**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-008**	Date Collected: **Oct-11-06 13:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:44 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 02:11 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-17-06 23:14 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:03 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 21:16 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	4.1	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.6	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **DW-1**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-008**	Date Collected: **Oct-11-06 13:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 17:55 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 19:47 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01

Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	2.3	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	1.1	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Four Seasons Food & Fuel

Sample Id: **DW-2**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-009**	Date Collected: **Oct-11-06 14:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:50 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 02:28 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-17-06 23:20 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:05 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 21:32 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	4.4	0.10	0.027	mg/L		1
Sulfate	14808-79-8	3.3	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **DW-2**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-009**	Date Collected: **Oct-11-06 14:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 18:16 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:50 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01

Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	4.3	1.0	0.67	ug/L		1
Toluene	108-88-3	190	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	6.9	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	31	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Sample Id: **DW-3**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-010**	Date Collected: **Oct-11-06 15:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:56 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	34.3	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 02:46 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.017	0.0041	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-17-06 23:26 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:27 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 16:13 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.5	0.10	0.027	mg/L		1
Sulfate	14808-79-8	99	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **DW-3**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-010**	Date Collected: **Oct-11-06 15:00**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 18:36 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 14:17 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01

Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	11	1.0	0.67	ug/L		1
Toluene	108-88-3	1000	10	6.8	ug/L		10
Ethylbenzene	100-41-4	64	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	300	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	1.7	1.0	0.62	ug/L		1
Naphthalene	91-20-3	15	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

*

Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301088 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301088 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 09:45 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Sample Id: **301094 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301094 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 14:42 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Sample Id: **301101 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301101 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 10:31 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301109 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301109 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 14:30 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Sample Id: **301111 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301111 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-17-06 20:35 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301119 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301119 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 09:24 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01
Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **301141 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301141 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 09:23 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01
Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301159 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301159 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 09:23 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01
Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **33873 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **33873 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 15:15 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	BRL	1.0	0.062	mg/L		1

Sample Id: **33936 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **33936 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 12:07 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	BRL	1.0	0.062	mg/L		1

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Version: 1.016

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.9	96	60-140	

Lab Batch #: 33861 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.9	96	60-140	

Lab Batch #: 33861 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.2	4.9	86	60-140	

Lab Batch #: 33861 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.9	88	60-140	

Lab Batch #: 33861 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	4.9	94	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.9	96	60-140	

Lab Batch #: 33861 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.4	4.8	92	60-140	

Lab Batch #: 33861 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.8	98	60-140	

Lab Batch #: 33861 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.9	5.0	118	60-140	

Lab Batch #: 33861 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.7	5.0	114	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	5.0	86	60-140	

Lab Batch #: 33861 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.4	5.0	88	60-140	

Lab Batch #: 33861 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.8	90	60-140	

Lab Batch #: 33861 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.8	90	60-140	

Lab Batch #: 33861 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	4.8	96	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.5	4.8	94	60-140	

Lab Batch #: 33861 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.1	4.9	104	60-140	

Lab Batch #: 33861 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.8	4.9	98	60-140	

Lab Batch #: 33861 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	2.3	4.2	55	60-140	Z

Lab Batch #: 33861 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	2.3	4.2	55	60-140	Z

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 301111 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.4	5.0	88	60-140	

Lab Batch #: 33861 **Sample:** 301111 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.5	5.0	90	60-140	

Lab Batch #: 33857 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	33.8	50.0	68	35-96	
Nitrobenzene-d5	30.1	50.0	60	22-108	
p-Terphenyl-d14	32.2	50.0	64	18-133	

Lab Batch #: 33857 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	34.9	50.0	70	35-96	
Nitrobenzene-d5	30.7	50.0	61	22-108	
p-Terphenyl-d14	25.8	50.0	52	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33857 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	37.3	50.0	75	35-96	
Nitrobenzene-d5	34.2	50.0	68	22-108	
p-Terphenyl-d14	37.1	50.0	74	18-133	

Lab Batch #: 33857 **Sample:** 11032-004 / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.8	50.0	80	35-96	
Nitrobenzene-d5	42.1	50.0	84	22-108	
p-Terphenyl-d14	33.8	50.0	68	18-133	

Lab Batch #: 33857 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	40.9	50.0	82	35-96	
Nitrobenzene-d5	39.7	50.0	79	22-108	
p-Terphenyl-d14	34.0	50.0	68	18-133	

Lab Batch #: 33857 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	34.5	50.0	69	35-96	
Nitrobenzene-d5	31.1	50.0	62	22-108	
p-Terphenyl-d14	29.1	50.0	58	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33857 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	40.0	50.0	80	35-96	
Nitrobenzene-d5	37.1	50.0	74	22-108	
p-Terphenyl-d14	25.2	50.0	50	18-133	

Lab Batch #: 33857 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	31.7	50.0	63	35-96	
Nitrobenzene-d5	28.1	50.0	56	22-108	
p-Terphenyl-d14	32.9	50.0	66	18-133	

Lab Batch #: 33857 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.9	50.0	74	35-96	
Nitrobenzene-d5	33.6	50.0	67	22-108	
p-Terphenyl-d14	33.5	50.0	67	18-133	

Lab Batch #: 33857 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.7	50.0	73	35-96	
Nitrobenzene-d5	33.1	50.0	66	22-108	
p-Terphenyl-d14	36.9	50.0	74	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33857 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	28.3	50.0	57	35-96	
Nitrobenzene-d5	29.9	50.0	60	22-108	
p-Terphenyl-d14	3.77	50.0	8	18-133	Z

Lab Batch #: 33857 **Sample:** 301109 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	33.0	50.0	66	30-104	
Nitrobenzene-d5	30.9	50.0	62	26-96	
p-Terphenyl-d14	43.2	50.0	86	59-125	

Lab Batch #: 33854 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.57	50.00	101	53-159	
Bromofluorobenzene	48.78	50.00	98	30-186	
Toluene-d8	49.98	50.00	100	83-136	

Lab Batch #: 33854 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	47.71	50.00	95	53-159	
Bromofluorobenzene	48.83	50.00	98	30-186	
Toluene-d8	50.22	50.00	100	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33854 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.68	50.00	97	53-159	
Bromofluorobenzene	50.29	50.00	101	30-186	
Toluene-d8	50.80	50.00	102	83-136	

Lab Batch #: 33854 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.98	50.00	102	53-159	
Bromofluorobenzene	48.14	50.00	96	30-186	
Toluene-d8	51.11	50.00	102	83-136	

Lab Batch #: 33854 **Sample:** 301119 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.07	50.00	100	65-125	
Bromofluorobenzene	49.11	50.00	98	66-148	
Toluene-d8	49.54	50.00	99	86-127	

Lab Batch #: 33888 **Sample:** 11032-004 / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	43.76	50.00	88	53-159	
Bromofluorobenzene	48.05	50.00	96	30-186	
Toluene-d8	50.17	50.00	100	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33888 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	51.23	50.00	102	53-159	
Bromofluorobenzene	48.82	50.00	98	30-186	
Toluene-d8	49.32	50.00	99	83-136	

Lab Batch #: 33888 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.59	50.00	93	53-159	
Bromofluorobenzene	48.44	50.00	97	30-186	
Toluene-d8	49.53	50.00	99	83-136	

Lab Batch #: 33888 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	47.67	50.00	95	53-159	
Bromofluorobenzene	48.14	50.00	96	30-186	
Toluene-d8	50.67	50.00	101	83-136	

Lab Batch #: 33888 **Sample:** 301141 BKS / BKS **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.85	50.00	98	65-125	
Bromofluorobenzene	49.58	50.00	99	66-148	
Toluene-d8	52.18	50.00	104	86-127	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33888 **Sample:** 301141 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.18	50.00	100	65-125	
Bromofluorobenzene	48.91	50.00	98	66-148	
Toluene-d8	49.79	50.00	100	86-127	

Lab Batch #: 33903 **Sample:** 11032-005 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.11	50.00	92	53-159	
Bromofluorobenzene	47.33	50.00	95	30-186	
Toluene-d8	51.08	50.00	102	83-136	

Lab Batch #: 33903 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.00	50.00	92	53-159	
Bromofluorobenzene	49.41	50.00	99	30-186	
Toluene-d8	50.47	50.00	101	83-136	

Lab Batch #: 33903 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.38	50.00	97	53-159	
Bromofluorobenzene	48.23	50.00	96	30-186	
Toluene-d8	50.34	50.00	101	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33903 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.55	50.00	93	53-159	
Bromofluorobenzene	49.83	50.00	100	30-186	
Toluene-d8	50.88	50.00	102	83-136	

Lab Batch #: 33903 **Sample:** 11032-010 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	41.58	50.00	83	53-159	
Bromofluorobenzene	47.42	50.00	95	30-186	
Toluene-d8	49.26	50.00	99	83-136	

Lab Batch #: 33903 **Sample:** 301159 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	49.29	50.00	99	65-125	
Bromofluorobenzene	48.28	50.00	97	66-148	
Toluene-d8	50.06	50.00	100	86-127	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Accura Analytical Laboratory

EPA Qualifier Codes and Abbreviations used by AAL

BRL: This abbreviation indicates that the analytical results were Below the Reporting Limit (BRL).

MDL: The Method Detection Limit (MDL), as defined by 40 CFR Part 136, Appendix B, is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero.

U: The compound was analyzed for but not detected.

J: This indicates an estimated value. This flag is used in 3 incidences.

(1) When estimating a concentration for tentatively identified compounds where 1:1 response is assumed.
(2) When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the Contract Required Detection Limit (CRDL) – or Reporting Limit - but greater than the MDL.
(3) When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL – or Reporting Limit- but greater than MDL.

N: Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds. (TICs), where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the ”N” flag is not used.

C: This applies to pesticide result where the identification has been confirmed by GC/MS. Do **not** apply if this flag if analyte(s) were not confirmed. Used the laboratory-defined flag instead (see the X qualifier).

B: This is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The flag shall be used for a tentatively identified compound as well as for a positively identified target compound.

E: This identifies compounds whose concentrations exceed the upper level of the linear calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract should be diluted and re-analyzed.

Note: *For Total xylene, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately.*

X: Defined by the laboratory

Z: Surrogates/Spikes results exceeds quality control limits

ZZ: Surrogates/Spikes results exceeds quality control limits in multiple samples

***: Surrogate recoveries were diluted out

M: Manual integrations were necessary and an “m” qualifying code is present on the quantitation report next to the analyte.

D: This flag indicates that the identified compound is reported from the dilution run.

27-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 11059
Project Name :Four Seasons Food & Fuel #5
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46020 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46020 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Larry Gwinn
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)

6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 11059

Client Project: Four Seasons Food & Fuel / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 2 page case narrative, 1 Chain of Custody page, 18 analytical results pages, 9 QC surrogate recovery pages, and a list of common EPA qualifier codes used by AAL.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples for Dissolved Iron were filtered and preserved with Nitric Acid to a pH<2 upon receipt at the laboratory.

Michael F. Broome — October 18, 2006
Receiving — Date

PAHs by SW8270C Notations:

1. The surrogate recoveries were outside the laboratory control limits for the sample, MW-16. This sample had sludge present which could indicate matrix interference, and there was insufficient sample to reanalyze.

2. Batch QC consists of the Blank Spike sample and Blank Spike Duplicate sample recoveries due to limited sample volume.

Chris Pittman — October 24, 2006
SVOC Analyst — Date

VOCs by SW8260B Notations:

1. The pH of the water samples for work order # 11059 was <2.0 prior to the VOC analysis.

2. The spike recovery was outside the laboratory-derived limit (high) for Ethylbenzene in 11059-001MS. The Laboratory Blank Spike sample recoveries were within the acceptable limits; therefore the data satisfies the method requirements

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3. The relative percent difference for MTBE between 11059-001 MS and 11059-001 MSD was outside the laboratory-derived limit.

Mei Liang — October 24, 2006
Senior Analyst — Date

Project Manager's Notations:

This Case Narrative & Notations have been generated, reviewed, and edited by:

Larry M. Gwinn, Jr. — October 27, 2006
Laboratory Director — Date

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

46020

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071

Phone # (770) 449-8800 Fax # (770) 449-5477

CHAIN OF CUSTODY

Company Name: Consultech Env.

Address: Cary, N.C.

Results Sent to: (Client Contact): Joe Ghould

Email address:

Contact Phone #: 919. 861. 4314 Fax#: 9317

Project (Site) Name: Four Seasons Food + Fuel #5 N. Augusta, SC

Project Number: C.06.08.045

Billing address:

P.O.# (if required):

For Laboratory Use Only:

QC Level: 1 2 3 4 CLP-Like

Custody Seal(s): ____ Y N Tape

AAL LIMS System ID:

Receiver's Initials/Temp: Bm 22

AAL Work Order # 11059

Preservation Code: (See below)

Sampler(s): (signature): Van T. Chisholm

Sampler(s): (printed): Van T. Chisholm

Field Comments:

Line No.	Sample ID #	06' Sample Date / Time	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX, MTBE, 1,2dca, 1,2dcp, acetone	EDB	methane	lead	nitrate/sulfate	fe iron	PAHs							AAL Lab ID: 11059
								1		1	2										
1	mw#-25	10:17 / 1000		X	GW	North Augusta, SC.	9	2	2	2	1	1	1								001
2	10	1030		X							1	1	1								002
3	11	1100		X							1	1	1								003
4	12	1130		X							1	1	1								004
5	13	1200		X							1	1	1								005
6	14	1300		X							1	1	1								006
7	mw. 16	10.17/ 1400		X	GW		9	2	2	2	1	1	1								007
8	SW.1	10/17 1500		X	SW	N. Augusta	8	2	2	2	1	1									008
9																					
10																					

1) Relinquished By: Van T. Chisholm Date / Time 10.17.06/1800

2) Received By: [signature] Date / Time 10/18/06 1000

3) Relinquished By: Date / Time

4) Received By: Date / Time

Delivered by: (Circle One)
Fed Ex / UPS / DHL / AAL Pickup / Hand / Other

Turnaround Time Requested:

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 11059

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-2r** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-001** Date Collected: **Oct-17-06 10:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 13:59 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	2.18	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 19:30 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 18:12 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:08 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.004	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 12:57 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.86	0.10	0.027	mg/L		1
Sulfate	14808-79-8	7.1	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-2r** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-001** Date Collected: **Oct-17-06 10:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 15:29 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 11:25 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	4.0	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-10** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-002** Date Collected: **Oct-17-06 10:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:04 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	0.501	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 19:47 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.60	0.095	0.023	ug/L		5

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 18:18 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:42 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.004	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:02 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.8	0.10	0.027	mg/L		1
Sulfate	14808-79-8	37	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-10** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-002** Date Collected: **Oct-17-06 10:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 15:49 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	19	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	45	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	220	20	3.0	ug/L		2
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 13:38 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	6100	1000	670	ug/L		1000
Toluene	108-88-3	130000	1000	680	ug/L		1000
Ethylbenzene	100-41-4	3100	20	13	ug/L		20
Xylenes, Total	1330-20-7	12000	1000	1800	ug/L		1000
Methyl tert-butyl ether	1634-04-4	100	20	12	ug/L		20
Naphthalene	91-20-3	260	100	80	ug/L		20
1,2-Dichloroethane	107-06-2	BRL	100	16	ug/L		20
Diisopropyl ether	108-20-3	BRL	100	18	ug/L		20
Ethanol	64-17-5	BRL	2000	1100	ug/L		20
Ethyl tert-butyl alcohol	590-36-3	BRL	500	340	ug/L		20
Ethyl tert-butyl ether	637-92-3	BRL	100	22	ug/L		20
Tert-Amyl alcohol	75-85-4	BRL	500	300	ug/L		20
tert-Amyl methyl ether	994-05-8	BRL	100	22	ug/L		20
tert-Butyl alcohol	75-65-0	BRL	500	22	ug/L		20
tert-Butyl formate	762-75-4	BRL	500	360	ug/L		20

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-11** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-003** Date Collected: **Oct-17-06 11:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 13:33 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	3.68	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:05 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 18:23 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:09 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.005	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:19 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.5	0.10	0.027	mg/L		1
Sulfate	14808-79-8	2.4	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-11** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-003** Date Collected: **Oct-17-06 11:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 16:10 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 16:44 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	5.7	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-12** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-004** Date Collected: **Oct-17-06 11:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:10 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	10.1	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:23 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:04 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:29 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:35 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	3.3	1.0	0.062	mg/L		1

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Four Seasons Food & Fuel #5

Sample Id: **MW-12** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-004** Date Collected: **Oct-17-06 11:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 16:30 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 19:51 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	1.5	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Four Seasons Food & Fuel #5

Sample Id: **MW-13** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-005** Date Collected: **Oct-17-06 12:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:34 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	11.0	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:40 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:09 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:31 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:52 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	3.4	0.10	0.027	mg/L		1
Sulfate	14808-79-8	6.1	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-13** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-005** Date Collected: **Oct-17-06 12:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 16:50 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 14:57 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	2.2	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	12	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-14** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-006** Date Collected: **Oct-17-06 13:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:39 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	18.2	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:58 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0046	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:25 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:33 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 15:41 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.5	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.5	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-14** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-006** Date Collected: **Oct-17-06 13:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 17:11 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	21	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	47	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	120	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 15:24 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	97	10	6.7	ug/L		10
Toluene	108-88-3	2700	50	34	ug/L		50
Ethylbenzene	100-41-4	150	10	6.6	ug/L		10
Xylenes, Total	1330-20-7	690	10	18	ug/L		10
Methyl tert-butyl ether	1634-04-4	240	10	6.2	ug/L		10
Naphthalene	91-20-3	70	50	40	ug/L		10
1,2-Dichloroethane	107-06-2	BRL	50	8.2	ug/L		10
Diisopropyl ether	108-20-3	BRL	50	8.9	ug/L		10
Ethanol	64-17-5	BRL	1000	550	ug/L		10
Ethyl tert-butyl alcohol	590-36-3	BRL	250	170	ug/L		10
Ethyl tert-butyl ether	637-92-3	BRL	50	11	ug/L		10
Tert-Amyl alcohol	75-85-4	BRL	250	150	ug/L		10
tert-Amyl methyl ether	994-05-8	BRL	50	11	ug/L		10
tert-Butyl alcohol	75-65-0	BRL	250	11	ug/L		10
tert-Butyl formate	762-75-4	BRL	250	180	ug/L		10

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-16** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-007** Date Collected: **Oct-17-06 14:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:45 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	20.3	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 21:16 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.017	0.0041	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:31 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0184	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:01 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.013	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 15:57 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.71	0.10	0.027	mg/L		1
Sulfate	14808-79-8	20	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-16** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-007** Date Collected: **Oct-17-06 14:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 17:32 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	14	1.9	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	14	1.7	ug/L		1
Acenaphthene	83-32-9	BRL	14	2.0	ug/L		1
Acenaphthylene	208-96-8	BRL	14	2.1	ug/L		1
Anthracene	120-12-7	BRL	14	2.9	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	14	2.7	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	14	2.6	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	14	2.8	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	14	2.8	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	14	3.9	ug/L		1
Chrysene	218-01-9	BRL	14	3.0	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	14	2.6	ug/L		1
Fluoranthene	206-44-0	BRL	14	2.6	ug/L		1
Fluorene	86-73-7	BRL	14	2.2	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	14	2.7	ug/L		1
Naphthalene	91-20-3	BRL	14	2.2	ug/L		1
Phenanthrene	85-01-8	BRL	14	2.9	ug/L		1
Pyrene	129-00-0	BRL	14	3.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 15:51 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **SW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-008** Date Collected: **Oct-17-06 15:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:51 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 21:33 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:37 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0132	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:38 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 16:14 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.8	0.10	0.027	mg/L		1
Sulfate	14808-79-8	2.6	1.0	0.062	mg/L		1

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Four Seasons Food & Fuel #5

Sample Id: **SW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-008** Date Collected: **Oct-17-06 15:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 16:17 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **301133 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301133 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 13:12 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Sample Id: **301145 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301145 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 10:08 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

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Four Seasons Food & Fuel #5

Sample Id: **301162 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301162 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 17:08 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Sample Id: **301163 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301163 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 17:26 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Sample Id: **301168 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301168 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 14:28 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

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Four Seasons Food & Fuel #5

Sample Id: **301177 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301177 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 10:04 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **33882 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **33882 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 12:24 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	BRL	1.0	0.062	mg/L		1

*

Version: 1.011

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.9	4.9	100	60-140	

Lab Batch #: 33920 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.5	4.9	112	60-140	

Lab Batch #: 33920 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.7	100	60-140	

Lab Batch #: 33920 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.0	4.7	85	60-140	

Lab Batch #: 33920 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.9	4.8	102	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	4.8	96	60-140	

Lab Batch #: 33920 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.1	4.8	106	60-140	

Lab Batch #: 33920 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	4.8	110	60-140	

Lab Batch #: 33920 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	4.8	110	60-140	

Lab Batch #: 33920 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	4.8	110	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.8	4.7	102	60-140	

Lab Batch #: 33920 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.2	4.7	89	60-140	

Lab Batch #: 33920 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.0	4.2	95	60-140	

Lab Batch #: 33920 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.2	102	60-140	

Lab Batch #: 33920 **Sample:** 11059-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.1	4.9	104	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.5	4.9	112	60-140	

Lab Batch #: 33920 **Sample:** 301162 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	5.0	92	60-140	

Lab Batch #: 33920 **Sample:** 301162 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.2	5.0	104	60-140	

Lab Batch #: 33927 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	37.9	50.0	76	35-96	
Nitrobenzene-d5	35.8	50.0	72	22-108	
p-Terphenyl-d14	24.4	50.0	49	18-133	

Lab Batch #: 33927 **Sample:** 11059-002 / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	27.6	50.0	55	35-96	
Nitrobenzene-d5	37.9	50.0	76	22-108	
p-Terphenyl-d14	14.6	50.0	29	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33927 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	29.3	50.0	59	35-96	
Nitrobenzene-d5	38.0	50.0	76	22-108	
p-Terphenyl-d14	15.2	50.0	30	18-133	

Lab Batch #: 33927 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.8	50.0	80	35-96	
Nitrobenzene-d5	34.3	50.0	69	22-108	
p-Terphenyl-d14	31.9	50.0	64	18-133	

Lab Batch #: 33927 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.0	50.0	78	35-96	
Nitrobenzene-d5	34.5	50.0	69	22-108	
p-Terphenyl-d14	35.8	50.0	72	18-133	

Lab Batch #: 33927 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	41.8	50.0	84	35-96	
Nitrobenzene-d5	37.5	50.0	75	22-108	
p-Terphenyl-d14	28.8	50.0	58	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33927 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	41.7	50.0	83	35-96	
Nitrobenzene-d5	36.7	50.0	73	22-108	
p-Terphenyl-d14	27.8	50.0	56	18-133	

Lab Batch #: 33927 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	43.2	71.4	61	35-96	
Nitrobenzene-d5	22.1	71.4	31	22-108	
p-Terphenyl-d14	7.60	71.4	11	18-133	Z

Lab Batch #: 33927 **Sample:** 301168 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.1	50.0	72	30-104	
Nitrobenzene-d5	32.6	50.0	65	26-96	
p-Terphenyl-d14	43.4	50.0	87	59-125	

Lab Batch #: 33928 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.48	50.00	93	53-159	
Bromofluorobenzene	48.19	50.00	96	30-186	
Toluene-d8	49.82	50.00	100	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.71	50.00	89	53-159	
Bromofluorobenzene	47.82	50.00	96	30-186	
Toluene-d8	49.80	50.00	100	83-136	

Lab Batch #: 33928 **Sample:** 11059-002 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	43.53	50.00	87	53-159	
Bromofluorobenzene	48.40	50.00	97	30-186	
Toluene-d8	49.07	50.00	98	83-136	

Lab Batch #: 33928 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	43.06	50.00	86	53-159	
Bromofluorobenzene	47.58	50.00	95	30-186	
Toluene-d8	50.54	50.00	101	83-136	

Lab Batch #: 33928 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.22	50.00	96	53-159	
Bromofluorobenzene	48.56	50.00	97	30-186	
Toluene-d8	50.47	50.00	101	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.98	50.00	92	53-159	
Bromofluorobenzene	46.93	50.00	94	30-186	
Toluene-d8	49.34	50.00	99	83-136	

Lab Batch #: 33928 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	41.24	50.00	82	53-159	
Bromofluorobenzene	47.52	50.00	95	30-186	
Toluene-d8	49.44	50.00	99	83-136	

Lab Batch #: 33928 **Sample:** 11059-006 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	49.41	50.00	99	53-159	
Bromofluorobenzene	47.39	50.00	95	30-186	
Toluene-d8	50.47	50.00	101	83-136	

Lab Batch #: 33928 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.57	50.00	91	53-159	
Bromofluorobenzene	47.62	50.00	95	30-186	
Toluene-d8	50.75	50.00	102	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11059-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.65	50.00	93	53-159	
Bromofluorobenzene	48.36	50.00	97	30-186	
Toluene-d8	49.94	50.00	100	83-136	

Lab Batch #: 33928 **Sample:** 301177 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.53	50.00	93	65-125	
Bromofluorobenzene	49.15	50.00	98	66-148	
Toluene-d8	50.38	50.00	101	86-127	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Accura Analytical Laboratory

EPA Qualifier Codes and Abbreviations used by AAL

BRL: This abbreviation indicates that the analytical results were Below the Reporting Limit (BRL).

MDL: The Method Detection Limit (MDL), as defined by 40 CFR Part 136, Appendix B, is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero.

U: The compound was analyzed for but not detected.

J: This indicates an estimated value. This flag is used in 3 incidences.

(1) When estimating a concentration for tentatively identified compounds where 1:1 response is assumed.
(2) When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the Contract Required Detection Limit (CRDL) – or Reporting Limit - but greater than the MDL.
(3) When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL – or Reporting Limit- but greater than MDL.

N: Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds. (TICs), where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the ”N” flag is not used.

C: This applies to pesticide result where the identification has been confirmed by GC/MS. Do **not** apply if this flag if analyte(s) were not confirmed. Used the laboratory-defined flag instead (see the X qualifier).

B: This is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The flag shall be used for a tentatively identified compound as well as for a positively identified target compound.

E: This identifies compounds whose concentrations exceed the upper level of the linear calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract should be diluted and re-analyzed.

Note: *For Total xylene, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately.*

X: Defined by the laboratory

Z: Surrogates/Spikes results exceeds quality control limits

ZZ: Surrogates/Spikes results exceeds quality control limits in multiple samples

***: Surrogate recoveries were diluted out

M: Manual integrations were necessary and an “m” qualifying code is present on the quantitation report next to the analyte.

D: This flag indicates that the identified compound is reported from the dilution run.

Microsoft Office Excel 97-2003 Worksheet
C-06-08-045 table 1.xls
Thursday, January 01, 1970 12:00:00 AM

Microsoft Office Excel 97-2003 Worksheet
C-06-08-045 table 2.xls
Thursday, January 01, 1970 12:00:00 AM

Microsoft Office Excel 97-2003 Worksheet
C-06-08-045 table 3.xls
Thursday, January 01, 1970 12:00:00 AM

Microsoft Office Excel 97-2003 Worksheet
C-06-08-045 table 4.xls
Thursday, January 01, 1970 12:00:00 AM

Microsoft Office Excel 97-2003 Worksheet
C-06-08-045 table 5.xls
Thursday, January 01, 1970 12:00:00 AM

Microsoft Office Excel 97-2003 Worksheet
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Microsoft Office Word 97 - 2003 Document
Four Seasons-06-08-045 tier II report.doc
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Four Seasons benzene plume map.dwg
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Four Seasons cross section a-a'.dwg
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Four Seasons cross section B-B'.dwg
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Four Seasons cross section location Map.dwg
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Four Seasons Ethylbenzene plume map.dwg
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Four Seasons Field Screening Results 9-27 TO 9-28-06.dwg
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Four Seasons MTBE plume map.dwg
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Four Seasons Napthalene plume map.dwg
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Four Seasons Oxygenates plume map.dwg
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Four Seasons potentiometric map.dwg
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Four Seasons Site Plan Map.dwg
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Four Seasons Toluene plume map.dwg
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Four Seasons Xylenes plume map.dwg
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D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
PO BOX 854
LEXINGTON SC 29071

MAR 0 4 2014

US DOCKETING 38tech

Re: Site-Specific Work Plan Directive for Small Scope Contract Solicitation # 5400006561; PO# 4600301871

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. Please submit the Site-specific Quality Assurance Project Plan for an IGWA, Tier I or Assessment Plan, and Assessment Component Cost Agreement as necessary, to my attention **within fifteen (15) days from the date of this correspondence**. Plan implementation shall not commence prior to receipt of written technical and financial approval from the Department. The facilities will be assigned a Cost Agreement (CA) numbers once the QAPP Contractor Addendum has been approved by the project manager. Please reference the CA numbers and Purchase Order # 4600301871 on the appropriate invoices submitted for payment. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below) after the technical and cost approval from the project manager.**

UST Permit #	Facility	County	Project Manager	Work Scope	Due Date*
00120	Roberts Energy	Aiken	Shull	MWI	60 Days

*From receipt of Notice to Proceed letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. The site's UST owners have no obligation for payment for this scope of work.

Please note if there are any changes in the established cost agreement amounts (e.g., additional water supply wells sampled, additional well footage, etc.) contact the site's project manager for technical and/or financial approval. Failure to do so prior to submittal of invoice may result in delay of payment.

IGWA, Tier I or Assessment Quality Assurance Project Plan, Implementation and Report submittal shall be performed in accordance with the referenced contract. Per Section 3.4.2., a late fee of $50.00/day (not to exceed 20% of the cost agreement total) may be levied for each day the report is submitted after the deadline established in the Notice to Proceed letter.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. In accordance with the bid specification, a bi-monthly status report of the project should be provided by the 5th and 20th of each month via e-mail to my attention. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. If you have any questions or need further assistance, please contact me at (803) 896-6395.

Sincerely,

Minda Hornosky, Hydrogeologist
Assessment Section, Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Information Packet

cc: Shane Shull, UST Management Division (w/ enc)
Technical Files (w/ enc)

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-896-6240

MEMORANDUM

TO: Bryan Shane, Midlands Environmental Consultants, Inc.

FROM: Shane S. Shull

RE: **Site-Specific Work Plan Request**

Facility Name: Roberts Energy 1 (Fmr Four Seasons Food & Fuel)

Permit Number: 00120

County: Aiken

Work To Be Completed: Please pepare a Site Specific Work Plan for MW replacement/installation as outlined on the attached map (8 shallow MWs and 2 deep MWs). Once well installation is complete, plan to conduct comprehensive groundwater sampling of all wells. Two (2) surface water samples are also requested from Pole Branch Creek, North of the site. If the storm water system in the area is accessible, plan to sample this as well. Samples should be analyzed for BTEXMNDCA+Oxy and EDB. Lastly, please conduct a comprehensive resurvey of the area. Please contact me if there are questions or concerns about this scope of work. (803)898-0607, ShullSS@dhec.sc.gov

CA# 47635

UST Facility: Four Seasons Food and Fuel

UST Permit #00120

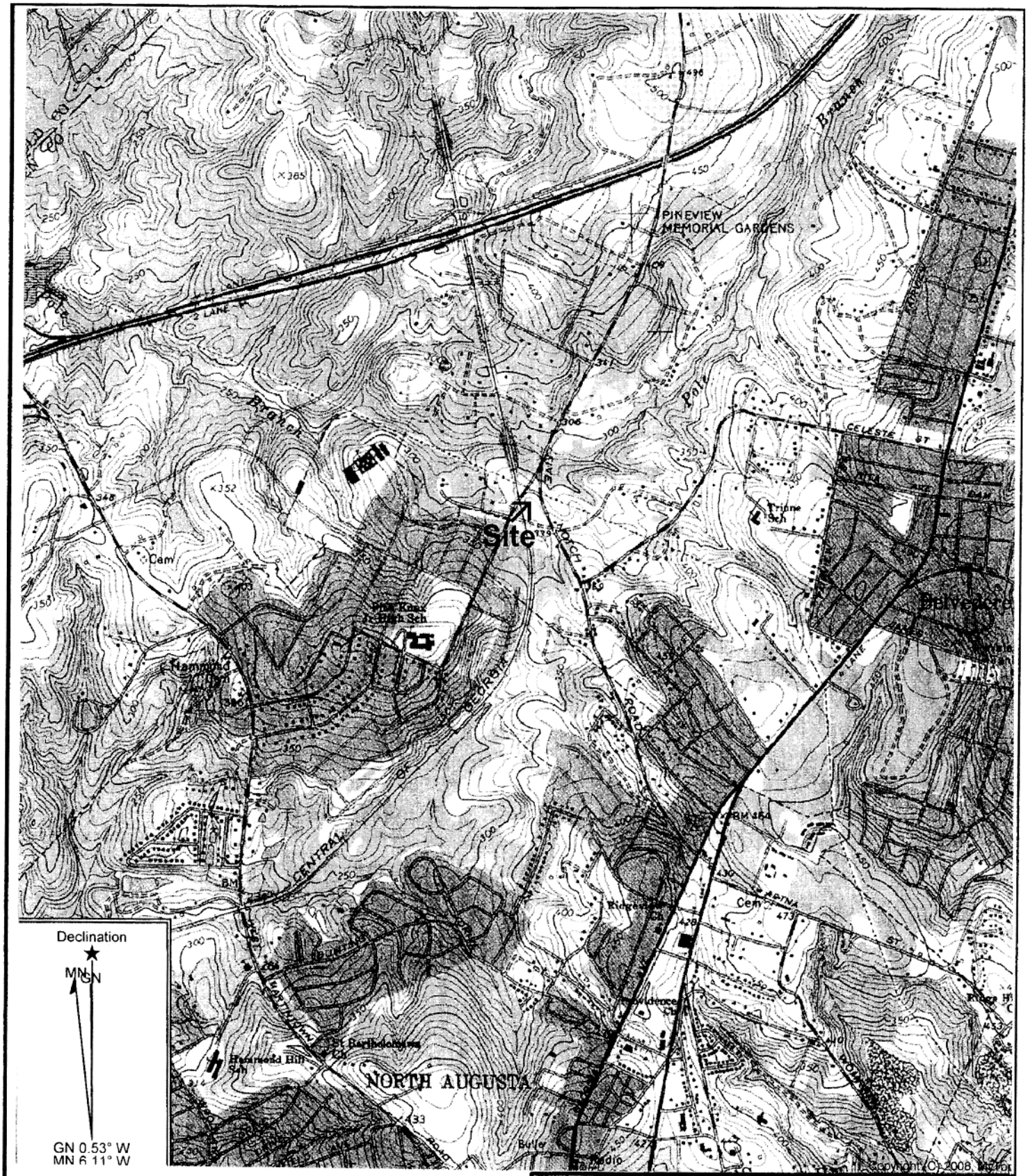
	GW Depth	FP	B	T	E	X	MtBE	Napth	EDB	1,2 DCA	TAME	TBA	ETBE	Ethanol	TAA	TBF	ETBA	DIPE
MW-1 screened 15'-29'																		
3/14/2008	23.76		1110	31500	460	5370	<500	412	<.02	<250	<500	<5000	<500	<10000	7650	<2500	<5000	<250
10/1/2008	DRY																	
4/16/2009	DRY																	
3/1/2010	22.35		2170	46900	1320	7120	2310	<2500	0.056	<2500	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	23.55		1150	33400	1220	7180	1020	595	0.1	<1000	<2000	<20000	<2000	<40000	<20000	<10000	<20000	<1000
3/23/2011	23.5		1130	34600	1420	7840	950	475	0.068	<1000	<2000	<20000	<2000	<40000	<20000	<10000	<20000	<1000
5/2/2012	Dry																	
MW-2R screened 15'-30'																		
3/14/2008	25.71		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	26.86		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
10/5/2010	24.68		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	25		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	26.43		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-3 screened 17'-27'																		
3/14/2008	24.36		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	26.05		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
3/1/2010	22.73		<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	20.02		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	23.95		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	25.18		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-4 screened 17'-27'																		
3/14/2008	24.1		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	26.2		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
10/5/2010	23.52		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	23.59		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	25.18		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-5 screened 10'-20'																		
3/14/2008	12.83		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	14.17		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	12.34		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	12.05		<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	12.67		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	12.69		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	13.55		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
8/27/2012	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.
MW-6 screened 9'-19'																		
3/14/2008	12.35		452	9230	449	2370	2080	191	0.023	<125	<250	<2500	<250	<5000	3160	<1250	<2500	<125
10/1/2008	13.44		495	9990	1120	7420	1380	776	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	12.19		396	4780	424	2250	1770	<250	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	11.94		514	9120	584	3140	2900	<250	<.02	<250	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	12.32		315	7750	689	3700	3730	261	<.019	<100	<200	6480	<200	<4000	6200	<1000	<2000	<100
3/23/2011	12.31		477	7360	500	2710	4740	152	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	12.81		800	11000	680	3600	1500	210	0.095	<100	<200	1100	<2000	<20000	2100	<2000	<2000	27
5/2/2012			1000	9700	860	4600	2000	290	0.11	32		1600			3200			200
8/27/2012	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.	Aban.

MW-7/7R screened 10'-30'																		
3/14/2008	**17.77**		**585**	**6720**	**154**	**443**	**3320**	**68.2**	<.02	<5	<10	<100	<10	<200	**8480**	<50	<100	<5
10/1/2008	DRY																	
4/16/2009	DRY																	
3/1/2010	NL																	
10/5/2010	**18.02**		**808**	**16700**	**658**	**2700**	**1440**	**167**	<.019	<5	<10	**826**	<10	<200	<25000	<50	<100	**12.2**
3/23/2011	**17.84**		**984**	**11900**	**501**	**2420**	**6100**	**125**	<.019	<50		**6520**			**8340**			**19.8**
5/2/2012	**18.83**		**1800**	**22000**	**760**	**3700**	**20000**	**170**	<.021	<200	<400	**43000**	<4000	<40000	**20000**	<4000	<4000	**56**
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
MW-8 screened 5'-15'																		
3/14/2008	**7.25**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**8.38**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
3/1/2010	**7.46**		<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**7.81**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**7.64**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**8.04**		<5	<5	<5	<10	**0.45**	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
MW-9 screened 10'-20'																		
3/14/2008	**14.55**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**16.51**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**14.95**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	**13.55**		<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**15**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**14.7**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**15.67**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
MW-10 screened 15'-30'																		
3/14/2008	**23.34**		**3990**	**46000**	**824**	**3860**	**639**	**439**	**0.84**	<250	<500	<5000	<500	<10000	**24800**	<2500	<5000	<250
10/1/2008	**25.39**		**914**	**12300**	**320**	**1520**	<500	<500	**0.12**	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**22.36**		**5070**	**67800**	**972**	**4800**	**366**	<500	**0.87**	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	**21.64**		**5870**	**86800**	**912**	**5620**	<2500	<2500	**1.1**	<2500	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**23.15**		**5410**	**66300**	**865**	**5350**	<2500	<2500	**1.1**	<2500	<5000	<50000	<5000	<100000	<50000	<25000	<50000	<2500
3/23/2011	**23.09**		**4200**	**61300**	<2500	**5040**	<2500	<2500	**0.71**			**93000**			**147000**			
5/2/2012	**24.41**		**5000**	**38000**	**870**	**5900**	**180**	<500	**0.78**	<500	<1000	<10000	<10000	<10000	**2000**	<10000	<100000	**59**
MW-11 screened 15'-30'																		
3/14/2008	**23.58**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**25.28**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
10/5/2010	**22.15**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**22.99**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**24.31**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-12 screened 15'-30'																		
3/14/2008	**20.9**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**23.2**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
10/5/2010	**20.02**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**20.45**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**22.15**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-13 screened 15'-30'																		
3/14/2008	**20.47**		<5	**13.8**	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	**122**	<50	<100	<5

10/1/2008	**22.72**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**19.37**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	**18.76**		<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**25.8**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	Not Located																	
5/2/2012	**21.68**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-14																		
screened 9'-24'																		
3/14/2008	**16.2**		**288**	**7130**	**366**	**2130**	**534**	**127**	**0.046**	<50	<100	<1000	<100	<2000	**1020**	<500	<1000	<50
10/1/2008	**17.72**		**1210**	**14900**	**1320**	**7760**	**3710**	**569**	**0.11**	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**15.73**		**442**	**11600**	**554**	**3930**	**1040**	<500	**0.064**	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	**15.29**		**609**	**15200**	**669**	**4140**	**3580**	<500	**0.074**	<500	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**16.23**		**508**	**10700**	**617**	**3530**	**2420**	<500	**0.25**	<500	<1000	<10000	<1000	<20000	<10000	<5000	<10000	<500
3/23/2011	**16.3**		**804**	**14100**	**676**	**4140**	**1530**	<500	**0.28**	<500	<1000	<10000	<1000	<20000	<10000	<5000	<10000	<500
5/2/2012	**17**		**870**	**17000**	**860**	**5200**	**650**	**250**	**0.28**	**19**	**12**	**420**	<100	<1000	**1300**	<100	<100	**18**
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
MW-15																		
screened 5'-15'																		
3/14/2008	**5.39**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**7.13**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
3/1/2010	**5.15**		<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**5.07**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**5.2**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**6.6**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
MW-16																		
screened 4'-14'																		
3/14/2008	**8.37**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	DRY																	
4/16/2009	NOT SAMPLED																	
10/5/2010	DESTROYED																	
MW-17																		
screened 5'-15'																		
3/14/2008	**2.48**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**3.35**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
10/5/2010	**2.99**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**2.78**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-17R																		
5/2/2012	**3.25**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-18																		
screened 5'-15'																		
3/14/2008	**3.96**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**3.11**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
10/5/2010	**2.2**		<5	**20.4**	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**2.13**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**2.2**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-19																		
screened 5'-15'																		
3/14/2008	**6.6**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**8.3**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	NOT SAMPLED																	
10/5/2010	NOT LOCATED																	
3/23/2011	NOT LOCATED																	
5/2/2012	**7.95**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5

MW-20 screened 5'-15'																		
3/14/2008	**7.56**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**9.08**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**12.34**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**8.21**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**7.88**		<5	<5	<5	<10	<5	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**8.1**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
MW-21 screened 9'-19'																		
3/23/2011	**11.85**		<5	**1.7**	<5	**3.4**	**35.4**	<5	<.038	<5					**139**			
5/2/2012	**12.64**		**24**	**260**	**18**	**260**	**480**	<25	<.021	<25		**620**			**510**			
MW-22 screened 6'-16'																		
3/23/2011	**9**		<5	<5	<5	<5	**3.1**	<5	<.021	<5	<10	<100	<10	<200	<100	<50	<100	<5
5/2/2012	**8.1**		<5	<5	<5	<5	**3.1**	<5	<.02	<5	<10	<100	<100	<1000	<100	<100	<100	<10
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
MW-23 screened 2'																		
5/2/2012	**2.39**		<5	<5	<5	<5	**0.44**	<5	<.02	<5	<10	<100	<100	<1000	<100	<100	<100	<10
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
DW-1 screened 55'-60'																		
3/14/2008	**26.5**		**896**	**26800**	**1270**	**4920**	**110**	**300**	**0.27**	<50	<100	<1000	<100	<2000	**1330**	<500	<1000	<50
10/1/2008	**28.44**		**449**	**17000**	<1000	**3310**	<1000	<1000	**0.12**	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**26.4**		**274**	**12500**	**441**	**3530**	<500	<500	**0.067**	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	**24.37**		**143**	**7700**	<500	**1680**	<500	<500	**0.051**	<500	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**28.39**		**42.4**	**1260**	**38.8**	**850**	<50	**120**	**0.034**	<50	<100	<1000	<100	<2000	<1000	<500	<1000	<50
3/23/2011	**22.15**		**2.1**	**78.8**	**6.6**	**58.7**	<5	**11.8**	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
5/2/2012	**24.07**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
DW-2 screened 55'-60'																		
3/14/2008	**10.6**		**8.3**	<5	<5	<10	<5	**7.5**	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**10.29**		**6.9**	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**7.01**		**1.3**	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
3/1/2010	**8.92**		<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**9.82**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**12.43**		<5	<5	<5	<10	**1.9**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**8.88**		<5	<5	<5	<10	**1.4**	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
DW-3 screened 55-60																		
10/5/2010	**18.14**		<5	**3.7**	<5	<10	**2.6**	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**17.49**		<5	<5	<5	<10	**2.1**	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**18.37**		<5	<5	<5	<10	**0.54**	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
8/27/2012	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**	**Aban.**
PW1 screened 36'-46'																		
3/14/2008	**24.46**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
10/1/2008	**26.22**		<5	<5	<5	<10	<5	<5	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
4/16/2009	**23.71**		<1	**3.8**	<1	**1.5**	<1	**0.39**	<.02	NS	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010	**24.29**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5
3/23/2011	**24.2**		<5	<5	<5	<10	<5	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS	NS
5/2/2012	**25.35**		<5	<5	<5	<10	<5	<5	<.02	<5	<10	<100	<10	<200	<100	<50	<100	<5

PW2																		
3/1/2010	NL																	
10/5/2010																		
SW1 - Storm Drain Outlet																		
3/1/2010			**9.3**	**152**	**9.4**	**61.9**	**67.6**	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010																		
SW2																		
3/1/2010			<5	<5	<5	<10	**2**	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010																		
SW3																		
3/1/2010			<5	<5	<5	<10	<5	<5	<.02	<5	NS	NS	NS	NS	NS	NS	NS	NS
10/5/2010																		
RW-1 screened 15-30																		
10/5/2010	**22.89**		**1730**	**66400**	**1510**	**9350**	**193**	**428**	**0.17**	<5	<10	**57.1**	<10	<200	**3270**	<50	<100	<5
3/23/2011	**22.78**		**1330**	**39800**	**1190**	**6260**	**991**	<2500	**0.079**	<2500	<5000	<50000	<5000	<100000	<50000	<25000	<50000	<2500
5/2/2012	**24.12**		**1600**	**45000**	**1200**	**5800**	**2000**	**200**	**0.058**	<500	<1000	**880**	<10000	<100000	**3800**	<10000	<10000	<1000
RW-2 screened 15-30																		
10/5/2010	**23.29**		**576**	**26200**	**748**	**3010**	**115**	**157**	**0.13**	<5	<10	<100	<10	<200	**1360**	<50	<100	<5
3/23/2011	**23.15**		**969**	**32800**	**902**	**5150**	**430**	<1250	**0.062**	<1250	<2500	<25000	<2500	<100000	<25000	<12500	<25000	<1250
5/2/2012	**24**		**2200**	**35000**	**860**	**4500**	**5400**	**170**	**0.099**	<500	<1000	**4800**	<10000	<100000	**10000**	<10000	<10000	<1000
RW-3 screened 15-30																		
10/5/2010	**23.54**		**1200**	**33000**	**1370**	**6780**	**530**	**1110**	**0.2**	<5	<10	<10000	<10	<200	**8460**	<50	<100	<5
3/23/2011	**23.46**		**2120**	**66800**	**2050**	**10100**	**2270**	<2500	**0.25**	<2500	<50000	<5000	<5000	<100000	<50000	<25000	<50000	<2500
5/2/2012	**24.63**		**1100**	**24000**	**520**	**5100**	**1000**	**300**	**0.11**	<250	**36**				**1200**			
5/2/2012			1200	22000	620	6200	1000	320	0.1	<250	39				1100			
RW-4 screened 15-30																		
10/5/2010	**23.51**		**148**	**505**	**18.8**	**352**	**52.1**	<50	<.02	<5	<10	<1000	<10	<200	**810**	<50	<100	<5
3/23/2011	**23.48**		**178**	**934**	**17.6**	**538**	**30.4**	**7.8**	<.02	<5	<10	<1000	<10	<200	**453**	<50	<100	<5
5/2/2012	**24.46**		**200**	**1900**	**43**	**820**	**43**	<100	<.02	<100	<10	<1000	<10	<200	**370**	<50	<100	<5



GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Augusta, South Carolina
USGS 7.5 Min. Quad
Countour Interval – 10 Feet

Midlands Environmental Consultants, Inc.	Site Location
Four Seasons Food and Fuel 2031 Pisgah Road, North Augusta, SC SCDHEC Site ID# 00120	
Figure 1	MECI 12-3762

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

PROPERTY OWNER

RIGHT OF ENTRY - UST Permit #00120

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

I, Lynn Porter, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (SCDHEC), or a contractor selected by SCDHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility Four Seasons Food & Fuel 5 Phone: 803-819-1836

Street Address of Facility 2031 Pisgah Rd.

Town, City, District, Suburb North Augusta, SC 29841

Name of nearest intersecting street, road, highway, alley Five Notch Rd

Is this facility within the city limits? (yes or no) Yes

Is this facility serviced by a public water or sewer utility? (yes or no) Yes, If no, please provide the name of a person we can contact that can assist in the location of private water and septic tank lines
Name _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) Yes(3), if yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____, Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____, if yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.

NAME of property owner (Please Print): George McKie

Phone Number (home) _____ (work) 803-642-4103

Current Mailing Address PO Box 6680 Aiken, S.C 29804

Signature of Property Owner: [signature]

Witness: Beverly Smart

Date: 8 Month 25 Day 03 Year

RECEIVED
AUG 25 2003
Underground Storage Tank Program

UNITED ENERGY FAX:803-643-1031 AUG 25 2003 13:33 P.02

SCDHEC UST Management Tracking

For BILLABLE tanks only

Site Information for P-00120 Facility: ROBERTS ENERGY 1

Bus. Address	2031 PISGAH RD N AUGUSTA SC 29841	**Phone**	803-819-1836		
		County	Aiken	**District**	Aiken EQC Office
Category	Retail Sales	**Last Inspection**	04/11/13	**Trans. of Ownership**	10/17/12
Tank Owner	ROBERTS ENERGY DISTRIBUTORS LLC				
Bus. Address	2031 PISGAH RD N AUGUSTA SC 29841	**Phone**	803-646-8630		
Operator	FOUR SEASONS FOOD & FUEL				
Bus. Address	2031 PISGAH RD N AUGUSTA SC 29841	**Phone**	803-819-1836		
Land Owner	MCKIE, GEORGE				
Bus. Address	1025 MARTINTOWN RD N AUGUSTA SC 29841	**Phone**	803-279-1581		

Financial Responsibility

Financial Mechanism	Expiration Date
Letter of Credit	16 October 2013

Tanks 4 **Billable** 1 **Aband.** 3 **Other** 0

Compliance Operator(s)	ID	Training Date
CROWELL, JAMES, W	02985	08/04/2011

Rel. No. 1
Active Tnks

Reported	11/07/97	**Status**	Confirmed - Active	**Product**	Petroleum	**Compl Required**	Y
NFA		**Fin. Type**	With SUPERB Co	**RBCA / Score**	1D 1064	**Compliance Met**	Y
Confirmed	11/10/97	**Emer. Resp.**		**Superb Qualified**	N	**Compliance Met Dt**	02/05/98
CU Init.	08/04/98	**Abate. Met**	01/06/99	**Superb Determ. Dt**		**Fin Res Mechanism**	
CU Compl.		**Transferred**		**Project Manager**	SHULL, SHANE S		
CU > MCL		**Source**	UST	**Responsible Party**	JACKSON PETROLEUM COMPANY		

Ranking **SCRBCA:** 1D - Chemicals detected in water **FP Thick:** Unknown
Rel. No. 1
Analyticals

Contaminant	ug/L	RBSL	Score	SSTL's
Benzene	5000	5	1000	2292
Toluene	38000	1000	38	26540
Ethylbenzene	870	700	1	3700
Xylene	5900	10000	1	21680
Naphthalene	500	25	20	5035
MTBE	180	40	5	11737
Total Score:			1064	

Other Contaminants	ug/L	SSTL's
1,2-DCA MW-10	609	383
BEN STORM DRAINAGE (OLD)	9.3	
EDB MW-10	.78	82.93
MTBE MW-7R SAMPLED 5/2/12	20000	
TAA MW-7R	20000	
TAME (14), DIPE (18) MW-14		
TBA MW-7R	43000	

Receptor Ttype:	UTILITY	**Ground_Water_Flow:**	NE
Distancd_to_Receptor:	300	**Seepage Velocity:**	48.5
GW Depth:	10		

SuperB Check List
Rel. No. 1

Original Qualified Date:
Release Reported: 11/07/97
Deductible Group from Release Report Date: 25K

Y **All tanks Registered? Tanks must be registered Before eligible.**
Y **Fees Paid to date?**
Y **Contamination requiring Remediation confirmed?**

Enviro Company	Deductible	Limit Amount

N **Enviro Insurance?**

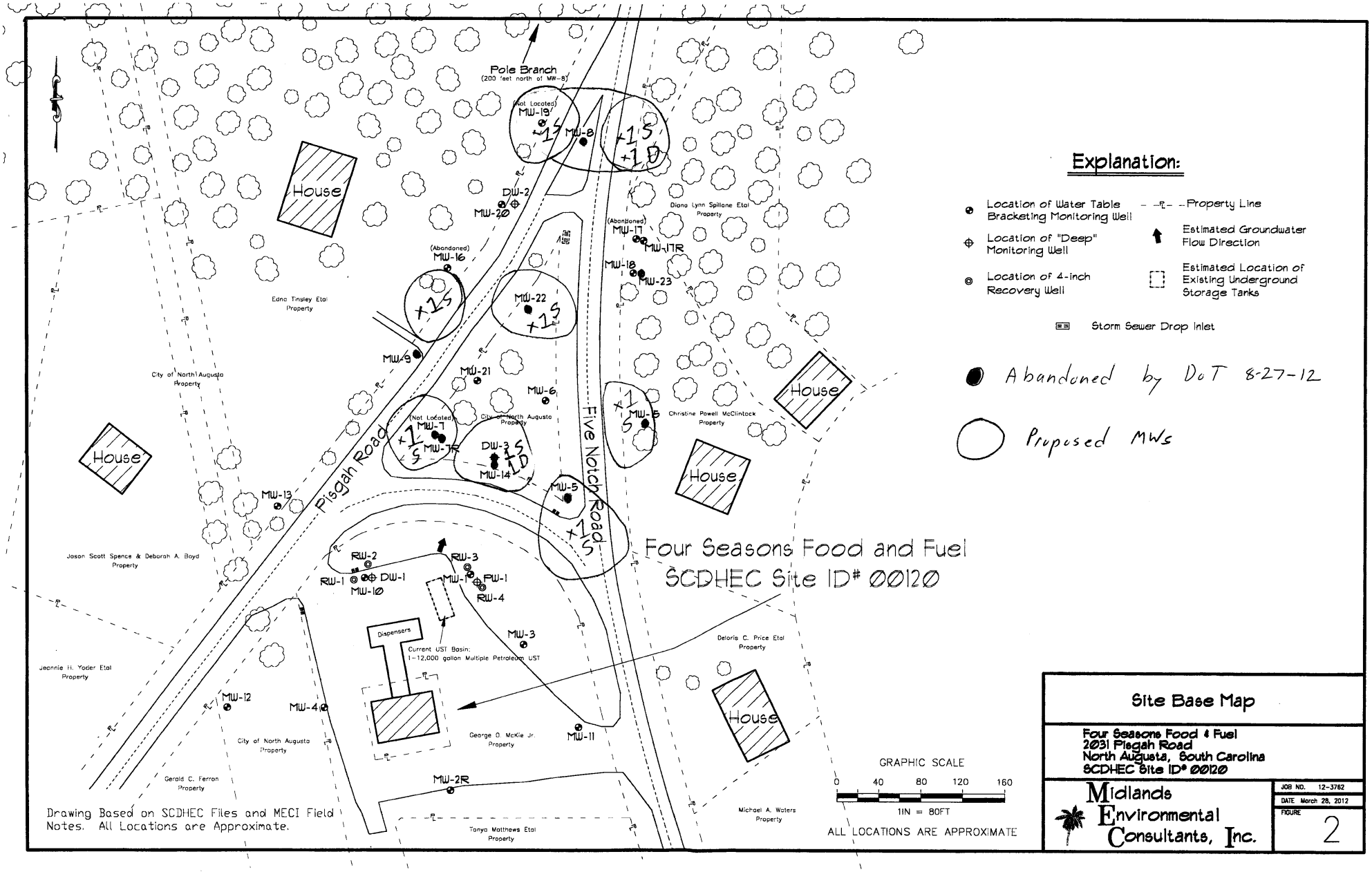
A written statement of No Insurance dated:
Abatement Met: 01/06/99 **Abatement Method:** Permanently closed
Approved by: **Approved date:** **Qualified?** N

SCDHEC UST Management Tracking

For BILLABLE tanks only

Site Information for P-00120 Facility: ROBERTS ENERGY 1

Tank No.	4	**Const.**	01/20/99	**Class**	P	**Tank Const. Mat.**	SC			**Pipe Const. Mat.**	FP		
		Operate	03/22/99	**T Status**	CIU	**Tank Protect.**	FC	**CP**		**Pipe Protect.**	FC	**CP**	
		Notify	01/08/99	**Capacity**	12,000	**Tank Cont. Meth.**	SW			**Pipe Cont. Meth.**	SW		
		Variance		**Product**	MP	**Overfill Type**	BFVV	**Ver**	01/08/99	**Piping Type**	PR		
		Compl.	11/01/13	**C Status**	EQLDOT	**Age @ Notif.**	0			**Dist. to Well**	100		
		Spill Det.	01/08/99	**Left Gal.**		**Owner @ ABD**					**Last Use**		
		Aband.		**Method**		**CAS No.**		**Chem.**					
		Under Dispenser Cont.	N	**Drop Tube**	N	**Tank Leak Det.**	ATG			**Pipe Leak Det.**	LLD 08/01/12 LTT 08/01/12		



Site Base Map

Four Seasons Food & Fuel
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID# 00120

Midlands Environmental Consultants, Inc.

JOB NO. 12-3762
DATE March 28, 2012
FIGURE 2

1-19-13
Imagery
Post DoT
work

Google earth

feet 1000
meters 400

Midlands Environmental Consultants, Inc.

April 3, 2014

UST APR 08 2014 PROGRAM

UST 39 tech DOCKETING

Ms. Minda Hornosky, Hydrogeologist
Assessment Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Site-Specific Work Plan (Small Scope Contract)
Robert's Energy 1
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 14-4771
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Hornosky,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Site-Specific Work Plan for the referenced site.

On March 27, 2014, MECI personnel performed a site visit to the subject site to evaluate site conditions, locate monitoring wells/potential receptors, and identify potential problems for future assessment activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Kyle V. Pudney
Staff Biologist

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Environmental Consultants, Inc.

DHEC
PROMOTE PROTECT PROSPER

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

To: Mr. Shane S. Shull (SCDHEC Project Manager)
From: Mr. Jeff Coleman (Contractor Project Manager)
Contractor: Midlands Environmental Consultants, Inc. UST Contractor Certification Number: 009

Facility Name: Roberts Energy 1 UST Permit #: 00120
Facility Address: 2031 Pisgah Road, North Augusta, SC 29841
Responsible Party: Jackson Petroleum Company Phone: N/A
RP Address: N/A
Property Owner (if different): George McKie
Property Owner Address: 1025 Martintown Road, N. Augusta, SC 29841
Current Use of Property: Active Gas Station

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☑ Monitoring Well Installation
- ☑ Groundwater Sampling
- ☐ Other
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

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

Soil:

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

Air:

- ☐ BTEXN

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

___ Soil	___ Water Supply Wells	___ Air	1 Field Blank
29 Monitoring Wells	3 Surface Water	2 Duplicate	1 Trip Blank

Field Screening Methodology

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

# of shallow points proposed: ___ Estimated Footage: ___ feet per point
# of deep points proposed: ___ Estimated Footage: ___ feet per point
Field Screening Methodology: ___

Permanent Monitoring Wells

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

# of shallow wells: 10 Estimated Footage: 25 feet per point
# of deep wells: 3 Estimated Footage: 60 feet per point
# of recovery wells: ___ Estimated Footage: ___ feet per point
Monitoring Well development method (consistent with SOP): Hand Bailing, Surging, Pumping (Dependant on formation)

Comments, if warranted:

-During the site visit, monitoring wells MW-6, MW-18, MW-21, and DW-2 were not located.
-Monitoring well MW-19 was located and a monitoring well is not needed to be replaced in this area.
-Please find the attached 2013 Aerial Photo for proposed well installation locales (10 Shallow & 3 Deep)

UST Permit #: 00120 Facility Name: Roberts Energy 1

Implementation Schedule (Number of calendar days from approval)

Field Work Start-Up: 5/1/2014 Field Work Completion: 6/1/2014

Report Submittal: 7/1/2014 # of Copies Provided to Property Owners: 1

Aquifer Characterization

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

Investigation Derived Waste Disposal

Soil: 4 Tons Purge Water: 300.0 Gallons

Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work

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

-Following the well installation, the entire monitoring well network will be sampled.

-MECI proposes sampling the storm sewer system and collection of two samples from the nearby creek.

-Following the well installation, a comprehensive survey will be performed.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)

Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.

Name of Laboratory: _____

SCDHEC Certification Number: _____

Name of Laboratory Director: _____

Yes Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.

Name of Well Driller: _____

SCLLR Certification Number: _____

N/A Other variations from ACQAP. Please describe below.

Attachments

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow	Proposed monitoring well locations
Location of property lines	Legend with facility name and address, UST permit number, and bar scale
Location of buildings	Streets or highways (indicate names and numbers)
Previous soil sampling locations	Location of all present and former ASTs and USTs
Previous monitoring well locations	Location of all potential receptors
Proposed soil boring locations	

3. Assessment Component Cost Agreement, SCDHEC Form D-3664

D H E C

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South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT INVOICE

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

Facility Name: Roberts Energy 1

UST Permit #: 00120 **Cost Agreement #:** Proposal

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. **Plan Preparation**				
A1. Site-specific Work Plan	1	each	$400.00	$400.00
B1. Tax Map		each	$70.00	$0.00
3. **Survey (500 x 500 feet)**				
A1. Comprehensive Survey	2	each	$1,000.00	$2,000.00
4. **Mob/Demob (Each)**				
A1. Equipment	1	each	$250.00	$250.00
B1. Personnel	4	each	$200.00	$800.00
C1. Adverse Terrain Vehicle to install wells		each	$0.00	$0.00
5. A1. **Soil Borings (hand auger)***		feet	$0.00	$0.00
6. **Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)***				
A1. Standard		per foot	$6.00	$0.00
8. **Abandonment (per foot)***				
A1. 4" diameter or less		per foot	$2.75	$0.00
B1. Greater than 4" diameter		per foot	$2.76	$0.00
9. **Well Installation (per foot)***				
A1. Water Table (hand augered)		per foot	$0.00	$0.00
B1. Water Table (drill rig)	250	per foot	$18.87	$4,717.50
C1. Telescoping/ Pit Cased	180	per foot	$31.00	$5,580.00
D1. Rock Drilling		per foot	$23.00	$0.00
G1. Rock Multi-sampling ports/screens		per foot	$7.00	$0.00
H1. Recovery Well (4 inch diameter)		per foot	$28.00	$0.00
K. Re-develop Existing Well		per foot	$4.00	$0.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product ***				
A1. Groundwater Purge	29	per well	$15.00	$435.00
C1. Water Supply	3	per well/recep	$5.00	$15.00
D1. Groundwater No Purge or Duplicate	3	samples	$15.00	$45.00
E1. Gauge Well only		per well	$5.00	$0.00
F1. Sample Below Product		well	$5.00	$0.00
G1. Pasive Diffusion Bag		each	$20.00	$0.00

11. Laboratory Analyses-Groundwater				
A2. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	36	sample	$50.00	$1,800.00
AA1. Lead, Filtered		sample	$12.00	$0.00
D1. PAH's		sample	$48.00	$0.00
E1. Lead, Unfiltered		sample	$12.00	$0.00
F1. EDB by EPA 8011	35	sample	$27.00	$945.00
G1. 8 RCRA Metals		sample	$50.00	$0.00
H1. TPH (9070)		sample	$0.00	$0.00
PP. Ethanol		sample	$0.00	$0.00
11. **Analyses-Soil**				
E1. Lead		sample	$12.00	$0.00
Q1. BTEX + Naphth.		sample	$32.00	$0.00
R1. PAH's		sample	$50.00	$0.00
S1. 8 RCRA Metals		sample	$50.00	$0.00
U1. TPH-DRO (3550B/8015B)		sample	$0.00	$0.00
V1. TPH- GRO (5030B/8015B)		sample	$0.00	$0.00
W1. Grain size/hydrometer		sample	$150.00	$0.00
X1. Total Organic Carbon		sample	$0.10	$0.00
11. **Analyses-Air**				
Y1. BTEX + Naphthalene		sample	$7.00	$0.00
12. **Aquifer Characterization***				
B1. Slug Test*		per test	$100.00	$0.00
13. A1. **Free Product Recovery Test**		each	$35.00	$0.00
16. A1. **Subsequent Survey***		each	$300.00	$0.00
17. **Disposal (gallons or tons)***				
AA. Wastewater	300	gallon	$1.25	$375.00
BB. Free Product		gallon	$0.00	$0.00
C1. Soil Treatment/Disposal	4	ton	$50.04	$200.16
D1. Drilling fluids		gallon	$0.00	$0.00
18. **Miscellaneous (attach receipts)**				
High Strength Well Pad Replacement		each	$100.00	$0.00
Free Product Hydrocarbon (Age and Type Identification		each	$7.00	$0.00
		each	$0.00	$0.00
		each	$0.00	$0.00
20. **Tier I Asse. (Use DHEC 3665 form)**		standard	$5,100.00	$0.00
21. **IGWA (Use DHEC 3666 form)**		standard	$1,051.00	$0.00
25. **Well Repair***				
A1. Additional Copies of the Report		each	$0.00	$0.00
B1. Repair 2x2 MW pad		each	$200.00	$0.00
C1. Repair 4x4 MW pad		each	$199.97	$0.00
D1. Repair well vault		each	$200.00	$0.00
F1. Replace well cover bolts		each	$0.00	$0.00
G. Replace locking well cap & lock		each	$0.00	$0.00
H1. Replace/Repair stick-up		each	$0.00	$0.00
II. Convert Flush-mount to Stick-up		each	$0.00	$0.00
J1. Convert Stick-up to Flush-mount		each	$0.00	$0.00
K1. Replace missing/illegible well ID plate		each	$0.00	$0.00
TOTAL				$17,562.66

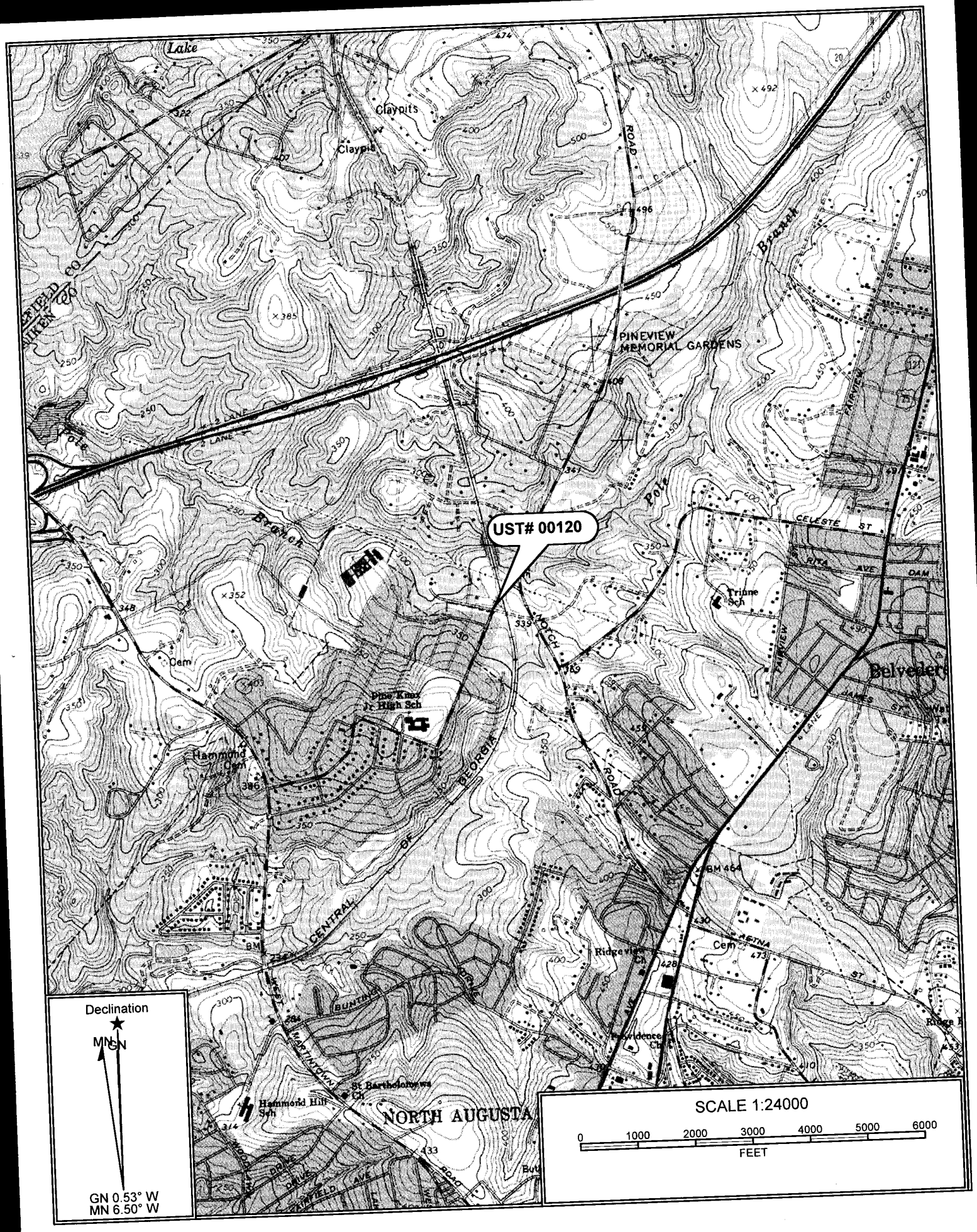
Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sampling Initial Site Visit Form

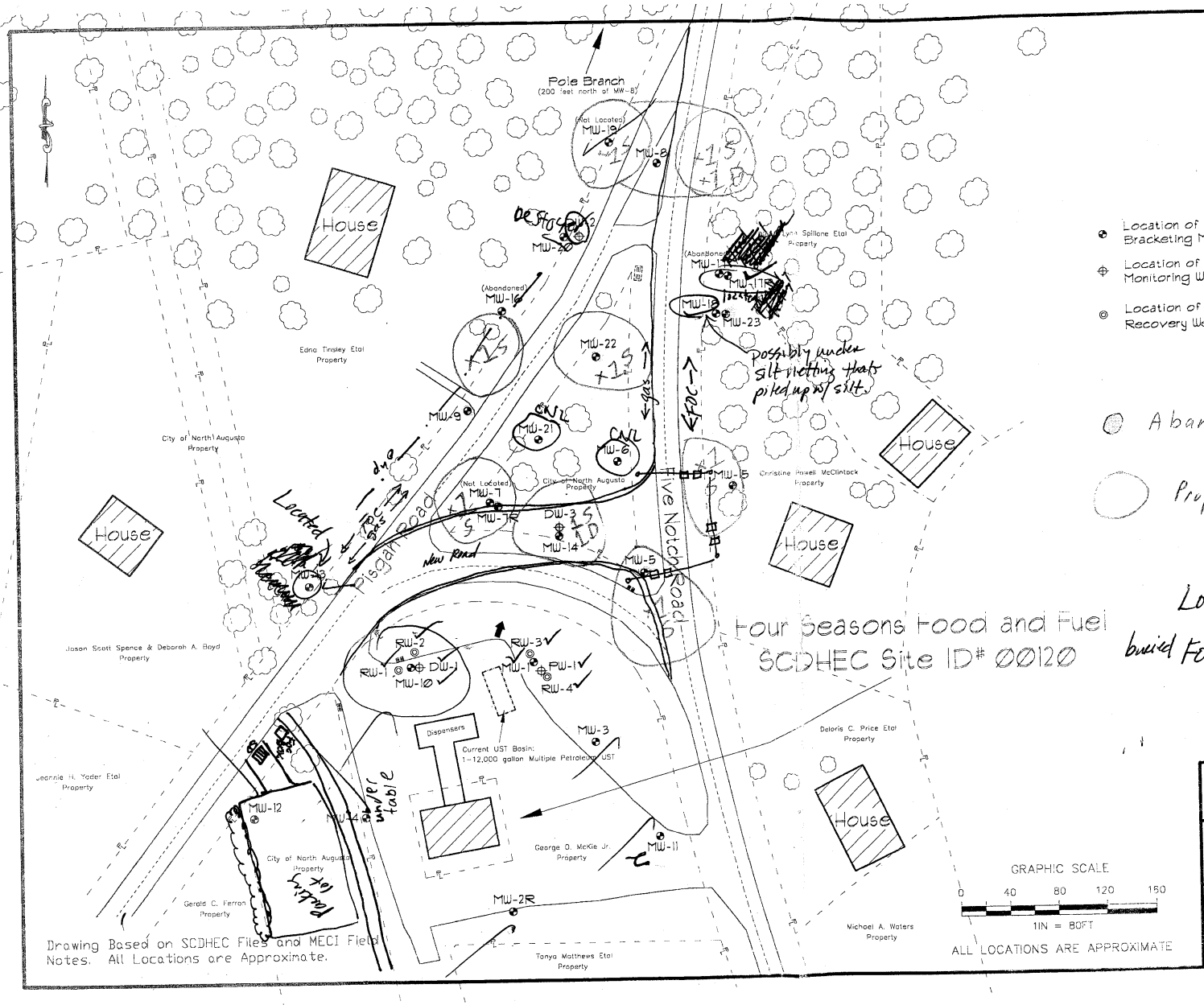
Site Name: Roberts Energy (Four Seasons Food + Fuel)
Site Address: 2031 Pisgah Rd.
City/Town: N. Augusta
Date: 3/27/14
MECI Personnel: RA, DM
Current Site Use: Convienence Store

MW#	Well Found?	Condition of well/Bolts needed/Reason for Not Located
1	Yes	
2R	Yes	
3	Yes	
4	Yes	
5	No	Abandoned
* 6	No	• Could Not Located w/metal detector; possibly destroyed
7R	No	Abandoned
8	No	Abandoned
9	No	Abandoned
10	Yes	
11	Yes	
12	Yes	
13	Yes	
14	No	Abandoned
15	No	Abandoned
16	No	Abandoned
17	Yes	
* 18	No	could not locate; possibly under silt note piled up w/ dir
19	Yes	
20	Yes	
* 21	No	Could not locate w/metal detector; possibly destroyed
22	No	Abandoned
23	No	Abandoned
DW-1	Yes	
* DW-2	No	Destroyed
DW-3	No	Abandoned
PW-1	Yes	
RW-1	Yes	
RW-2	Yes	
RW-3	Yes	
RW-4	Yes	

Additional Notes:


UST# 00120
Lake
Claypits
Claypit
PINEVIEW MEMORIAL GARDENS
Pole Branch
Pole Branch
CELESTE ST
RITA AVE
DAM
Trinne Sch
Belvedere
Pine Knox Jr High Sch
Hammond Cem
CENTRAL OF GEORGIA
NOTCH ROAD
Ridgeview Ch
Providence Ch
St Bartholomews Ch
Hammond Hill Sch
NORTH AUGUSTA
Declination
MN
GN
GN 0.53° W
MN 6.50° W
SCALE 1:24000
0
1000
2000
3000
4000
5000
6000
FEET

1/19/2013
45
N Augusta Greeneway Park
Pisgah Rd
W Five Notch Rd
MW-19
MW-20
DW-2R
MW-22R
MW-6R
MW-7RR
DW-3R
MW-14R
MW-5R
2013 Imagery
Roberts Energy 1
UST# 00120
Proposed Well Locations
1993
Imagery Date: 1/19/2013 33°32'08.23" N 81°57'51.56" W elev 299 ft eye alt



Explanation:

- Location of Water Table Bracketing Monitoring Well
- Location of "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Property Line
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- Storm Sewer Drop Inlet
- Abandoned by DoT 8-27-12
- Proposed MWs

Lots of utilities

build FOC, gas, H_2O, storm sewer, sewer, power

Site Base Map	
Four Seasons Food & Fuel 2031 Pisgah Road North Augusta, South Carolina SCDHEC Site ID# 00120	
Midlands Environmental Consultants, Inc.	JOB NO. 12-3762 DATE March 28, 2012 FIGURE 2

Midlands Environmental Consultants, Inc.

October 8, 2008

Ms. Debra Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

R
OCT
UNDERGROUND STORAGE
TANK PROGRAM

Subject: Report of Groundwater Sampling
Four Seasons Food & Fuel 5
North Augusta, South Carolina
SCDHEC Site ID Number 00120, CA # 33454
MECI Project Number 08-1876

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Sampling for the referenced site.

On October 1, 2008, twenty monitoring wells were sampled. Four monitoring wells (MW-18, PW-1, DW-1 and DW-2) were purged prior to sampling. Three monitoring wells (MW-1, MW-7 and MW-16) were gauged and determined to be dry. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 15.0 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

for Brendon P. Kelly
Staff Scientist

William C. McClary, P.G.
Senior Geologist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

UST PROGRAM
DOCKETING # 41

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food & Fuel 5
County: Aiken
Field Personnel: Brandon Guiles, Clark Baer

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-1	N	10/1/08	DRY	15-29	DRY	DRY	DRY	***	DRY
MW-2R	Y	10/1/08	12:20	15-30	***	26.86	***	***	No Odor
MW-3	Y	10/1/08	11:54	17-27	***	26.05	***	***	No Odor
MW-4	Y	10/1/08	12:33	17-27	***	26.20	***	***	No Odor
MW-5	Y	10/1/08	10:43	10-20	***	14.17	***	***	No Odor
MW-6	Y	10/1/08	10:11	9-19	***	13.44	***	***	Odor
MW-7	N	10/1/08	DRY	10-20	DRY	DRY	DRY	***	DRY
MW-8	Y	10/1/08	9:07	5-15	***	8.38	***	***	No Odor
MW-9	Y	10/1/08	10:32	10-20	***	16.51	***	***	No Odor
MW-10	Y	10/1/08	11:13	15-30	***	25.39	***	***	Odor
MW-11	Y	10/1/08	12:14	15-30	***	25.28	***	***	No Odor
MW-12	Y	10/1/08	12:41	15-30	***	23.20	***	***	No Odor
MW-13	Y	10/1/08	11:31	15-30	***	22.72	***	***	No Odor
MW-14	Y	10/1/08	10:50	9-24	***	17.72	***	***	No Odor
MW-15	Y	10/1/08	10:37	5-15	***	7.13	***	***	No Odor
								0.0	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Season Food & Fuel 5
County: Aiken
Field Personnel: Brandon Guiles, Clark Baer

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-16	N	10/1/08	DRY	4-14	DRY	DRY	DRY	***	DRY, Obstruction at 10 feet
MW-17	Y	10/1/08	9:31	5-15	***	3.35	***	***	Unable to purge due to Obstruction
MW-18	Y	10/1/08	9:41	5-15	***	3.11	***	1.5	No Odor
MW-19	Y	10/1/08	9:19	5-15	***	8.30	***	***	No Odor
MW-20	Y	10/1/08	9:11	5-15	***	9.08	***	***	No Odor
PW-1	Y	10/1/08	11:54	46	***	26.22	***	5.0	No Odor
DW-1	Y	10/1/08	11:25	60	***	28.44	***	3.5	Odor
DW-2	Y	10/1/08	10:07	60	***	10.29	***	5.0	Odor
								15.0	**TOTAL GALLONS PURGED**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 10/1/2008

Field Personnel: Brandon Guiles, Clark Baer

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00140 **Monitoring Well #** MW-9

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	10.29			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			49.71	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	8.10	gallons
3 casing volume (3 X CV)=		3	24.31	gallons

Total Volume of Water Purged Before Sampling 5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:53	10:05						
pH (s.u.)	6.87	7.05						
Specific Conductivity (μmhos/cm)	667	722						
Water Temperature (°C)	19.3	19.2						
Dissolved Oxygen	0.51	0.50						
PID readings, if required								

Remarks: Sample Time: 10:53 Parameters within 10%

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 10/1/2008

Field Personnel: Brandon Guiles, Clark Baer

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00140 **Monitoring Well #** MW-18

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	3.11			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			11.89	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.94	gallons
3 casing volume (3 X CV)=		3	5.81	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:39							
pH (s.u.)	6.29							
Specific Conductivity (µmhos/cm)	54.0							
Water Temperature (°C)	20.3							
Dissolved Oxygen	2.37							
PID readings, if required								

Remarks: Sample Time: 9:41 Dry at 1.5 gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 10/1/2008

Field Personnel: Brandon Guiles, Clark Baer

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00140 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	26.22			feet
Total Well Depth (TWD)	46			feet
Length of the water column (LWC=TWD-DGW)			19.78	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.22	gallons
3 casing volume (3 X CV)=		3	9.67	gallons

Total Volume of Water Purged Before Sampling 5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:47	11:54						
pH (s.u.)	5.84	5.49						
Specific Conductivity (µmhos/cm)	60.8	57.5						
Water Temperature (°C)	21.6	21.5						
Dissolved Oxygen	2.56	2.82						
PID readings, if required								

Remarks: Sample Time: 11:54 Parameters within 10%

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 10/1/2008

Field Personnel: Brandon Guiles, Clark Baer

General Weather Conditions: Sunny

Ambient Air Temperature: 28.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00140 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:		feet
Depth to Free Product (DFP)		feet
Depth to Ground Water (DGW)	28.44	feet
Total Well Depth (TWD)	60	feet
Length of the water column (LWC=TWD-DGW)	31.56	feet
1 casing volume (CV=LWC X C)= _____ X 0.163	5.14	gallons
3 casing volume (3 X CV)= 3	15.43	gallons

Total Volume of Water Purged Before Sampling 3.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:15							
pH (s.u.)	6.86							
Specific Conductivity (µmhos/cm)	145.1							
Water Temperature (°C)	22.2							
Dissolved Oxygen	1.15							
PID readings, if required								

Remarks: Sample Time: 11:25 Dry at 3.5 gallons

Midlands
Environmental
Consultants, Inc.

October 8, 2008

Re: Treatment of Purge Water
Four Seasons Food & Fuel 5
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 08-1876

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The worst-case well analysis was obtained before usage of the Activated Carbon Unit. The worst-case well analysis shows only petroleum hydrocarbon constituents in the purge/bail water with minimal, background concentrations of lead. The purge/bail water was containerized on site before treatment for less than 30 days prior to treatment.

2. No free-product was detected in any of the purge water drums.

3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.

4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.

5. Record of usage is maintained by Contractor.

6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.

7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 15.0 gallons were treated on October 1, 2008 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

for Brendon P. Kelly
Staff Scientist

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(704)875-9092

October 13, 2008

RECEIVED
OCT 15 2008
UNDERGROUND STORAGE
TANK PROGRAM

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on October 02, 2008. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Charlotte Certification IDs

Connecticut Certification Number: PH-0104
Pennsylvania Certification Number: 68-00784
West Virginia Certification Number: 357
Virginia Certification Number: 00213
Tennessee Certification Number: 04010
South Carolina Drinking Water Cert. Number: 990060003
South Carolina Certification Number: 990060001
North Carolina Field Services Certification Number: 5342
North Carolina Wastewater Certification Number: 12
North Carolina Drinking Water Certification Number: 37706
Louisiana/LELAP Certification Number: 04034
Kentucky UST Certification Number: 84
New Jersey Certification Number: NC012
Florida/NELAP Certification Number: E87627

Asheville Certification IDs

Connecticut Certification Number: PH-0106
Massachusetts Certification Number: M-NC030
West Virginia Certification Number: 356
Virginia Certification Number: 00072
Tennessee Certification Number: 2980
South Carolina Bioassay Certification Number: 99030002
South Carolina Certification Number: 99030001
Pennsylvania Certification Number: 68-03578
North Carolina Bioassay Certification Number: 9
North Carolina Wastewater Certification Number: 40
North Carolina Drinking Water Certification Number: 37712
New Jersey Certification Number: NC011
Louisiana/LELAP Certification Number: 03095
Florida/NELAP Certification Number: E87648

Eden Certification IDs

Virginia Drinking Water Certification Number: 00424
North Carolina Wastewater Certification Number: 633
North Carolina Drinking Water Certification Number: 37738

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SAMPLE SUMMARY

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9229192001	MW-2R	Water	10/01/08 12:20	10/02/08 15:15
9229192002	MW-3	Water	10/01/08 11:54	10/02/08 15:15
9229192003	MW-4	Water	10/01/08 12:33	10/02/08 15:15
9229192004	MW-5	Water	10/01/08 10:43	10/02/08 15:15
9229192005	MW-6	Water	10/01/08 10:11	10/02/08 15:15
9229192006	MW-8	Water	10/01/08 09:07	10/02/08 15:15
9229192007	MW-9	Water	10/01/08 10:32	10/02/08 15:15
9229192008	MW-10	Water	10/01/08 11:13	10/02/08 15:15
9229192009	MW-11	Water	10/01/08 12:14	10/02/08 15:15
9229192010	MW-12	Water	10/01/08 12:41	10/02/08 15:15
9229192011	MW-13	Water	10/01/08 11:31	10/02/08 15:15
9229192012	MW-14	Water	10/01/08 10:50	10/02/08 15:15
9229192013	MW-15	Water	10/01/08 10:37	10/02/08 15:15
9229192014	MW-17	Water	10/01/08 09:31	10/02/08 15:15
9229192015	MW-18	Water	10/01/08 09:41	10/02/08 15:15
9229192016	MW-19	Water	10/01/08 09:19	10/02/08 15:15
9229192017	MW-20	Water	10/01/08 09:11	10/02/08 15:15
9229192018	PW-1	Water	10/01/08 11:54	10/02/08 15:15
9229192019	DW-1	Water	10/01/08 11:25	10/02/08 15:15
9229192020	DW-2	Water	10/01/08 10:07	10/02/08 15:15

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SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9229192001	MW-2R	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192002	MW-3	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192003	MW-4	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192004	MW-5	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192005	MW-6	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192006	MW-8	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192007	MW-9	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192008	MW-10	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192009	MW-11	EPA 8011	CAH	2
		EPA 8260	MCK	11
9229192010	MW-12	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192011	MW-13	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192012	MW-14	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192013	MW-15	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192014	MW-17	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192015	MW-18	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192016	MW-19	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192017	MW-20	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192018	PW-1	EPA 8011	CAH	2
		EPA 8260	MCK	12
9229192019	DW-1	EPA 8011	CAH	2

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SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260	MCK	12
9229192020	**DW-2**	EPA 8011	CAH	2
		EPA 8260	MCK	12

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-2R **Lab ID: 9229192001** Collected: 10/01/08 12:20 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:15	10/05/08 09:03	106-93-4	
1-Chloro-2-bromopropane (S)	82	%	60-140		1	10/04/08 21:15	10/05/08 09:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 17:37	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 17:37	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 17:37	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 17:37	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 17:37	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 17:37	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 17:37	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 17:37	95-47-6	
4-Bromofluorobenzene (S)	100	%	87-109		1		10/03/08 17:37	460-00-4	
Dibromofluoromethane (S)	105	%	85-115		1		10/03/08 17:37	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	79-120		1		10/03/08 17:37	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		10/03/08 17:37	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-3 **Lab ID: 9229192002** Collected: 10/01/08 11:54 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:15	10/05/08 09:15	106-93-4	
1-Chloro-2-bromopropane (S)	85	%	60-140		1	10/04/08 21:15	10/05/08 09:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 17:53	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 17:53	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 17:53	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 17:53	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 17:53	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 17:53	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 17:53	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 17:53	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		1		10/03/08 17:53	460-00-4	
Dibromofluoromethane (S)	103	%	85-115		1		10/03/08 17:53	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	79-120		1		10/03/08 17:53	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		10/03/08 17:53	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-4 **Lab ID: 9229192003** Collected: 10/01/08 12:33 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:16	10/05/08 09:27	106-93-4	
1-Chloro-2-bromopropane (S)	85	%	60-140		1	10/04/08 21:16	10/05/08 09:27	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 18:09	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 18:09	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 18:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 18:09	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 18:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 18:09	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 18:09	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 18:09	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		1		10/03/08 18:09	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		10/03/08 18:09	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	79-120		1		10/03/08 18:09	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		10/03/08 18:09	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-5 **Lab ID: 9229192004** Collected: 10/01/08 10:43 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:16	10/05/08 09:39	106-93-4	
1-Chloro-2-bromopropane (S)	84	%	60-140		1	10/04/08 21:16	10/05/08 09:39	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 18:26	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 18:26	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 18:26	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 18:26	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 18:26	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 18:26	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 18:26	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 18:26	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109		1		10/03/08 18:26	460-00-4	
Dibromofluoromethane (S)	105	%	85-115		1		10/03/08 18:26	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	79-120		1		10/03/08 18:26	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		10/03/08 18:26	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-6 **Lab ID: 9229192005** Collected: 10/01/08 10:11 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:16	10/05/08 09:52	106-93-4	
1-Chloro-2-bromopropane (S)	77	%	60-140		1	10/04/08 21:16	10/05/08 09:52	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**495**	ug/L	250	60.0	50		10/04/08 00:19	71-43-2	
Ethylbenzene	**1120**	ug/L	250	55.0	50		10/04/08 00:19	100-41-4	
Methyl-tert-butyl ether	**1380**	ug/L	250	100	50		10/04/08 00:19	1634-04-4	
Naphthalene	**776**	ug/L	250	145	50		10/04/08 00:19	91-20-3	
Toluene	**9990**	ug/L	250	90.0	50		10/04/08 00:19	108-88-3	
Xylene (Total)	**7420**	ug/L	500	135	50		10/04/08 00:19	1330-20-7	
m&p-Xylene	**5170**	ug/L	500	135	50		10/04/08 00:19	1330-20-7	
o-Xylene	**2250**	ug/L	250	85.0	50		10/04/08 00:19	95-47-6	
4-Bromofluorobenzene (S)	109	%	87-109		50		10/04/08 00:19	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		50		10/04/08 00:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	97	%	79-120		50		10/04/08 00:19	17060-07-0	
Toluene-d8 (S)	98	%	70-120		50		10/04/08 00:19	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-8 **Lab ID: 9229192006** Collected: 10/01/08 09:07 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:16	10/05/08 10:04	106-93-4	
1-Chloro-2-bromopropane (S)	83	%	60-140		1	10/04/08 21:16	10/05/08 10:04	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 18:42	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 18:42	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 18:42	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 18:42	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 18:42	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 18:42	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 18:42	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 18:42	95-47-6	
4-Bromofluorobenzene (S)	105	%	87-109		1		10/03/08 18:42	460-00-4	
Dibromofluoromethane (S)	104	%	85-115		1		10/03/08 18:42	1868-53-7	
1,2-Dichloroethane-d4 (S)	109	%	79-120		1		10/03/08 18:42	17060-07-0	
Toluene-d8 (S)	93	%	70-120		1		10/03/08 18:42	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-9 **Lab ID: 9229192007** Collected: 10/01/08 10:32 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:16	10/05/08 10:16	106-93-4	
1-Chloro-2-bromopropane (S)	83	%	60-140		1	10/04/08 21:16	10/05/08 10:16	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 18:58	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 18:58	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 18:58	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 18:58	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 18:58	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 18:58	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 18:58	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 18:58	95-47-6	
4-Bromofluorobenzene (S)	106	%	87-109		1		10/03/08 18:58	460-00-4	
Dibromofluoromethane (S)	102	%	85-115		1		10/03/08 18:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	79-120		1		10/03/08 18:58	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		10/03/08 18:58	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-10 **Lab ID: 9229192008** Collected: 10/01/08 11:13 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.12**	ug/L	0.019	0.019	1	10/04/08 21:16	10/05/08 10:28	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140		1	10/04/08 21:16	10/05/08 10:28	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**914**	ug/L	500	120	100		10/06/08 17:16	71-43-2	
Ethylbenzene	**320J**	ug/L	500	110	100		10/06/08 17:16	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	500	200	100		10/06/08 17:16	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		10/06/08 17:16	91-20-3	
Toluene	**12300**	ug/L	500	180	100		10/06/08 17:16	108-88-3	
Xylene (Total)	**1520**	ug/L	1000	270	100		10/06/08 17:16	1330-20-7	
m&p-Xylene	**1060**	ug/L	1000	270	100		10/06/08 17:16	1330-20-7	
o-Xylene	**457J**	ug/L	500	170	100		10/06/08 17:16	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		100		10/06/08 17:16	460-00-4	
Dibromofluoromethane (S)	100	%	85-115		100		10/06/08 17:16	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		100		10/06/08 17:16	17060-07-0	
Toluene-d8 (S)	98	%	70-120		100		10/06/08 17:16	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-11 **Lab ID: 9229192009** Collected: 10/01/08 12:14 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/04/08 21:16	10/05/08 10:40	106-93-4	
1-Chloro-2-bromopropane (S)	84	%	60-140		1	10/04/08 21:16	10/05/08 10:40	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 19:14	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 19:14	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 19:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 19:14	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 19:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 19:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 19:14	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 19:14	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		1		10/03/08 19:14	460-00-4	
Dibromofluoromethane (S)	99	%	85-115		1		10/03/08 19:14	1868-53-7	
1,2-Dichloroethane-d4 (S)	99	%	79-120		1		10/03/08 19:14	17060-07-0	
Toluene-d8 (S)	97	%	70-120		1		10/03/08 19:14	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-12 **Lab ID: 9229192010** Collected: 10/01/08 12:41 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/04/08 21:16	10/05/08 10:53	106-93-4	
1-Chloro-2-bromopropane (S)	87	%	60-140		1	10/04/08 21:16	10/05/08 10:53	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 19:30	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 19:30	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 19:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 19:30	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 19:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 19:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 19:30	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 19:30	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		10/03/08 19:30	460-00-4	
Dibromofluoromethane (S)	105	%	85-115		1		10/03/08 19:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	79-120		1		10/03/08 19:30	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		10/03/08 19:30	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-13 **Lab ID: 9229192011** Collected: 10/01/08 11:31 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/06/08 15:39	10/06/08 17:10	106-93-4	
1-Chloro-2-bromopropane (S)	85	%	60-140		1	10/06/08 15:39	10/06/08 17:10	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 19:46	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 19:46	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 19:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 19:46	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 19:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 19:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 19:46	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 19:46	95-47-6	
4-Bromofluorobenzene (S)	105	%	87-109		1		10/03/08 19:46	460-00-4	
Dibromofluoromethane (S)	107	%	85-115		1		10/03/08 19:46	1868-53-7	
1,2-Dichloroethane-d4 (S)	114	%	79-120		1		10/03/08 19:46	17060-07-0	
Toluene-d8 (S)	102	%	70-120		1		10/03/08 19:46	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-14 **Lab ID: 9229192012** Collected: 10/01/08 10:50 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.11**	ug/L	0.020	0.020	1	10/06/08 15:39	10/06/08 17:46	106-93-4	
1-Chloro-2-bromopropane (S)	77	%	60-140		1	10/06/08 15:39	10/06/08 17:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**1210**	ug/L	250	60.0	50		10/04/08 00:39	71-43-2	
Ethylbenzene	**1320**	ug/L	250	55.0	50		10/04/08 00:39	100-41-4	
Methyl-tert-butyl ether	**3710**	ug/L	250	100	50		10/04/08 00:39	1634-04-4	
Naphthalene	**569**	ug/L	250	145	50		10/04/08 00:39	91-20-3	
Toluene	**14900**	ug/L	2500	900	500		10/06/08 17:33	108-88-3	
Xylene (Total)	**7760**	ug/L	500	135	50		10/04/08 00:39	1330-20-7	
m&p-Xylene	**5200**	ug/L	500	135	50		10/04/08 00:39	1330-20-7	
o-Xylene	**2560**	ug/L	250	85.0	50		10/04/08 00:39	95-47-6	
4-Bromofluorobenzene (S)	112	%	87-109		50		10/04/08 00:39	460-00-4	S2
Dibromofluoromethane (S)	103	%	85-115		50		10/04/08 00:39	1868-53-7	
1,2-Dichloroethane-d4 (S)	110	%	79-120		50		10/04/08 00:39	17060-07-0	
Toluene-d8 (S)	100	%	70-120		50		10/04/08 00:39	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-15 **Lab ID: 9229192013** Collected: 10/01/08 10:37 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/06/08 15:39	10/06/08 18:10	106-93-4	
1-Chloro-2-bromopropane (S)	85	%	60-140		1	10/06/08 15:39	10/06/08 18:10	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 20:02	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 20:02	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 20:02	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 20:02	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 20:02	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 20:02	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 20:02	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 20:02	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		1		10/03/08 20:02	460-00-4	
Dibromofluoromethane (S)	112	%	85-115		1		10/03/08 20:02	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	79-120		1		10/03/08 20:02	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		10/03/08 20:02	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-17 **Lab ID: 9229192014** Collected: 10/01/08 09:31 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/06/08 15:39	10/06/08 18:22	106-93-4	
1-Chloro-2-bromopropane (S)	77	%	60-140		1	10/06/08 15:39	10/06/08 18:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 20:18	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 20:18	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 20:18	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 20:18	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 20:18	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 20:18	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 20:18	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 20:18	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		10/03/08 20:18	460-00-4	
Dibromofluoromethane (S)	105	%	85-115		1		10/03/08 20:18	1868-53-7	
1,2-Dichloroethane-d4 (S)	113	%	79-120		1		10/03/08 20:18	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		10/03/08 20:18	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-18 **Lab ID: 9229192015** Collected: 10/01/08 09:41 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/06/08 15:39	10/06/08 18:34	106-93-4	
1-Chloro-2-bromopropane (S)	90	%	60-140		1	10/06/08 15:39	10/06/08 18:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 20:35	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 20:35	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 20:35	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 20:35	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 20:35	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 20:35	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 20:35	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 20:35	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		1		10/03/08 20:35	460-00-4	
Dibromofluoromethane (S)	105	%	85-115		1		10/03/08 20:35	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	79-120		1		10/03/08 20:35	17060-07-0	
Toluene-d8 (S)	93	%	70-120		1		10/03/08 20:35	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-19 **Lab ID: 9229192016** Collected: 10/01/08 09:19 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/06/08 15:39	10/06/08 18:46	106-93-4	
1-Chloro-2-bromopropane (S)	84	%	60-140		1	10/06/08 15:39	10/06/08 18:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 20:51	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 20:51	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 20:51	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 20:51	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 20:51	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 20:51	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 20:51	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 20:51	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		1		10/03/08 20:51	460-00-4	
Dibromofluoromethane (S)	108	%	85-115		1		10/03/08 20:51	1868-53-7	
1,2-Dichloroethane-d4 (S)	115	%	79-120		1		10/03/08 20:51	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		10/03/08 20:51	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: MW-20 **Lab ID: 9229192017** Collected: 10/01/08 09:11 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	10/06/08 15:39	10/06/08 18:58	106-93-4	
1-Chloro-2-bromopropane (S)	78	%	60-140		1	10/06/08 15:39	10/06/08 18:58	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 21:07	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 21:07	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 21:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 21:07	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 21:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 21:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 21:07	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 21:07	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		1		10/03/08 21:07	460-00-4	
Dibromofluoromethane (S)	103	%	85-115		1		10/03/08 21:07	1868-53-7	
1,2-Dichloroethane-d4 (S)	111	%	79-120		1		10/03/08 21:07	17060-07-0	
Toluene-d8 (S)	96	%	70-120		1		10/03/08 21:07	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: PW-1 **Lab ID: 9229192018** Collected: 10/01/08 11:54 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	10/06/08 15:39	10/06/08 19:10	106-93-4	
1-Chloro-2-bromopropane (S)	74	%	60-140		1	10/06/08 15:39	10/06/08 19:10	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		10/03/08 21:23	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/03/08 21:23	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/03/08 21:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/03/08 21:23	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/03/08 21:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/03/08 21:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/03/08 21:23	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/03/08 21:23	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		1		10/03/08 21:23	460-00-4	
Dibromofluoromethane (S)	110	%	85-115		1		10/03/08 21:23	1868-53-7	
1,2-Dichloroethane-d4 (S)	119	%	79-120		1		10/03/08 21:23	17060-07-0	
Toluene-d8 (S)	101	%	70-120		1		10/03/08 21:23	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: DW-1 **Lab ID: 9229192019** Collected: 10/01/08 11:25 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.12**	ug/L	0.019	0.019	1	10/06/08 15:40	10/06/08 19:22	106-93-4	
1-Chloro-2-bromopropane (S)	78	%	60-140		1	10/06/08 15:40	10/06/08 19:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**449J**	ug/L	1000	240	200		10/03/08 21:55	71-43-2	
Ethylbenzene	ND	ug/L	1000	220	200		10/03/08 21:55	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1000	400	200		10/03/08 21:55	1634-04-4	
Naphthalene	ND	ug/L	1000	580	200		10/03/08 21:55	91-20-3	
Toluene	**17000**	ug/L	1000	360	200		10/03/08 21:55	108-88-3	
Xylene (Total)	**3310**	ug/L	2000	540	200		10/03/08 21:55	1330-20-7	
m&p-Xylene	**2170**	ug/L	2000	540	200		10/03/08 21:55	1330-20-7	
o-Xylene	**1150**	ug/L	1000	340	200		10/03/08 21:55	95-47-6	
4-Bromofluorobenzene (S)	104	%	87-109		200		10/03/08 21:55	460-00-4	
Dibromofluoromethane (S)	110	%	85-115		200		10/03/08 21:55	1868-53-7	
1,2-Dichloroethane-d4 (S)	112	%	79-120		200		10/03/08 21:55	17060-07-0	
Toluene-d8 (S)	100	%	70-120		200		10/03/08 21:55	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

Sample: DW-2 **Lab ID: 9229192020** Collected: 10/01/08 10:07 Received: 10/02/08 15:15 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.021	0.021	1	10/06/08 15:40	10/06/08 19:34	106-93-4	
1-Chloro-2-bromopropane (S)	82	%	60-140		1	10/06/08 15:40	10/06/08 19:34	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**6.9**	ug/L	5.0	1.2	1		10/06/08 14:58	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		10/06/08 14:58	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		10/06/08 14:58	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		10/06/08 14:58	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		10/06/08 14:58	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		10/06/08 14:58	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		10/06/08 14:58	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		10/06/08 14:58	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109		1		10/06/08 14:58	460-00-4	
Dibromofluoromethane (S)	95	%	85-115		1		10/06/08 14:58	1868-53-7	
1,2-Dichloroethane-d4 (S)	108	%	79-120		1		10/06/08 14:58	17060-07-0	
Toluene-d8 (S)	102	%	70-120		1		10/06/08 14:58	2037-26-5	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

QC Batch: MSV/4820 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9229192001, 9229192002, 9229192003, 9229192004, 9229192006, 9229192007, 9229192008, 9229192009, 9229192010, 9229192011, 9229192013, 9229192014, 9229192015, 9229192016, 9229192017, 9229192018, 9229192019, 9229192020

METHOD BLANK: 177943 Matrix: Water
Associated Lab Samples: 9229192001, 9229192002, 9229192003, 9229192004, 9229192006, 9229192007, 9229192008, 9229192009, 9229192010, 9229192011, 9229192013, 9229192014, 9229192015, 9229192016, 9229192017, 9229192018, 9229192019, 9229192020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	10/03/08 16:32	
Ethylbenzene	ug/L	ND	5.0	10/03/08 16:32	
m&p-Xylene	ug/L	ND	10.0	10/03/08 16:32	
Methyl-tert-butyl ether	ug/L	ND	5.0	10/03/08 16:32	
Naphthalene	ug/L	ND	5.0	10/03/08 16:32	
o-Xylene	ug/L	ND	5.0	10/03/08 16:32	
Toluene	ug/L	ND	5.0	10/03/08 16:32	
Xylene (Total)	ug/L	ND	10.0	10/03/08 16:32	
1,2-Dichloroethane-d4 (S)	%	103	79-120	10/03/08 16:32	
4-Bromofluorobenzene (S)	%	103	87-109	10/03/08 16:32	
Dibromofluoromethane (S)	%	100	85-115	10/03/08 16:32	
Toluene-d8 (S)	%	100	70-120	10/03/08 16:32	

LABORATORY CONTROL SAMPLE: 177944

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	59.9	120	78-128	
Ethylbenzene	ug/L	50	56.1	112	80-127	
m&p-Xylene	ug/L	100	121	121	82-127	
Methyl-tert-butyl ether	ug/L	50	56.8	114	71-130	
Naphthalene	ug/L	50	55.3	111	52-136	
o-Xylene	ug/L	50	55.8	112	83-124	
Toluene	ug/L	50	58.1	116	76-126	
Xylene (Total)	ug/L	150	177	118	83-125	
1,2-Dichloroethane-d4 (S)	%			108	79-120	
4-Bromofluorobenzene (S)	%			105	87-109	
Dibromofluoromethane (S)	%			104	85-115	
Toluene-d8 (S)	%			97	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 177945 177946

Parameter	Units	9229192009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	49.2	51.1	98	102	74-136	4	30	
Toluene	ug/L	ND	50	50	45.3	48.2	91	96	73-131	6	30	
1,2-Dichloroethane-d4 (S)	%						106	109	79-120			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 177945 177946

Parameter	Units	9229192009 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
4-Bromofluorobenzene (S)	%						109	104	87-109			
Dibromofluoromethane (S)	%						102	105	85-115			
Toluene-d8 (S)	%						98	100	70-120			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

QC Batch: MSV/4824 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV
Associated Lab Samples: 9229192005, 9229192012

METHOD BLANK: 177957 — Matrix: Water
Associated Lab Samples: 9229192005, 9229192012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	10/03/08 16:49	
Ethylbenzene	ug/L	ND	5.0	10/03/08 16:49	
m&p-Xylene	ug/L	ND	10.0	10/03/08 16:49	
Methyl-tert-butyl ether	ug/L	ND	5.0	10/03/08 16:49	
Naphthalene	ug/L	ND	5.0	10/03/08 16:49	
o-Xylene	ug/L	ND	5.0	10/03/08 16:49	
Toluene	ug/L	ND	5.0	10/03/08 16:49	
Xylene (Total)	ug/L	ND	10.0	10/03/08 16:49	
1,2-Dichloroethane-d4 (S)	%	107	79-120	10/03/08 16:49	
4-Bromofluorobenzene (S)	%	102	87-109	10/03/08 16:49	
Dibromofluoromethane (S)	%	105	85-115	10/03/08 16:49	
Toluene-d8 (S)	%	104	70-120	10/03/08 16:49	

LABORATORY CONTROL SAMPLE: 177958

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.8	106	78-128	
Ethylbenzene	ug/L	50	48.1	96	80-127	
m&p-Xylene	ug/L	100	103	103	82-127	
Methyl-tert-butyl ether	ug/L	50	48.0	96	71-130	
Naphthalene	ug/L	50	43.8	88	52-136	
o-Xylene	ug/L	50	47.0	94	83-124	
Toluene	ug/L	50	52.3	105	76-126	
Xylene (Total)	ug/L	150	150	100	83-125	
1,2-Dichloroethane-d4 (S)	%			104	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			104	85-115	
Toluene-d8 (S)	%			104	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 177959 177960

Parameter	Units	9228768028 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	20.0	50	50	69.4	71.0	99	102	74-136	2	30	
Toluene	ug/L	ND	50	50	43.3	46.6	86	92	73-131	7	30	
1,2-Dichloroethane-d4 (S)	%						110	109	79-120			
4-Bromofluorobenzene (S)	%						106	106	87-109			
Dibromofluoromethane (S)	%						101	104	85-115			
Toluene-d8 (S)	%						98	102	70-120			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

QC Batch: OEXT/4598 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9229192001, 9229192002, 9229192003, 9229192004, 9229192005, 9229192006, 9229192007, 9229192008, 9229192009, 9229192010

METHOD BLANK: 178239 — Matrix: Water
Associated Lab Samples: 9229192001, 9229192002, 9229192003, 9229192004, 9229192005, 9229192006, 9229192007, 9229192008, 9229192009, 9229192010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	10/05/08 05:25	
1-Chloro-2-bromopropane (S)	%	97	60-140	10/05/08 05:25	

LABORATORY CONTROL SAMPLE & LCSD: 178240 178241

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.31	0.29	110	102	60-140	6	20	
1-Chloro-2-bromopropane (S)	%				100	96	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 178242 178243

Parameter	Units	9229101076 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.25	0.23	88	82	60-140	7	20	
1-Chloro-2-bromopropane (S)	%						83	83	60-140			

SAMPLE DUPLICATE: 178244

Parameter	Units	9229101077 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%		89	.03		

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Pace Analytical
www.pacelabs.com

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Asheville, NC 28804
(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

QC Batch: OEXT/4601 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9229192011, 9229192012, 9229192013, 9229192014, 9229192015, 9229192016, 9229192017, 9229192018, 9229192019, 9229192020

METHOD BLANK: 178295 Matrix: Water
Associated Lab Samples: 9229192011, 9229192012, 9229192013, 9229192014, 9229192015, 9229192016, 9229192017, 9229192018, 9229192019, 9229192020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	10/06/08 16:35	
1-Chloro-2-bromopropane (S)	%	106	60-140	10/06/08 16:35	

LABORATORY CONTROL SAMPLE & LCSD: 178296 178297

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.32	0.27	112	96	60-140	15	20	
1-Chloro-2-bromopropane (S)	%				100	90	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 178298 178299

Parameter	Units	9229192011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.26	0.27	94	96	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						89	90	60-140			

SAMPLE DUPLICATE: 178300

Parameter	Units	9229192012 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	0.11	0.12	10	20	
1-Chloro-2-bromopropane (S)	%		78	3		

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(828)254-7176

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALIFIERS

Project: FOUR SEASONS FOOD&FUELS 00120
Pace Project No.: 9229192

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

ANALYTE QUALIFIERS

S2 Surrogate recovery outside laboratory control limits due to matrix interferences (confirmed by similar results from sample re-analysis).

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1163283

Section A Required Client Information:

Company: SCDHEC (UST)
Address: 2600 Bull St
Cola, SC 29201
Email To:
Phone: 896-6240 Fax: 896-6245
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.:
Project Name: Four Seasons Food Fuel
Project Number: 00120/CA 33455

Section C Invoice Information:

Attention: Finance (D. Thoma)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: R. Spencer
Pace Profile #: 849-2

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Analysis Test: BTEX, Naphthalene, MTBE 8260B; EDB 8011

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX, Naphthalene, MTBE 8260B	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			10/1	X		X												Dry No sample
2	MW-2R						12:20		6				6					X	X		001
3	MW-3						11:54		5				5								2
4	MW-4						12:33		6				6								3
5	MW-5						10:43		6				6								4
6	MW-6						10:11		6				6					X	X		5
7	MW-7						X														Dry No sample
8	MW-8						9:07		6				6					X	X		6
9	MW-9						10:32		6												7
10	MW-10						11:13		6												8
11	MW-11						12:14		6												9
12	MW-12	WT	G			10/1	12:41		6				6					X	X		10

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Beaver			George Moody - Pace	10-2-08	7:25				
	George Moody	10-2-08	15:15	[signature]	10/2/08	1515	4.4	Y	N	Y

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: B. Guiles
SIGNATURE of SAMPLER: BG
DATE Signed (MM/DD/YY): 10/1/08

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

1163284

Section A Required Client Information:

Company: ~~MFEE~~ SCDHEC
Address: ~~2355 Bookers Rd~~ ~~2600 Bull St~~
~~Lexington, SC 29073~~ Columbia SC 29201
Email To:
Phone: 896-6240 Fax: 896 6245
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Four Seasons Food+Fuel 5
Project Number: 00120/CA 33455

Section C Invoice Information:

Attention: Finance (D. Thoma)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: L. Spencer
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER
Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N): Analysis Test ↓ — Pb, Cr, Hg, Mn, Ni, Se, Ag, Cd; EDB 8011

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start DATE	Composite Start TIME	Composite End/Grab DATE	Composite End/Grab TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Pb, Cr, Hg, Mn, Ni, Se, Ag, Cd	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-13	WT	G			10/1	11:31		6				6					X	X		— 11
2	MW-14						10:50		6				6					X	X		— 12
3	MW-15						10:37		6				6					X	X		— 13
4	MW-16						X														DRY
5	MW-17						9:31		6				6					X	X		— 14
6	MW-18						9:41														— 15
7	MW-19						9:19														— 16
8	MW-20						9:11														— 17
9	PW-1						11:54														— 18
10	DW-1						11:25														ODOR 19
11	DW-2	WT	G			10/1	10:07		6				6					X	X		ODOR 20
12																					

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Beaver			Georgie Moody - Pace	10-2-08	7:25				
	Georgie Moody	10-2-08	15:15	[signature]	10/2/08	1515	4.4	Y	N	Y
							Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: B. Guites
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 10/1/08

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

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071-0854

APR 1 4 2014

UST 40tech DOCKETING

Re: **Notice to Proceed for Small Scope Site-Specific Work Plan**
Solicitation # 5400006561, PO# 4600301871
Roberts Energy 1, 2031 Pisgah Rd., Augusta, SC
UST Permit # 00120; CA # 47635; UMW-25482
Site-Specific Work Plan Received April 8, 2014
Aiken County

Dear Mr. Shane:

In accordance with the bid solicitation # IFB-5400006561 and the UST Management Division Quality Assurance Program Plan (QAPP) Revision 2.0, the Site-Specific Work Plan has been approved. If quality assurance problems occur, you must contact me within 24 hours by phone or e-mail and the final report must document the event(s), including quality assurance problems, and the action(s) taken.

A report meeting the contract specifications of Section 3.10, 3.11, or 3.12; contractor verification checklist; and invoice are due sixty (60) days from the date of this letter. A monitoring well approval is enclosed. The solicitation requires adherence to all applicable South Carolina certification requirements for laboratory analyses, well installation, and report preparation.

MECI will perform services at the site on behalf of the responsible party (RP); however, payment will be made from the SUPERB Account. The RP has no obligation for payment of this scope of work. Please coordinate access to the facility with the property owner. The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below Risk Based Screening Levels.

On all correspondence, please reference permit # 00120. If you have any site-specific questions, please contact me at (803) 898-0607 or e-mail ShullSS@dhec.sc.gov. If you have any contract specific questions, please contact Minda Hornosky at (803) 898-7542 or via e-mail at hornosms@dhec.sc.gov.

Sincerely,

Shane S. Shull, Hydrogeologist
Corrective Action Section
UST Management Division, Bureau of Land & Waste Management

enc: Approved Cost Agreement (CA)
Monitoring Well Approval

cc: Minda Hornosky, Assessment Section, UST Management Division (w/CA copy)
Technical File (w/enc)

D H E C

PROMOTE PROTECT PROSPER

Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Monitoring Well Approval Form

Approval is hereby granted to:	Midlands Environmental Consultants, Inc.
(on behalf of):	Jackson Petroleum Company
Facility:	Roberts Energy 1
UST Permit Number:	00120
County:	Aiken

This approval is for the installation of 10 shallow monitoring wells and 3 deep monitoring wells. The monitoring wells are to be installed in the approved locations. The monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Agency shall be completed and submitted to the Agency within 30 days after well completion or abandonment unless another schedule has been approved by the Agency. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Agency within 30 days of receipt of laboratory results unless another schedule has been approved by the Agency as required by R.61-71.H.1.d.
5. If any of the information provided to the Agency changes, notification to Shane Shull (tel: (803) 898-0607 or e-mail: ShullSS@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Agency approval is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

Date of Issuance: April 9, 2014

Approval #: UMW-25482

Shane S. Shull, Hydrogeologist
Corrective Action Section
Division of Assessment and Corrective Action
Bureau of Land and Waste Management

Approved Cost Agreement 47635

Facility: 00120 ROBERTS ENERGY 1
SHULLSS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A1	SITE SPECIFIC WORK PLAN	1.0000	400.00	400.00
03 COMPREHENSIVE SURVEY						
		A1	COMPREHENSIVE SURVEY	2.0000	1,000.00	2,000.00
04 MOB/DEMOB						
		A1	EQUIPMENT	1.0000	250.00	250.00
		B1	PERSONNEL	4.0000	200.00	800.00
09 WELL INSTALLATION						
		B1	WATER TABLE (DRILL RIG)	250.0000	18.87	4,717.50
		C1	TELESCOPING	180.0000	31.00	5,580.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	29.0000	15.00	435.00
		C1	WATER SUPPLY	3.0000	5.00	15.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	3.0000	15.00	45.00
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	36.0000	50.00	1,800.00
		F1	EDB BY 8011	35.0000	27.00	945.00
17 DISPOSAL						
		AA	WASTEWATER	300.0000	1.25	375.00
		C1	SOIL TREATMENT DISPOSAL	4.0000	50.04	200.16
				Total Amount		17,562.66

Midlands
Environmental
Consultants, Inc.

July 23, 2014

Mr. Shane Shull, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
Lel
JUL 31 2014
DIVISION

Subject: Report of Monitoring Well Installation, Groundwater Sampling and Chemical Analyses
Robert's Energy
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID # 00120, CA # 47635
MECI Project Number 14-4771
Certified Site Rehabilitation Contractor UCC-0009

UST
DOCKETING

Dear Mr. Shull,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached monitoring well installation report for the referenced site. This report describes assessment activities conducted at the site and results of those activities in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines, including adherence to the UST Division Programmatic Quality Assurance Program Plan (QAPP).

Midlands Environmental appreciates the opportunity to offer our professional environmental services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Senior Scientist

Bryan T. Shane, P.G.
Principal Geologist

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

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NOTE: ITEMS LISTED WITH AN ** BESIDE IT WERE NOT NEEDED AS A PART OF THIS SCOPE OF WORK

1.0 INTRODUCTION

A. **Owner/Operator Information**

Facility Name:	Robert's Energy	UST Permit #:	00120
Facility Address:	2031 Pisgah Road, North Augusta, SC		
Name:	Jackson Petroleum Company		
Address.	N/A		
Telephone #:	N/A		

B. **Property Owner Information**

Name	George McKie, Jr.
Tax Map #:	Aiken County Tax Map #: 005-19-06-003
Address	1025 Martintown Rd., North Augusta, SC 29841
Telephone #	(803) 279-1581

C. **Contractor Information**

Name:	Midlands Environmental Consultants, Inc.
Certification #:	9
Address:	P. O. Box 854, Lexington, SC 29071
Telephone #:	(803) 808-2043

D. **SCDHEC Certified Well Driller**

Name:	Environmental Drilling and Probing Services, LLC
Driller:	David Brown
Certification #:	B 02053
Address:	17539 Greenhill Road, Charlotte, NC 28278
Telephone #:	(704) 607-7529

E. **SCDHEC Certified Laboratory**

Name:	Shealy Environmental Services, Inc.
Certification #:	32010
Address:	106 Vantage Point Drive, West Columbia, SC 29172
Telephone #:	(803) 791-9700

1.1 PROJECT INFORMATION

The subject site (Robert's Energy) is located at 2031 Pisgah Road, at the intersection of Five Notch Road and Pisgah Road in North Augusta, Aiken County, South Carolina (see Figure 1). The subject site currently consists of a 1.59 acre property containing a one story building, canopy, and fuel dispensers. The subject site previously maintained three 4,000 gallon gasoline underground storage tanks (UST's). These UST's were abandoned by removal from ground in January of 1999. A release from the subject UST's was reported and confirmed in November of 1997. The subject site is currently rated a Class 1D. Currently the subject site maintains one 12,000 gallon multiple petroleum UST.

Prior to commencement of the field activities described in this document, a Site Specific Work Plan (SSWP) was completed by MECI personnel, submitted to SCDHEC and approved by the SCDHEC project manager.

The above project information is based on MECI field notes and SCDHEC files.

2.0 SURROUNDING PROPERTY USAGE

The subject site (Robert's Energy) is located at 2031 Pisgah Road, at the intersection of Five Notch Road and Pisgah Road in North Augusta, Aiken County, South Carolina (see Figure 1). The subject site currently consists of a 1.59 acre property containing a one story buildings, canopy, and fuel dispensers. Five Notch Road borders the site to the east, beyond which are residential properties. West of the site is bordered by Pisgah Road, beyond which are wooded properties and residential properties. North of the site is a large grassy median that is currently owned by the City of North Augusta. South of the site is bordered by a commercial property that is currently occupied by a car wash.

3.0 FIELD EXPLORATION

Field exploration conducted at the site included:

- Construction of twelve monitoring wells;
- sampling and chemical analyses of the entire monitoring well network;
- sampling and chemical analyses of two surface water samples and:,
- a comprehensive survey of the subject site.

The monitoring well locations were selected based on the SCDHEC project manager, existing site conditions, and drilling accessibility. The well locations are presented on Figure 2.

3.1 MONITORING WELL INSTALLATION

From May 27th to June 18th, nine (9) watertable bracketing monitoring wells and three (3) "deep" well were installed at the subject site to replace monitoring wells that had previously been abandoned due to SCDOT project. These wells were installed by Environmental Drilling and Probing Services, LLC of Charlotte, North Carolina (S.C. Driller Certification: David Brown # B 02053). The single cased monitoring wells were installed utilizing a Truck-mounted drilling rig employing 8.0-inch outer diameter hollow stem augers to construct the boreholes. During construction of the double cased "deep" monitoring well, a 6-inch outer casing was advanced to the appropriate depth and grouted in-place. The grout was allowed to cure and the remainder of the depth of the borehole was achieved using mud-rotary techniques.

The following table presents well installation details:

Well Number	Single Cased	Double Cased	Well Diameter (inches)	Screened Interval (ft)	Total Depth (ft)
MW-5R	X		2"	10 5-20 5	20 5
MW-6R	X		2"	7-17	17 0
MW-7RR	X		2"	14-24	24 0
MW-9R	X		2"	10-20	20 0
MW-14R	X		2"	12 5-22 5	22 5
MW-15R	X		2"	4-14	14 0
MW-18R	X		2"	2-12	12 0
MW-22R	X		2"	5-15	15 0
MW-24	X		2"	3-13	13 0
DW-2R		X	2"	55-60	60 0
DW-3R		X	2"	55-60	60 0
DW-4		X	2"	52-57	57 0

The soils encountered during drilling activities consisted of silty sands underlain by clayey sands and sandy clays of the Atlantic Coastal Plain Province. The soils encountered in this area are the product of successive advances and retreats of the ocean over the past several million years. Representative portions of soil samples were screened with a Photo Ionization Detector (PID) and classified by MECI personnel. Test boring records showing soil descriptions and screening result are attached in Appendix E.

Drill cuttings were containerized and transported to Waste Management/Richland County Landfill, Elgin, SC by MECI personnel. A total of 5.20 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Following completion of the monitoring wells, the wells were developed by purging until they were determined to be functioning properly and turbidity was reduced. These wells were developed utilizing a Whale-Mega Purger well pump. The drum of purge water was treated by MECI personnel using a granular activated carbon drum. A total of 52.5 gallons of purge/development water was disposed of in this manner. A disposal manifest for the treated purge water is presented in Appendix G.

3.2 MONITORING WELL SAMPLING AND CHEMICAL ANALYSES

On June 23, 2014, MECI personnel collected groundwater samples from twenty-nine (29) monitoring wells at the subject site. Sampling/purging of all monitoring wells was completed utilizing a prepackaged, clear, disposable polyethylene bailer and nylon rope. Per SCDHEC instructions, all of the monitoring wells were to be purged prior to sample collection. Twenty-nine (29) monitoring wells were purged prior to sample collection during the subject sampling event. Purging was completed by bailing three to five well volumes of water from the well, until pH, conductivity, dissolved oxygen, and turbidity stabilized, or until all available water was evacuated from the well, whichever occurred first. A new set of nitrile gloves were worn at each monitoring well, and at all times samples were handled.

Field measurements of turbidity, pH, conductivity, dissolved oxygen, and water temperature were obtained before the well sampling process. MECI utilized YSI550A meters for DO (mg/L) and temperature readings (°C), YSI63 meters for pH and conductivity (uS) readings, and HF Scientific MicroTPI/TPW Turbidimeter for turbidity readings (NTU). The attached Field Data Information Sheets presents the results of the field measurements obtained during sampling processes. All wells were sampled in accordance with SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP, Revision 2.0) and MECI's Standard Operating Procedures (MECI SOP, Dated January 2014). Groundwater samples obtained were sent to Shealy Environmental Services, Inc. of West Columbia, SC (SCDHEC Laboratory Certification #32010) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Filtered Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)
					Analyte Sampled									
MW-1	X				X	X	X	X						
MW-2R	X				X	X	X	X						
MW-3	X				X	X	X	X						
MW-4	X				X	X	X	X						
MW-5R	X				X	X	X	X						
MW-6R	X				X	X	X	X						
MW-7R	X				X	X	X	X						
MW-9R	X				X	X	X	X						
MW-10	X				X	X	X	X						
MW-11	X				X	X	X	X						
MW-12	X				X	X	X	X						
MW-13	X				X	X	X	X						
MW-14R	X				X	X	X	X						
MW-15R	X				X	X	X	X						
MW-17R	X				X	X	X	X						
MW-18R	X				X	X	X	X						
MW-19	X				X	X	X	X						
MW-20	X				X	X	X	X						
MW-22R	X				X	X	X	X						
MW-24	X				X	X	X	X						
DW-1	X				X	X	X	X						

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Filtered Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)
					Analyte Sampled									
DW-2R	X				X	X	X	X						
DW-3R	X				X	X	X	X						
DW-4	X				X	X	X	X						
PW-1	X				X	X	X	X						
RW-1	X				X	X	X	X						
RW-2	X				X	X	X	X						
RW-3	X				X	X	X	X						
RW-4	X				X	X	X	X						
MW-1 Dup.		X			X	X	X	X						
RW-4 Dup.		X			X	X	X	X						
Field Blank		X			X	X	X	X						
Trip Blank					X		X	X						

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane PAH = polycyclic aromatic hydrocarbons

The results of the laboratory analyses are summarized in Table 3 & 3A and presented in Appendix B.

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 132.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is presented in Appendix G.

3.3 SURFACE WATER SAMPLING AND CHEMICAL ANALYSES

Two (2) surface water samples were collected on June 23rd, 2014 from Pole Branch Creek. SW-1 was collected approximately 682' feet south of monitoring well MW-1. SW-2 was collected approximately 683' feet southwest of monitoring well MW-1. The storm water system was inaccessible during sampling activities therefore no samples were obtained from the storm water system.

The samples obtained from the surface water locales were analyzed for volatile organic compounds including BTEX, naphthalene, methyl-tertiary-butyl-ether, 1,2 DCA, 8 oxygenates (EPA Method 8260B) and EDB (EPA Method 8011). Results of the laboratory analyses are discussed in Section 5.2 and summarized in Table 3 & 3A. The analytical results are also presented in Appendix B.

3.4 SITE SURVEY

Following the well installation, a comprehensive survey was conducted by Construction Support Services of Columbia, SC (Jay S. Joshi PLS# 14811) dated July 21st, 2014 to locate the vertical and horizontal positions of the monitoring wells and relevant structures. A signed/stamped copy of the comprehensive survey is attached in Appendix A. Table 2 and Figure 5 present potentiometric data for the entire monitoring well network associated with the subject site.

4.0 AREA GEOLOGY AND HYDROGEOLOGY

The mean elevation of the property, as depicted on the local USGS quadrangle (North Augusta, SC), appears to be approximately 319 feet above sea level. The site is located near the transition from the Piedmont Physiographic Province to the Coastal Plain Physiographic Province. In the area of this transition zone, termed the "fall line", veneers of Coastal Plain sedimentary rocks may overlay crystalline and/or metamorphic rocks of the Piedmont. In some areas, erosion has resulted in isolation of surficial sedimentary rocks, such that, at the surface, they appear surrounded by Piedmont rocks.

Locally, the Coastal Plain sediments consist of silty sands or sandy clays of the Middendorf Formation. These sediments were deposited in the Cretaceous Period during successive advances and retreats of the ocean. This formation contains numerous seams and lenses of kaolinitic clays which often result in "perched" water conditions and a variable, groundwater regime that is difficult to interpret.

Review of published geologic literature indicates that surficial formations of eolian (wind deposited) sands also exist in the vicinity of the site. These surficial sediments appear to be largely post-late Miocene to late Miocene in age. These soils were deposited in a beach-front environment and later reworked by wind. Generally, the eolian sediments consist alternately of clean sands, interbedded with seams of silts or clays. There was no evidence of these wind born sediments to be present on the site.

Underlying the Coastal Plain sediments are residual soils and rocks of the Carolina Slate Belt. The Carolina Slate Belt consists of rocks composed of volcanic, igneous and terrigenous clastic materials. Locally, the Carolina Slate Belt rocks have been intruded by granitic plutons. The entire unit underwent regional metamorphism during the Paleozoic Era.

In this geologic setting, the uppermost aquifer is the surficial aquifer of sands with lenses and layers of clay. Water occupies the interstices between the formation particles and is in hydrostatic balance with the atmosphere at the water surface (water table).

Local precipitation is the source of fresh-water recharge to the Coastal Plain formations. Groundwater recharge varies considerably over the region and is attributed to the differences in precipitation and to variability in infiltration rate. Variations in composition and hydraulic conductivities of the sedimentary units account for the variability of infiltration rates.

Coastal Plain formations generally dip eastward towards the Atlantic Ocean. Consequently, regional groundwater movement is to the east and southeast. On a regional scale, hydraulic gradients are relatively low. Groundwater discharges to streams, lakes, or springs where the groundwater intersects topographic lows occupied by these water bodies. The apparent direction (based on hydraulic gradient determined during previous assessments) of groundwater flow from the release is to the northeast toward the Pole Branch Creek.

4.1 LOCAL SUBSURFACE CONDITIONS

Coastal plain sediments were encountered during drilling activities conducted at the site. The soils encountered in our borings generally consisted silty sands underlain by sandy clays and clayey sands of the Atlantic Coastal Plain Province. Test Boring Records, which depict the materials encountered in each boring, are located in Appendix E.

On June 23, 2014, stabilized groundwater levels were measured in the newly installed monitoring wells. Depth to groundwater ranged from 2.11 to 22.81 feet below top of casing in the wells measured. The groundwater measurements are summarized in tabular form in Table 2 and on Figure 5. Groundwater levels may fluctuate several feet with seasonal and rainfall variations and with change in the water level of adjacent drainage features. Normally, the highest groundwater levels occur in late winter and spring. The lowest levels occur in late summer and fall.

The above descriptions provide a general summary of the subsurface conditions encountered. The attached Test Boring Records (Appendix E) contain detailed information recorded at each new monitoring well location. The Test Boring Records represent our interpretation of the field logs based on examination of the field samples. The lines designating the interfaces between various strata represent approximate boundaries, and the transition between strata may be gradational.

5.0 TEST RESULTS AND EVALUATION

The following sections discuss groundwater test results for the subject site.

5.1 GROUNDWATER ANALYTICAL RESULTS

As discussed in Section 3.2, groundwater samples obtained from the monitoring wells during the June 23, 2014 comprehensive groundwater sampling event were analyzed for dissolved phase petroleum constituents. The analytical results indicate petroleum impact to the surficial aquifer ("Shallow" Zone), with the highest dissolved concentrations being detected in the area of MW-1 & MW-10. Of the twenty-nine monitoring wells sampled, seven monitoring wells (MW-1, MW-10, MW-14R, RW-1, RW-2, RW-3 and RW-4) detected petroleum constituents above Risked Based Screening Levels (RBSL's). Petroleum constituents detected above the established RBSL include:

Compound	***RBSL (ug/l)***	***Wells Above RBSL***
Benzene	5	MW-1, MW-10, MW-14R, RW-1, RW-2, RW-3 & RW-4
Toluene	1,000	MW-1, MW-10, MW-14R, RW-1, RW-2, RW-3 & RW-4
Ethylbenzene	700	MW-1, MW-14R, RW-2 & RW-3
Total Xylenes	10,000	N/A
Naphthalene	25	MW-1, MW-14R, RW-1, RW-2 & RW-4
MTBE	40	MW-1, MW-10, MW-14R, RW-3, & RW-4
EDB	0.05	MW-10, MW-14R & RW-3

In addition, the analytical results also detected petroleum constituents above the laboratory method detection limits or detected "J" values in monitoring wells MW-6R, MW-18R, MW-22R, DW-2R & DW-3R; however the concentrations detected did not exceed the RBSL. The results of the analyses for each monitoring well and specific parameters are listed on Table 3, Table 3A, and provided in Appendix B.

Analytical results did not indicate petroleum impact to the "Deep" Zone aquifer in monitoring wells DW-1, DW-2R, DW-3R or DW-4. The analytical results detected benzene, toluene, ethylbenzene, total xylenes, naphthalene and MTBE at concentrations below RBSL's in DW-3R. The analytical results detected MTBE at a concentration of 1.6J in DW-2R. All other petroleum constituents

analyzed were detected at levels below detection limits in the samples collected from "deep" monitoring wells DW-1, DW-2R and DW-4.

5.2 SURFACE WATER ANALYTICAL RESULTS

The two surface water samples obtained from Pole Branch Creek, located approximately 680 feet north of the subject site was analyzed by Shealy Environmental Services, Inc. for petroleum constituents. Analytical results do not indicate potential petroleum impact to Pole Branch Creek. Analytical results were detected at levels below detection limits. The results of the laboratory analyses are summarized in Table 3 & 3A and presented in Appendix B.

6.0 ASSESSMENT SUMMARY & RECOMMENDATIONS

Groundwater elevation data for the June 23rd, 2014, gauging event was plotted, and points of equal elevation were interpolated between the monitoring wells. A groundwater contour map of the surficial aquifer was thus prepared and is presented on Figure 5. The apparent groundwater flow is to the north, towards Pole Branch Creek.

Free phase petroleum product was not detected in any of the monitoring wells sampled. The analytical results indicate petroleum impact to the surficial aquifer ("Shallow" Zone), with the highest dissolved concentrations being detected in the area of MW-1 & MW-10. Of the twenty-nine monitoring wells sampled, seven monitoring wells (MW-1, MW-10, MW-14R, RW-1, RW-2, RW-3 and RW-4) detected petroleum constituents above Risked Based Screening Levels (RBSL's). Petroleum constituents detected above the established RBSL include:

Compound	***RBSL (ug/l)***	***Wells Above RBSL***
Benzene	5	MW-1, MW-10, MW-14R, RW-1, RW-2, RW-3 & RW-4
Toluene	1,000	MW-1, MW-10, MW-14R, RW-1, RW-2, RW-3 & RW-4
Ethylbenzene	700	MW-1, MW-14R, RW-2 & RW-3
Total Xylenes	10,000	N/A
Naphthalene	25	MW-1, MW-14R, RW-1, RW-2 & RW-4
MTBE	40	MW-1, MW-10, MW-14R, RW-3, & RW-4
EDB	0.05	MW-10, MW-14R & RW-3

In addition, the analytical results also detected petroleum constituents above the laboratory method detection limits or detected "J" values in monitoring wells MW-6R, MW-18R, MW-22R, DW-2R & DW-3R; however the concentrations detected did not exceed the RBSL. The results of the analyses for each monitoring well and specific parameters are listed on Table 3, Table 3A, and provided in Appendix B.

Analytical results did not indicate petroleum impact to the "Deep" Zone aquifer in monitoring wells DW-1, DW-2R, DW-3R or DW-4. The analytical results detected benzene, toluene, ethylbenzene, total xylenes, naphthalene and MTBE at concentrations below RBSL's in DW-3R. The analytical results detected MTBE at a concentration of 1.6J in DW-2R. All other petroleum constituents analyzed were detected at levels below detection limits in the samples collected from "deep" monitoring wells DW-1, DW-2R and DW-4.

Analytical data is presented on Table 3 & 3A and in the attached Appendix B. Figure 4 depicts graphically the concentrations of Benzene dissolved in the surficial aquifer ("Shallow" Zone) groundwater at the site. Figure A depicts graphically the concentrations of Naphthalene dissolved in the surficial aquifer ("Shallow" Zone) groundwater at the site. Figure 4B depicts graphically the concentrations of MTBE dissolved in the surficial aquifer ("Shallow" Zone) groundwater at the site. Figure 4C depicts the analytical results for the eight Oxygenates.

Based on the current analytical results, the contaminant plume is defined horizontally and vertically. MECI recommends continued monitoring of the well network and nearby receptors until Site Specific Target Levels (SSTL's) are generated and met. Also, it may be advantageous to conduct a series of extended AFVR events on monitoring wells RW-1, RW-2, RW-3 & RW-4 to reduce elevated CoC concentrations.

7.0 QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assessment are consistent with those normally employed in hydrogeological assessment and waste management projects of this type. Our evaluation of site conditions has been based on our understanding of the site, project information provided to us, and data obtained in our exploration. The general subsurface conditions utilized in our evaluation have been based on interpretation of subsurface data between borings. Contents of this report are intended for the sole use of MECI and SCDHEC under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

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TABLES

TABLE 2
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POTENTIOMETRIC DATA
JUNE 23, 2014 SAMPLING EVENT
ROBERTS ENERGY
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4771
SCDHEC SITE ID NUMBER 00120

Well Number	Sample Date	Screened Interval	Depth to Water (feet)	Well-head Elevation	Groundwater Elevation
MW-1	6/23/2014	15-29	22.13	97.91	75.78
MW-2R	6/23/2014	15-30	22.64	101.78	79.14
MW-3	6/23/2014	17-27	22.43	99.17	76.74
MW-4	6/23/2014	17-27	21.33	99.81	78.48
MW-5R	6/23/2014	10.5-20.5	13.21	87.40	74.19
MW-6R	6/23/2014	7-17	11.68	83.26	71.58
MW-7RR	6/23/2014	14-24	17.40	91.67	74.27
MW-9R	6/23/2014	10-20	12.86	85.41	72.55
MW-10	6/23/2014	15-30	21.39	97.88	76.49
MW-11	6/23/2014	15-30	21.19	98.99	77.80
MW-12	6/23/2014	15-30	18.21	96.75	78.54
MW-13	6/23/2014	15-30	18.59	94.88	76.29
MW-14R	6/23/2014	12.5-22.5	14.98	89.02	74.04
MW-15R	6/23/2014	4-14	6.25	77.29	71.04

Notes:
1 Elevations based on site datum obtained from SCDHEC Files
2 Groundwater depths were measured from the top of the PVC riser pipe
3. Groundwater levels measured on 6/23/2014

TABLE 2
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POTENTIOMETRIC DATA
JUNE 23, 2014 SAMPLING EVENT
ROBERTS ENERGY
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4771
SCDHEC SITE ID NUMBER 00120

Well Number	Sample Date	Screened Interval	Depth to Water (feet)	Well-head Elevation	Groundwater Elevation
MW-17R	6/23/2014	5-15	2.78	68.58	65.80
MW-18R	6/23/2014	2-12	5.54	73.27	67.73
MW-19	6/23/2014	5-15	7.39	70.99	63.60
MW-20	6/23/2014	5-15	7.76	75.23	67.47
MW-22R	6/23/2014	5-15	8.46	79.27	70.81
MW-24	6/23/2014	3-13	5.56	70.83	65.27
DW-1	6/23/2014	55-60	21.29	97.40	76.11
DW-2R	6/23/2014	55-60	7.37	75.69	68.32
DW-3R	6/23/2014	55-60	18.22	89.50	71.28
DW-4	6/23/2014	52-57	2.11	70.93	68.82
PW-1	6/23/2014	36-46	22.81	98.24	75.43
RW-1	6/23/2014	15-30	21.05	97.98	76.93
RW-2	6/23/2014	15-30	21.49	97.87	76.38
RW-3	6/23/2014	15-30	22.12	97.91	75.79
RW-4	6/23/2014	15-30	22.09	97.97	75.88

Notes:

1. Elevations based on site datum obtained from SCDHEC Files.
2. Groundwater depths were measured from the top of the PVC riser pipe
3. Groundwater levels measured on 6/23/2014

TABLE 3
PAGE 1 OF 2
GROUNDWATER COC CONCENTRATION DATA
JUNE 23, 2014 SAMPLING EVENT
ROBERTS ENERGY
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4771
SCDHEC ID NUMBER 00120

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	Naphthalene (ug/l)	MTBE (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
MW-1	6/23/14	**1,600**	**37,000**	**950J**	**6,700**	**46,250J**	**480J**	**2,600**	<1,000	**0.032P**
MW-2R	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	**19**	<5.0	<5.0	<0.019
MW-3	6/23/14	<5.0	<5.0	<5 0	<5.0	BDL	**2.8J**	<5.0	<5 0	<0 019
MW-4	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-5R	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-6R	6/23/14	**1.0J**	<5.0	**1.7J**	**5.7**	**8.4J**	<5.0	**1.1J**	<5.0	<0.021
MW-7RR	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-10	6/23/14	**1,600**	**20,000**	**170J**	**2,100**	**23,870J**	<500	**54J**	<500	**0.081P**
MW-11	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-12	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-13	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-14R	6/23/14	**2,300**	**35,000**	**1,100**	**6,300**	**44,700**	**400J**	**2,900**	<1,000	**0.91**
MW-15R	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.023
MW-17R	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5 0	<5.0	<5.0	<0.020
MW-18R	6/23/14	**2.5J**	<5.0	**4.6J**	**14**	**21.1J**	<5.0	**0.97J**	<5.0	<0.021
MW-19	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5 0	<0.020

Notes

1 BDL = Below Practical Quantitative Limits
2 ug/l = micrograms per liter
3 MTBE = Methyl-Tertiary-Butyl Ether
4 1,2 DCA = 1,2-Dichloroethane
5 NT = Not Tested
6 NL = Not Located
7 DRY = Monitoring Well Gauged Dry
8 "J" Values included in Total BTEX Calculations
9 "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL)
10 "P" = The RPD between two GC Columns exceeds 40%
11 "B" = Detected in Method Blank

TABLE 3
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GROUNDWATER COC CONCENTRATION DATA
JUNE 23, 2014 SAMPLING EVENT
ROBERTS ENERGY
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4771
SCDHEC ID NUMBER 00120

Well Number	Sample Date	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	Naphthalene (ug/l)	MTBE (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)
MW-20	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22R	6/23/14	**0.23J**	<5.0	<5.0	<5.0	**0.23J**	<5.0	<5.0	<5.0	<0.021
MW-24	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0 023
DW-1	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
DW-2R	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	**1.6J**	<5.0	<0.019
DW-3R	6/23/14	**1.9J**	**56**	**7.6**	**41**	**106.5J**	**4.7J**	**4.2J**	<5.0	<0.020
DW-4	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	**0.78J**	<5.0	<0.019
PW-1	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
RW-1	6/23/14	**290J**	**10,000**	**490J**	**2,900**	**13,680J**	**520BBJ**	<1,000	<1,000	<0 019
RW-2	6/23/14	**1,200J**	**63,000**	**1,500J**	**8,800**	**74,500J**	**890BBJ**	<2,500	<2,500	<0.019
RW-3	6/23/14	**2,500**	**47,000**	**1,300J**	**6,400**	**57,200J**	<2,500	**1,700J**	<2,500	**0.44**
RW-4	6/23/14	**220**	**2,000**	**110**	**780**	**3,110**	**50BBJ**	**210**	<100	<0.019
SW-1	6/23/14	<1.0	<1 0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<0 019
SW-2	6/23/14	<1.0	<1.0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<0.019
MW-1 Dup.	6/23/14	**1,500**	**38,000**	**1,100**	**6,800**	**47,400**	**580J**	**2,500**	<1,000	**0.053P**
RW-4 Dup.	6/23/14	**220**	**2,000**	**120**	**830**	**3,170**	**55BBJ**	**220**	<100	<0.020
Field Blank	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5 0	<0.019
Trip Blank	6/23/14	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT

Notes

1 BDL = Below Practical Quantitative Limits
2 ug/l = micrograms per liter
3 MTBE = Methyl-Tertiary-Butyl Ether
4 1,2 DCA = 1,2-Dichloroethane
5 NT = Not Tested
6 NL = Not Located
7 DRY = Monitoring Well Gauged Dry
8 "J" Values included in Total BTEX Calculations
9 "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL)
10 "P" = The RPD between two GC Columns exceeds 40%
11 "B" = Detected in Method Blank

TABLE 3A
PAGE 1 OF 2
GROUNDWATER COC CONCENTRATION DATA (OXYGENATES)
JUNE 23, 2014 SAMPLING EVENT
ROBERTS ENERGY
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4771
SCDHEC SITE ID NUMBER 00120

Well Number	Sample Date	TAA (µg/l)	TAME (µg/l)	TBF (µg/l)	DIPE (µg/l)	3,3-Dimethyl-1-butanol (µg/l)	Ethanol (µg/l)	ETBE (µg/l)	TBA (µg/l)
MW-1	6/23/2014	**9,500J**	**130J**	<20,000	<2,000	<20,000	<200,000	<20,000	**2,000J**
MW-2R	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-3	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-4	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-5R	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-6R	6/23/2014	**39J**	<10	<100	<10	<100	<1,000	<100	<100
MW-7RR	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-9R	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-10	6/23/2014	**1,200J**	<1,000	<10,000	<1,000	<10,000	<100,000	<10,000	<10,000
MW-11	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-12	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-13	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-14R	6/23/2014	**7,400J**	<2,000	<20,000	<2,000	<20,000	<200,000	<20,000	<20,000
MW-15R	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-17R	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-18R	6/23/2014	**18J**	<10	<100	<10	<100	<1,000	<100	<100
MW-19	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100

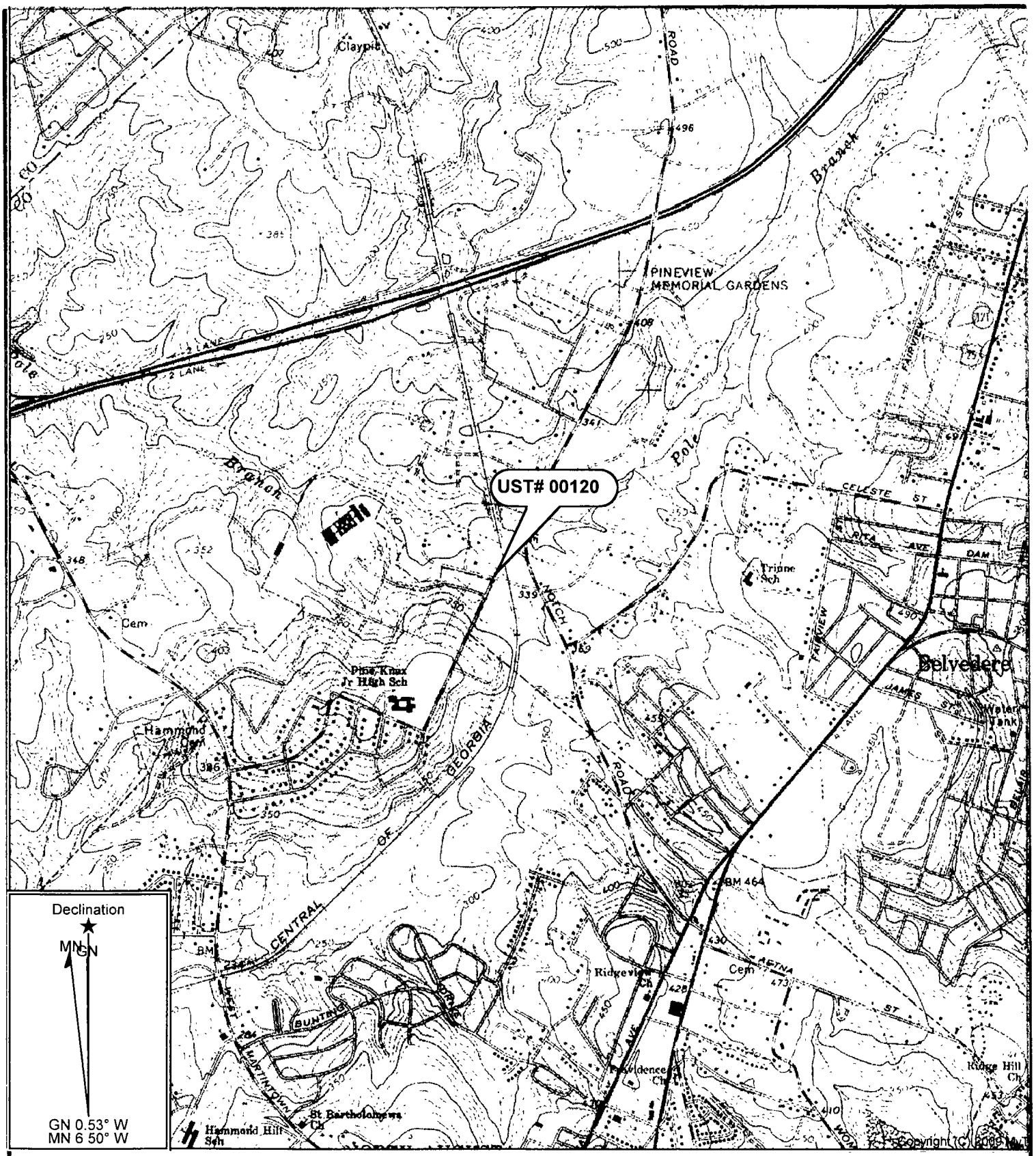
Notes
1 µg/l = micrograms per liter
2 DRY = Well Guaged Dry
3 DIPE = Diisopropyl Ether
4 ETBE = Ethyl tert-butyl Ether
5 TAA = tert-Amyl Alcohol
6 TAME = tert-Amyl Methyl Ether
7 TBA = tert-Butyl Alcohol
8 TBF = tert-Butyl Formate
9 "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL)

TABLE 3A
PAGE 2 OF 2
GROUNDWATER COC CONCENTRATION DATA (OXYGENATES)
JUNE 23, 2014 SAMPLING EVENT
ROBERTS ENERGY
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4771
SCDHEC SITE ID NUMBER 00120

Well Number	Sample Date	TAA (µg/l)	TAME (µg/l)	TBF (µg/l)	DIPE (µg/l)	3,3-Dimethyl-1-butanol (µg/l)	Ethanol (µg/l)	ETBE (µg/l)	TBA (µg/l)
MW-20	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-22R	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-24	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
DW-1	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
DW-2R	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
DW-3R	6/23/2014	**15J**	<10	<100	<10	<100	<1,000	<100	<100
DW-4	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
PW-1	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
RW-1	6/23/2014	<20,000	<2,000	<20,000	<2,000	<20,000	<200,000	<20,000	<20,000
RW-2	6/23/2014	<50,000	<5,000	<50,000	<5,000	<50,000	<500,000	<50,000	<50,000
RW-3	6/23/2014	**5,800J**	<5,000	<50,000	<5,000	<50,000	<500,000	<50,000	<50,000
RW-4	6/23/2014	**2,000**	**14J**	<2,000	<200	<2,000	<20,000	<2,000	**160J**
SW-1	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
SW-2	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-1 Dup.	6/23/2014	**8,800J**	**130J**	<20,000	<2,000	<20,000	<200,000	<20,000	<20,000
RW-4 Dup.	6/23/2014	**2,100**	**12J**	<2,000	<200	<2,000	<20,000	<2,000	**150J**
Field Blank	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100
Trip Blank	6/23/2014	<100	<10	<100	<10	<100	<1,000	<100	<100

Notes
1 µg/l = micrograms per liter
2 DRY = Well Guaged Dry
3 DIPE = Diisopropyl Ether
4 ETBE = Ethyl tert-butyl Ether
5 TAA = tert-Amyl Alcohol
6 TAME = tert-Amyl Methyl Ether
7 TBA = tert-Butyl Alcohol
8 TBF = tert-Butyl Formate
9 "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL)

FIGURES



GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference North Augusta, South Carolina
USGS 7.5 Min. Quad
Contour Interval = 10 Feet

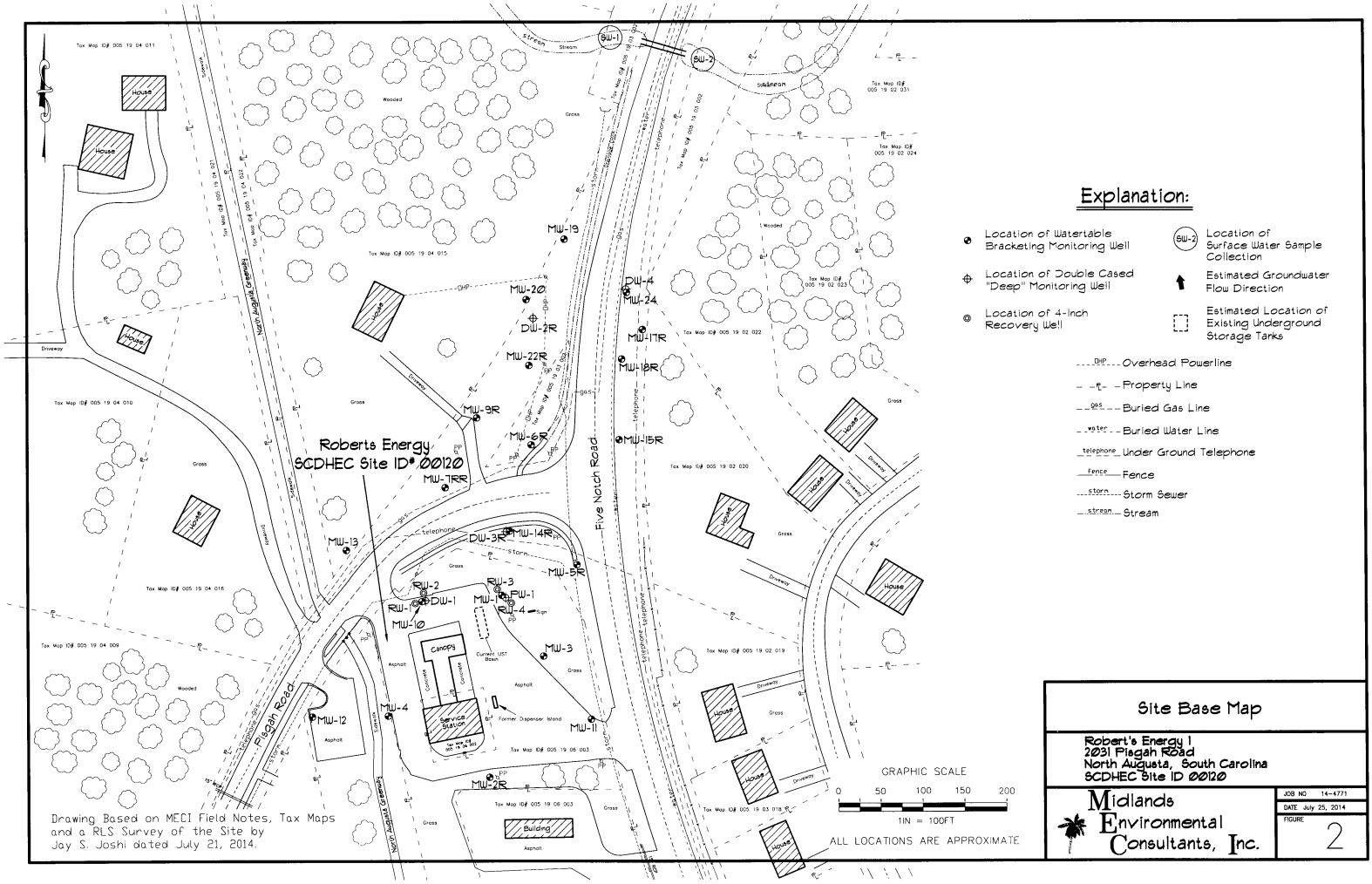
Midlands Environmental Consultants, Inc.

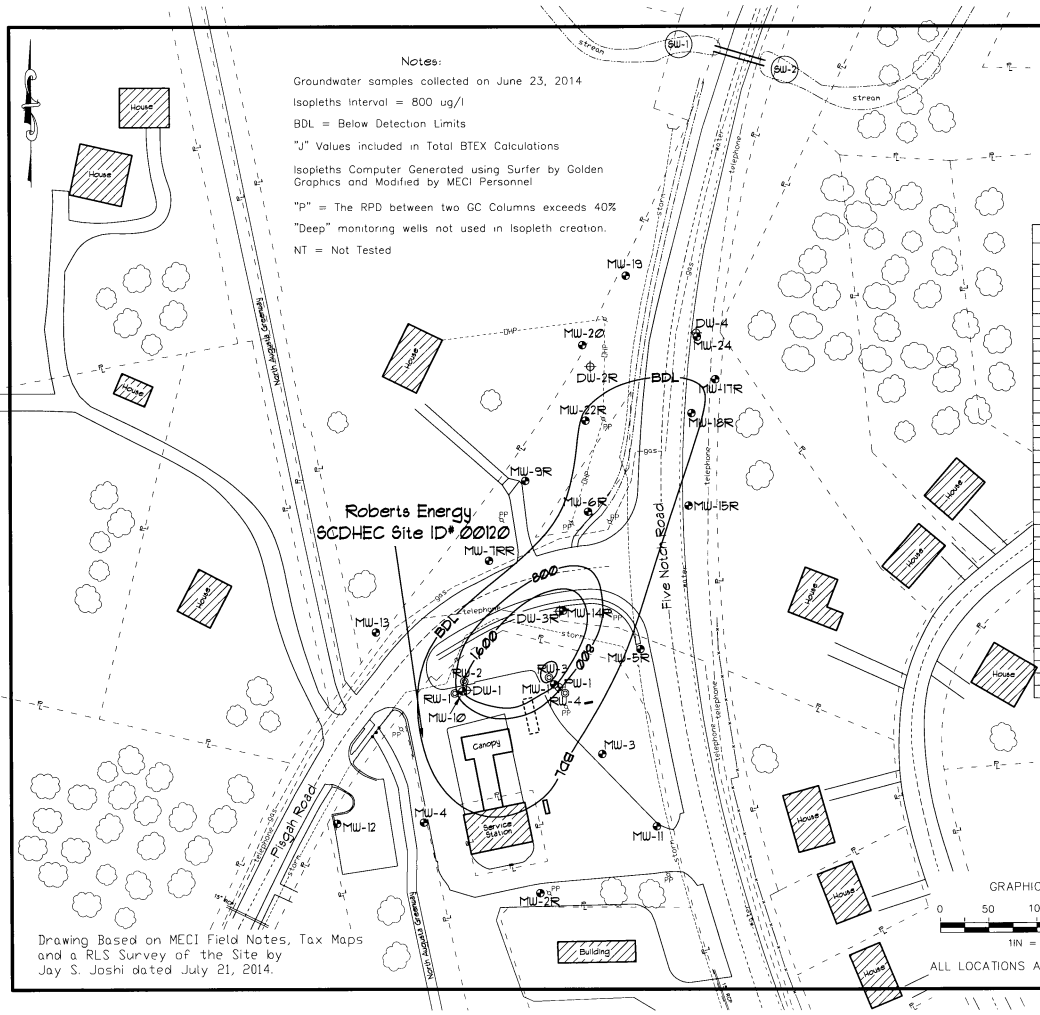
Site Location

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120

Figure 1

MECI 14-4771


Roberts Energy
SCDHEC Site ID# 00120
Five Notch Road
Pisgah Road
North Augusta Greenway
MW-19
MW-20
DW-2R
MW-22R
MW-9R
MW-6R
MW-7RR
MW-13
DW-3R
MW-14R
MW-5R
RW-2
RW-1
DW-1
MW-10
RW-3
PW-1
MW-1
RW-4
MW-3
MW-4
MW-12
MW-11
MW-2R
DW-4
MW-24
MW-17R
MW-18R
MW-15R
Canopy
Service Station
Building
Current UST Basin
Former Dispenser Island
Explanation:
Location of Watertable Bracketing Monitoring Well
Location of Double Cased "Deep" Monitoring Well
Location of 4-Inch Recovery Well
Location of Surface Water Sample Collection
Estimated Groundwater Flow Direction
Estimated Location of Existing Underground Storage Tanks
Overhead Powerline
Property Line
Buried Gas Line
Buried Water Line
Under Ground Telephone
Fence
Storm Sewer
Stream
GRAPHIC SCALE
0 50 100 150 200
1IN = 100FT
ALL LOCATIONS ARE APPROXIMATE
Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated July 21, 2014.
Site Base Map
Robert's Energy 1
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID 00120
Midlands Environmental Consultants, Inc.
JOB NO 14-4771
DATE July 25, 2014
FIGURE 2



Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated July 21, 2014.

Notes:

Groundwater samples collected on June 23, 2014

Isopleths Interval = 800 ug/l

BDL = Below Detection Limits

"J" Values included in Total BTEX Calculations

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel

"P" = The RPD between two GC Columns exceeds 40%

"Deep" monitoring wells not used in Isopleth creation.

NT = Not Tested

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-Inch Recovery Well
- SW-2 Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- Benzene Concentration Isopleth (ug/l)

Groundwater COC Concentration Data

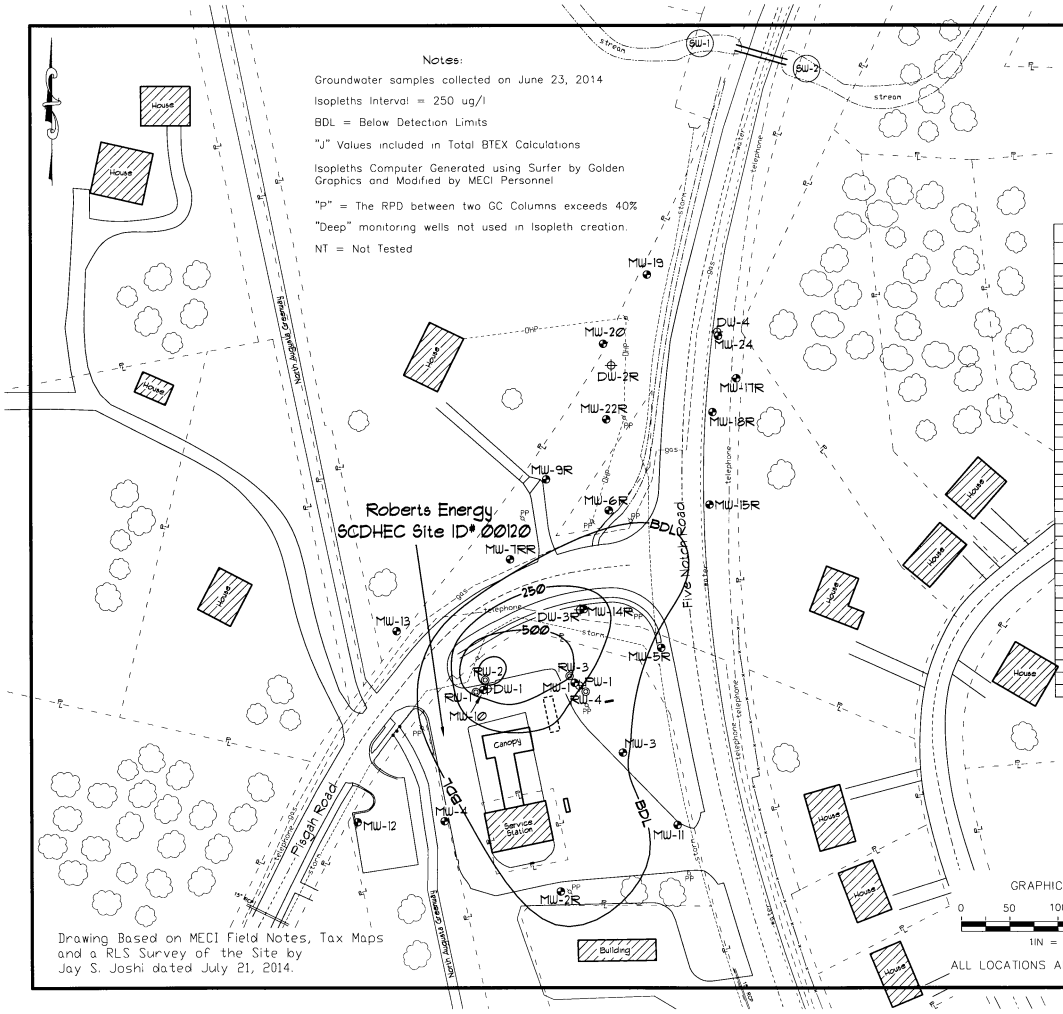
Sample #	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	Naphthalene (ug/l)	MTBE (ug/l)	12 DCA (ug/l)	EDB (ug/l)
MW-1	1,600	37,000	950J	6,700	46,250J	480J	2,600	<1,000	0.032P
MW-2R	<5.0	<5.0	<5.0	<5.0	BDL	19	<5.0	<5.0	<0.019
MW-3	<5.0	<5.0	<5.0	<5.0	BDL	2.8J	<5.0	<5.0	<0.019
MW-4	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-5R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-6R	1.0J	<5.0	1.7J	5.7	8.4J	<5.0	1.1J	<5.0	<0.021
MW-7RR	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-10	1,600	20,000	170J	2,100	23,870J	<500	54J	<500	0.081P
MW-11	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-14R	2,300	35,000	1,100	6,300	44,700	400J	2,900	<1,000	0.91
MW-15R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.023
MW-17R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18R	2.5J	<5.0	4.6J	14	21.1J	<5.0	0.97J	<5.0	<0.021
MW-19	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22R	0.23J	<5.0	<5.0	<5.0	0.23J	<5.0	<5.0	<5.0	<0.021
MW-24	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.023
DW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
DW-2R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	1.6J	<5.0	<0.019
DW-3R	1.9J	56	7.6	41	106.5J	4.7J	4.2J	<5.0	<0.020
DW-4	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	0.78J	<5.0	<0.019
PW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
RW-1	290J	10,000	490J	2,900	13,680J	520BBJ	<1,000	<1,000	<0.019
RW-2	1,200J	63,000	1,500J	8,800	74,500J	890BBJ	<2,900	<2,900	<0.019
RW-3	2,500	47,000	1,300J	6,400	57,200J	<2,500	1,700J	<2,500	0.44
RW-4	220	2,000	110	780	3,110	50BBJ	210	<100	<0.019
SW-1	<1.0	<1.0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<0.019
SW-2	<1.0	<1.0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<0.019
MW-1 Duplicate	1,500	38,000	1,100	6,800	47,400	580J	2,500	<1,000	0.053P
RW-4 Duplicate	220	2,000	120	830	3,170	55BBJ	220	<100	<0.020
Field Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
Trip Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT

Groundwater CoC Site Map
(Benzene Isopleth)

Robert's Energy 1
2031 Plagah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO 14-4771
DATE July 25, 2014
FIGURE 4



Notes:

Groundwater samples collected on June 23, 2014

Isopleths Interval = 250 ug/l

BDL = Below Detection Limits

"J" Values included in Total BTEX Calculations

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel

"P" = The RPD between two GC Columns exceeds 40%

"Deep" monitoring wells not used in Isopleth creation.

NT = Not Tested

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-Inch Recovery Well
- SW-2 Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- Naphthalene Concentration Isopleth (ug/l)

Groundwater COC Concentration Data

Sample #	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	Naphthalene (ug/l)	MTBE (ug/l)	12 DCA (ug/l)	EDB (ug/l)
MW-1	1,600	37,000	950J	6,700	46,250J	480J	2,600	<1,000	0.032P
MW-2R	<5.0	<5.0	<5.0	<5.0	BDL	19	<5.0	<5.0	<0.019
MW-3	<5.0	<5.0	<5.0	<5.0	BDL	2.8J	<5.0	<5.0	<0.019
MW-4	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-5R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-6R	1.0J	<5.0	1.7J	5.7	8.4J	<5.0	1.1J	<5.0	<0.021
MW-7RR	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-10	1,600	20,000	170J	2,100	23,870J	<500	54J	<500	0.081P
MW-11	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-14R	2,300	35,000	1,100	6,300	44,700	400J	2,900	<1,000	0.91
MW-15R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.023
MW-17R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18R	2.5J	<5.0	4.6J	14	21.1J	<5.0	0.97J	<5.0	<0.021
MW-19	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22R	0.23J	<5.0	<5.0	<5.0	0.23J	<5.0	<5.0	<5.0	<0.021
MW-24	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.023
DW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
DW-2R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	1.6J	<5.0	<0.019
DW-3R	1.9J	56	7.6	41	106.5J	4.7J	4.2J	<5.0	<0.020
DW-4	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	0.78J	<5.0	<0.019
PW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
RW-1	290J	10,000	490J	2,900	13,680J	520BBJ	<1,000	<1,000	<0.019
RW-2	1,200J	63,000	1,500J	8,800	74,500J	890BBJ	<2,500	<2,500	<0.019
RW-3	2,500	47,000	1,300J	6,400	57,200J	<2,500	1,700J	<2,500	0.44
RW-4	220	2,000	110	780	3,110	50BBJ	210	<100	<0.019
SW-1	<1.0	<1.0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<0.019
SW-2	<1.0	<1.0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<0.019
MW-1 Duplicate	1,500	38,000	1,100	6,800	47,400	580J	2,500	<1,000	0.053P
RW-4 Duplicate	220	2,000	120	830	3,170	55BBJ	220	<100	<0.020
Field Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
Trip Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT

GRAPHIC SCALE

0 50 100 150 200

1IN = 100FT

ALL LOCATIONS ARE APPROXIMATE

Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated July 21, 2014.

Groundwater CoC Site Map
(Naphthalene Isopleth)

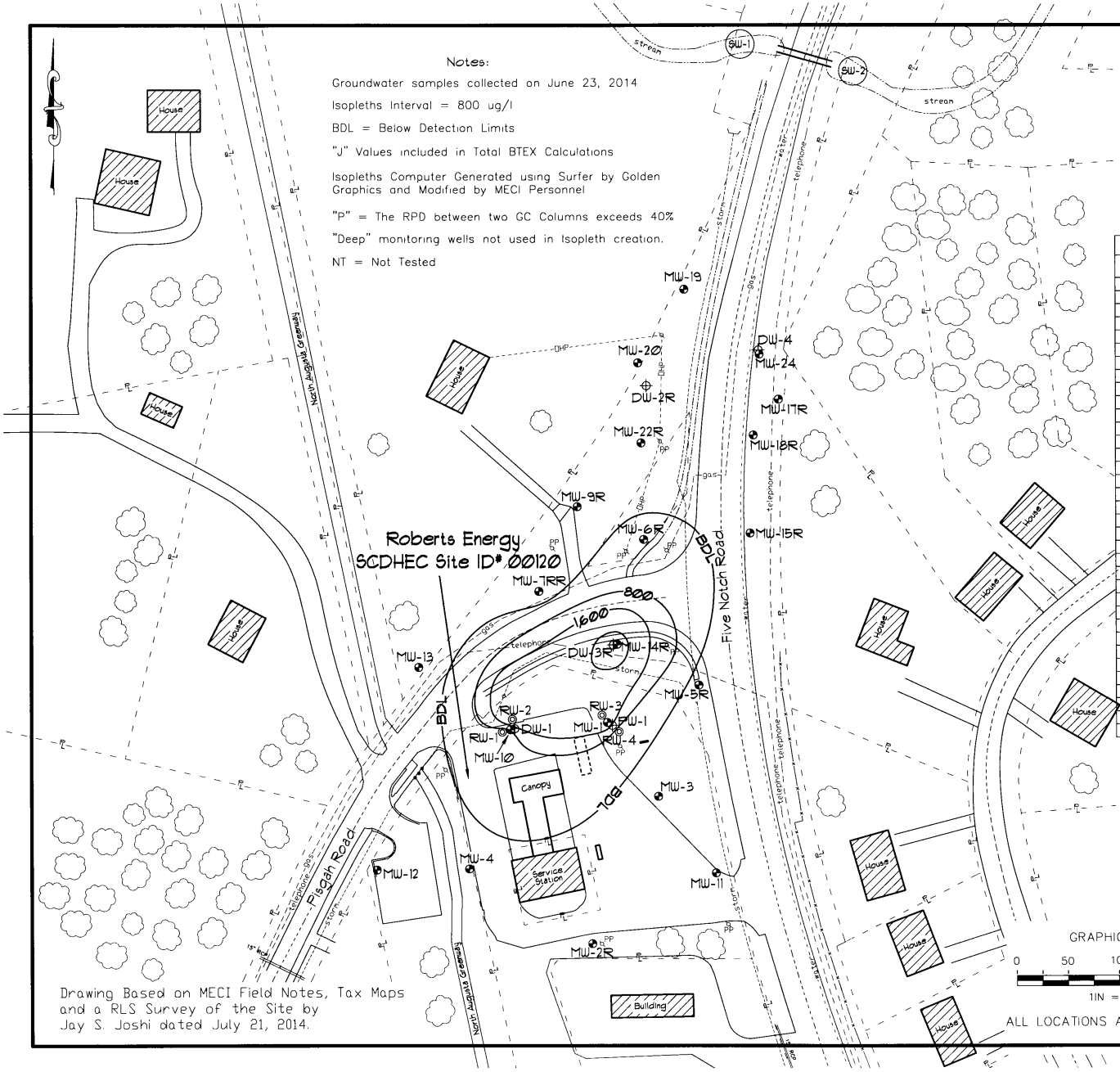
Robert's Energy 1
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771

DATE July 25, 2014

FIGURE 4A



Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated July 21, 2014.

Notes:

Groundwater samples collected on June 23, 2014

Isopleths Interval = 800 ug/l

BDL = Below Detection Limits

"J" Values included in Total BTEX Calculations

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel

"P" = The RPD between two GC Columns exceeds 40%

"Deep" monitoring wells not used in Isopleth creation.

NT = Not Tested

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-Inch Recovery Well
- (SW-2) Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks
- MTBE Concentration Isopleth (ug/l)

Groundwater COC Concentration Data

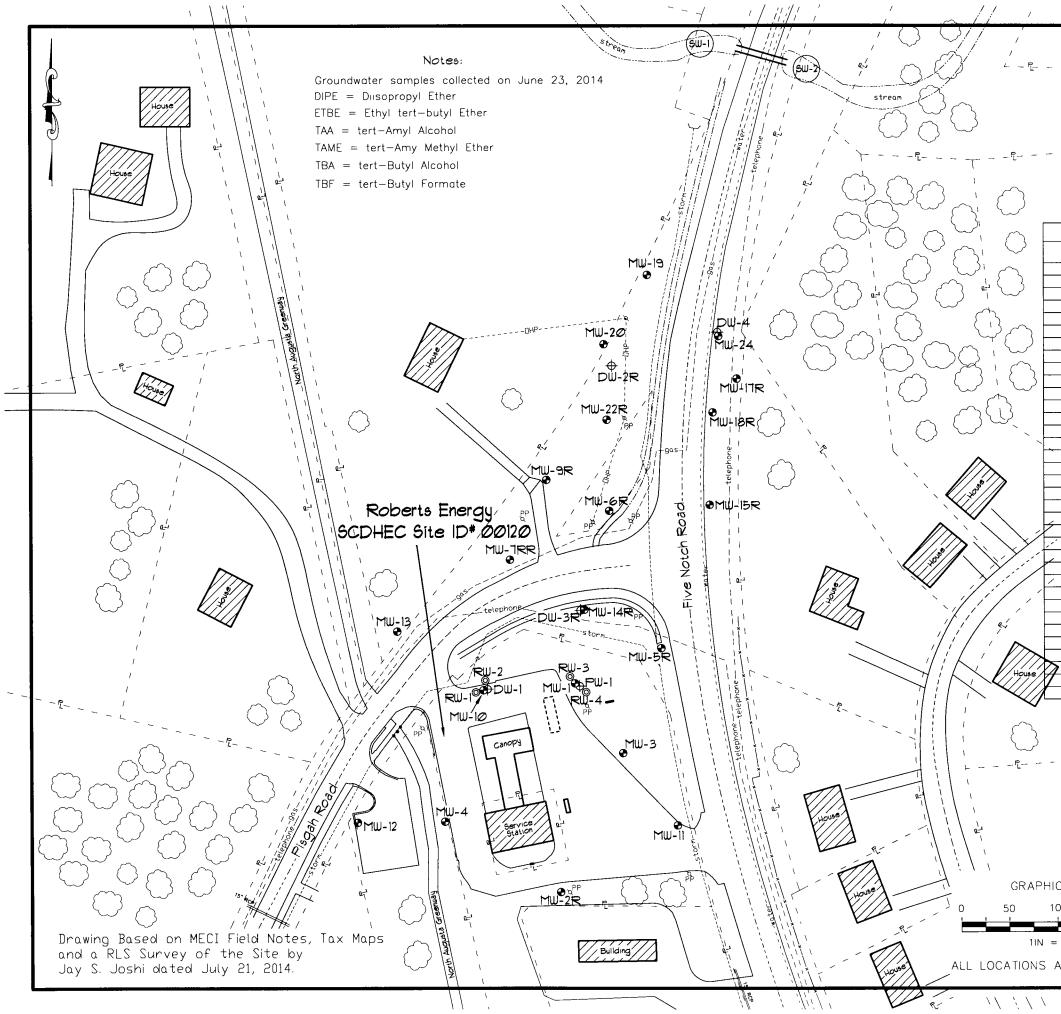
Sample #	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	Naphthalene (ug/l)	MTBE (ug/l)	12 DCA (ug/l)	EDB (ug/l)
MW-1	1,600	37,000	950J	6,700	46,250J	480J	2,600	<1,000	0 032P
MW-2R	<5.0	<5.0	<5.0	<5.0	BDL	19	<5.0	<5.0	<0.019
MW-3	<5.0	<5.0	<5.0	<5.0	BDL	2.8J	<5.0	<5.0	<0.019
MW-4	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-5R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-6R	1.0J	<5.0	1 7J	5.7	8.4J	<5 0	1.1J	<5.0	<0.021
MW-7RR	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-10	1,600	20,000	170J	2,100	23,870J	<500	54J	<500	0.081P
MW-11	<5.0	<5 0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
MW-12	<5 0	<5 0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-14R	2,300	35,000	1,100	6,300	44,700	400J	2,900	<1,000	0.91
MW-15R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.023
MW-17R	<5.0	<5.0	<5.0	<5 0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18R	2.5J	<5.0	4.6J	14	21.1J	<5.0	0.97J	<5.0	<0.021
MW-19	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22R	0.23J	<5.0	<5.0	<5.0	0.23J	<5.0	<5.0	<5.0	<0.021
MW-24	<5 0	<5 0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.023
DW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5 0	<5 0	<5 0	<0.019
DW-2R	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	1.6J	<5.0	<0.019
DW-3R	1.9J	56	7.6	41	106.5J	4.7J	4.2J	<5.0	<0.020
DW-4	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	0.78J	<5.0	<0.019
PW-1	<5.0	<5 0	<5.0	<5.0	BDL	<5 0	<5 0	<5.0	<0.019
RW-1	290J	10,000	490J	2,900	13,680J	520BBJ	<1,000	<1,000	<0.019
RW-2	1,200J	63,000	1,500J	8,800	74,500J	890BBJ	<2,500	<2,500	<0.019
RW-3	2,500	47,000	1,300J	6,400	57,200J	<2,500	1,700J	<2,500	0.44
RW-4	220	2,000	110	780	3,110	50BBJ	210	<100	<0.019
SW-1	<1.0	<1 0	<1.0	<1.0	BDL	<1.0	<1 0	<1.0	<0.019
SW-2	<1.0	<1.0	<1.0	<1.0	BDL	<1.0	<1.0	<1.0	<0.019
MW-1 Duplicate	1,500	38,000	1,100	6,800	47,400	580J	2,500	<1,000	0.053P
RW-4 Duplicate	220	2,000	120	830	3,170	55BBJ	220	<100	<0.020
Field Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
Trip Blank	<5.0	<5 0	<5.0	<5.0	BDL	<5.0	<5 0	<5.0	NT

Groundwater CoC Site Map
(MTBE Isopleth)

Robert's Energy 1
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO 14-4771
DATE July 25, 2014
FIGURE 4B



Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-Inch Recovery Well
- SW-2 Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks

Groundwater COC Concentration Data - Oxygenates

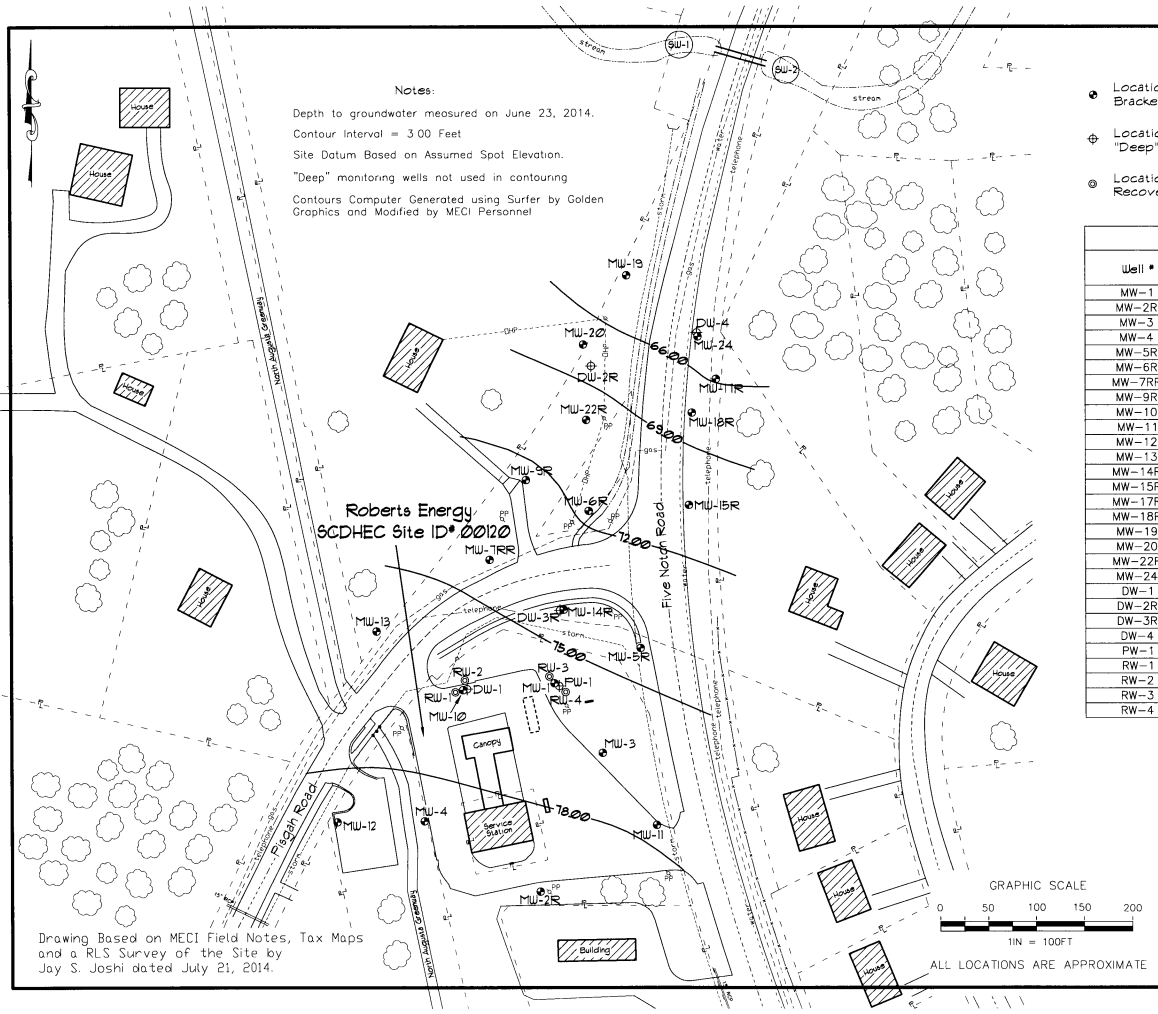
Sample #	TAA (ug/l)	TAME (ug/l)	TBF (ug/l)	DIPE (ug/l)	3,3-Dimethyl-1-butanol (ug/l)	Ethanol (ug/l)	ETBE (ug/l)	TBA (ug/l)
MW-1	9,500J	130J	<20,000	<2,000	<20,000	<200,000	<20,000	2,000J
MW-2R	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-3	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-4	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-5R	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-6R	39J	<10	<100	<10	<100	<1,000	<100	<100
MW-7RR	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-9R	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-10	1,200J	<1,000	<10,000	<1,000	<10,000	<100,000	<10,000	<10,000
MW-11	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-12	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-13	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-14R	7,400J	<2,000	<20,000	<2,000	<20,000	<200,000	<20,000	<20,000
MW-15R	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-17R	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-18R	18J	<10	<100	<10	<100	<1,000	<100	<100
MW-19	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-20	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-22R	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-24	<100	<10	<100	<10	<100	<1,000	<100	<100
DW-1	<100	<10	<100	<10	<100	<1,000	<100	<100
DW-2R	<100	<10	<100	<10	<100	<1,000	<100	<100
DW-3R	15J	<10	<100	<10	<100	<1,000	<100	<100
DW-4	<100	<10	<100	<10	<100	<1,000	<100	<100
FW-1	<100	<10	<100	<10	<100	<1,000	<100	<100
RW-1	<20,000	<2,000	<20,000	<2,000	<20,000	<200,000	<20,000	<20,000
RW-2	<50,000	<5,000	<50,000	<5,000	<50,000	<500,000	<50,000	<50,000
RW-3	5,800J	<5,000	<50,000	<5,000	<50,000	<500,000	<50,000	<50,000
RW-4	2,000	14J	<2,000	<200	<2,000	<20,000	<2,000	160J
SW-1	<100	<10	<100	<10	<100	<1,000	<100	<100
SW-2	<100	<10	<100	<10	<100	<1,000	<100	<100
MW-1 Duplicate	8,800J	130J	<20,000	<2,000	<20,000	<200,000	<20,000	<20,000
RW-4 Duplicate	2,100	12J	<2,000	<200	<2,000	<20,000	<2,000	150J
Field Blank	<100	<10	<100	<10	<100	<1,000	<100	<100
Trip Blank	<100	<10	<100	<10	<100	<1,000	<100	<100

Groundwater CoC Site Map
(Oxygenates)

Robert's Energy 1
2031 Piegah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771
DATE July 25, 2014
FIGURE 4C



Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-Inch Recovery Well
- SW-2 Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks

Potentiometric Data

Well #	Screened Interval (ft)	Depth to Water (ft)	Well Head Elevation	Groundwater Elevation
MW-1	15-29	22.13	97.91	75.78
MW-2R	15-30	22.64	101.78	79.14
MW-3	17-27	22.43	99.17	76.74
MW-4	17-27	21.33	99.81	78.48
MW-5R	10.5-20.5	13.21	87.40	74.19
MW-6R	7-17	11.68	83.26	71.58
MW-7RR	14-24	17.40	91.67	74.27
MW-9R	10-20	12.86	85.41	72.55
MW-10	15-30	21.39	97.88	76.49
MW-11	15-30	21.19	98.99	77.80
MW-12	15-30	18.21	96.75	78.54
MW-13	15-30	18.59	94.88	76.29
MW-14R	12.5-22.5	14.98	89.02	74.04
MW-15R	4-14	6.25	77.29	71.04
MW-17R	5-15	2.78	68.58	65.80
MW-18R	2-12	5.54	73.27	67.73
MW-19	5-15	7.39	70.99	63.60
MW-20	5-15	7.76	75.23	67.47
MW-22R	5-15	8.46	79.27	70.81
MW-24	3-13	5.56	70.83	65.27
DW-1	55-60	21.29	97.40	76.11
DW-2R	55-60	7.37	75.69	68.32
DW-3R	55-60	18.22	89.50	71.28
DW-4	52-57	2.11	70.93	68.82
PW-1	36-46	22.81	98.24	75.43
RW-1	15-30	21.05	97.98	76.93
RW-2	15-30	21.49	97.87	76.38
RW-3	15-30	22.12	97.91	75.79
RW-4	15-30	22.09	97.97	75.88

Potentiometric Data Site Map
(Groundwater Contour)

Robert's Energy I
2031 Plegah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771
DATE July 25, 2014
FIGURE 5

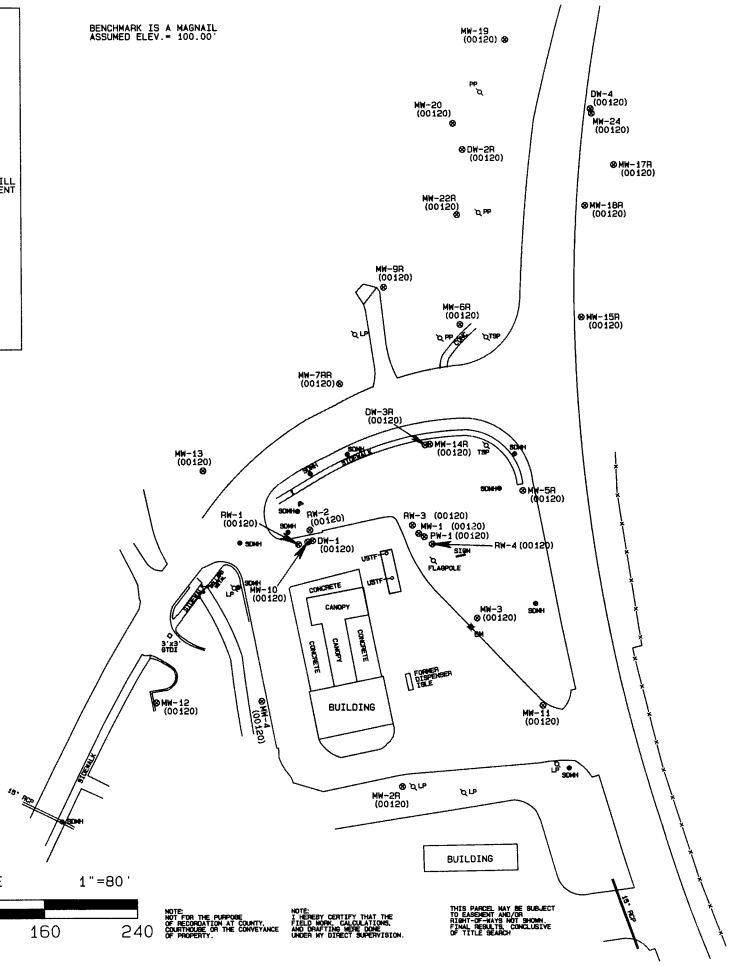
APPENDIX A:

SITE SURVEY

LEGEND AND ABBREVIATIONS:

- MW = MONITORING WELL
- BM = BENCHMARK
- TPED = TELEPHONE PEDESTAL
- SDMH = STORM DRAIN MAN HOLE
- SSMH = SANITARY SEWER MAN HOLE
- TMH = TELEPHONE MAN HOLE
- WM = WATER METER
- WV = WATER VALVE
- FH = FIRE HYDRANT
- SP = SIGNAL POLE
- PP = POWER POLE
- LP = LIGHT POLE
- GM = GAS METER
- GV = GAS VALVE
- UST = UNDERGROUND STORAGE TANK
- USTF = UNDERGROUND STORAGE TANK FILL
- USTV = UNDERGROUND STORAGE TANK VENT
- GTDI = GRATE TOP DROP INLET
- SIGN = SIGN
- RCP = REINFORCED CONCRETE PIPE
- VAC = AIR VACUUM
- PHONE = PAY TELEPHONE
- FD = FUEL DISPENSER
- DD = DIESEL DISPENSER
- KD = KEROSENE DISPENSER
- —E— = OVERHEAD POWER LINE
- —G— = GAS LINE
- —T— = UNDERGROUND TELEPHONE LINE
- —W— = WATER LINE
- = WOOD LINE
- —x— = FENCE LINE
- —UE— = UNDERGROUND POWER LINE

BENCHMARK IS A MAGNAIL
ASSUMED ELEV.= 100.00'



SC STATE PLANE
COORDINATE SYSTEM
NAD 83
GRID NORTH

GRAPHIC SCALE 1"=80'

0 80 160 240

NOTE:
NOT FOR THE PURPOSE OF RECORDATION AT COUNTY, COURTHOUSE OR THE CONVEYANCE OF PROPERTY.

NOTE:
I HEREBY CERTIFY THAT THE FIELD WORK, CALCULATIONS, AND DRAFTING WERE DONE UNDER MY DIRECT SUPERVISION.

THIS PARCEL MAY BE SUBJECT TO EASEMENT AND/OR RIGHT-OF-WAYS NOT SHOWN. FINAL RESULTS, CONCLUSIVE OF TITLE SEARCH

MONITOR WELLS		
WELL	TOL ELEV.	TOC ELEV.
DW-1 (00120)	98.27	97.40
DW-2R (00120)	76.14	75.69
DW-3R (00120)	89.77	89.50
DW-4 (00120)	71.12	70.93
MW-1 (00120)	98.39	97.91
MW-2R (00120)	102.14	101.78
MW-3 (00120)	99.74	99.17
MW-4 (00120)	100.39	99.81
MW-5R (00120)	87.68	87.40
MW-6R (00120)	83.60	83.26
MW-7RR (00120)	91.94	91.67
MW-9R (00120)	85.93	85.41
MW-10 (00120)	98.23	97.88
MW-11 (00120)	99.21	98.99
MW-12 (00120)	97.11	96.75
MW-13 (00120)	95.21	94.88
MW-14R (00120)	89.51	89.02
MW-15R (00120)	77.63	77.29
MW-17R (00120)	68.82	68.58
MW-18R (00120)	73.67	73.27
MW-19 (00120)	71.24	70.99
MW-20 (00120)	75.50	75.23
MW-22R (00120)	79.49	79.27
MW-24 (00120)	71.12	70.83
PW-1 (00120)	98.44	98.24
RW-1 (00120)	98.18	97.98
RW-2 (00120)	98.34	97.87
RW-3 (00120)	98.24	97.91
RW-4 (00120)	98.37	97.97

COMPREHENSIVE SITE SKETCH OF

ROBERTS ENERGY

2031 PERGAR STREET
NORTH AUGUSTA, AIKEN COUNTY, SC
SCDHEC SITE ID #00120
PREPARED FOR

MIDLANDS ENVIRONMENTAL CONSULTANTS, INC.

SOUTH CAROLINA REGISTERED LAND SURVEYOR No. 14811 JAY S. JOSHI

SOUTH CAROLINA CONSTRUCTION SUPPORT SERVICES No. C02425 CERTIFICATE OF AUTHORIZATION

JAY S. JOSHI PLS # 14811
P.O. BOX 90405, COLUMBIA, SC, 29290 803-776-9909

DATE: JULY 21, 2014 JOB #063014B

APPENDIX B:

SAMPLING LOGS, LABORATORY DATA SHEETS, & CHAIN-OF-CUSTODY FORMS

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.13			feet
Total Well Depth (TWD)	29			feet
Length of the water column (LWC=TWD-DGW)			6.87	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.12	gallons
5 casing volume (5 X CV)=		5	5.60	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:45	13:46						
pH (s.u.)	6.80	Sheen						
Specific Conductivity (μmhos/cm)	79.4	Sheen						
Water Temperature (°C)	21.4	Sheen						
Dissolved Oxygen	1.32	Sheen						
Turbidity (NTU)	20.71	Sheen						
PID readings, if required								

Remarks: Sample Time: 13:46 **DRY @ 1.0 gallon**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-2R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.64			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			7.36	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.20	gallons
5 casing volume (5 X CV)=		5	6.00	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:04	12:07						
pH (s.u.)	5.96	6.12						
Specific Conductivity (μmhos/cm)	121.3	152.8						
Water Temperature (°C)	20.6	19.7						
Dissolved Oxygen	1.37	0.92						
Turbidity (NTU)	15.57	77.64						
PID readings, if required								

Remarks: Sample Time: 12:07 **DRY @ 1.0 gallon**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.43			feet
Total Well Depth (TWD)	27			feet
Length of the water column (LWC=TWD-DGW)			4.57	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.74	gallons
5 casing volume (5 X CV)=		5	3.72	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:25	12:27						
pH (s.u.)	4.76	4.60						
Specific Conductivity (μmhos/cm)	62.2	56.1						
Water Temperature (°C)	21.0	20.6						
Dissolved Oxygen	3.02	2.29						
Turbidity (NTU)	18.31	97.82						
PID readings, if required								

Remarks: Sample Time: 12:27 **DRY @ 1.0 gallon**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.33			feet
Total Well Depth (TWD)	27			feet
Length of the water column (LWC=TWD-DGW)			5.67	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.92	gallons
5 casing volume (5 X CV)=		5	4.62	gallons

Total Volume of Water Purged Before Sampling 5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:42	11:45	11:47	11:50	11:52	11:55		
pH (s.u.)	5.62	5.10	4.96	4.89	4.79	4.71		
Specific Conductivity (µmhos/cm)	37.7	30.2	38.3	35.1	34.6	34.1		
Water Temperature (°C)	20.0	19.4	19.3	19.3	19.2	19.1		
Dissolved Oxygen	3.84	4.24	4.17	4.13	4.09	4.01		
Turbidity (NTU)	20.85	94.62	107.2	118.9	129.6	134.8		
PID readings, if required								

Remarks: Sample Time: 11:55

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-5R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	13.21			feet
Total Well Depth (TWD)	20.5			feet
Length of the water column (LWC=TWD-DGW)			7.29	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.19	gallons
5 casing volume (5 X CV)=		5	5.94	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:31	12:34						
pH (s.u.)	4.33	5.41						
Specific Conductivity (μmhos/cm)	55.1	77.6						
Water Temperature (°C)	24.1	22.8						
Dissolved Oxygen	4.58	4.97						
Turbidity (NTU)	23.45	72.96						
PID readings, if required								

Remarks: Sample Time: 12:34 **Dry @ 1.0 Gallon**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-6R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	11.68			feet
Total Well Depth (TWD)	17			feet
Length of the water column (LWC=TWD-DGW)			5.32	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.87	gallons
5 casing volume (5 X CV)=		5	4.34	gallons

Total Volume of Water Purged Before Sampling 2.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:32	10:34	10:37	10:39				
pH (s.u.)	5.15	5.09	5.01	4.89				
Specific Conductivity (µmhos/cm)	90.6	81.0	79.1	72.8				
Water Temperature (°C)	22.0	21.4	21.3	21.1				
Dissolved Oxygen	1.38	1.27	1.13	1.07				
Turbidity (NTU)	28.57	97.64	109.9	164.1				
PID readings, if required								

Remarks: Sample Time: 10:39 **Dry @ 2.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-7RR

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	17.40			feet
Total Well Depth (TWD)	24			feet
Length of the water column (LWC=TWD-DGW)			6.6	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.08	gallons
5 casing volume (5 X CV)=		5	5.38	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:40	10:43	10:46					
pH (s.u.)	4.93	4.81	4.69					
Specific Conductivity (μmhos/cm)	83.9	82.7	80.4					
Water Temperature (°C)	21.5	20.9	20.7					
Dissolved Oxygen	3.17	2.96	2.81					
Turbidity (NTU)	25.12	89.37	117.9					
PID readings, if required								

Remarks: Sample Time: 10:46 **Dry @ 2.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-9R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	12.86			feet
Total Well Depth (TWD)	20			feet
Length of the water column (LWC=TWD-DGW)			7.14	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.16	gallons
5 casing volume (5 X CV)=		5	5.82	gallons

Total Volume of Water Purged Before Sampling 1 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:21	10:24						
pH (s.u.)	5.29	5.08						
Specific Conductivity (μmhos/cm)	62.4	56.6						
Water Temperature (°C)	21.1	20.9						
Dissolved Oxygen	3.87	3.43						
Turbidity (NTU)	27.10	118.2						
PID readings, if required								

Remarks: Sample Time: 10:24 **Dry @ 1.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-10

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.39			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			8.61	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.40	gallons
5 casing volume (5 X CV)=		5	7.02	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:31	14:34						
pH (s.u.)	5.81	5.74						
Specific Conductivity (μmhos/cm)	112.6	112.2						
Water Temperature (°C)	21.5	21.4						
Dissolved Oxygen	1.54	1.29						
Turbidity (NTU)	22.45	79.52						
PID readings, if required								

Remarks: Sample Time: 14:34 **Dry @ 1.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-11

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.19			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			8.81	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.44	gallons
5 casing volume (5 X CV)=		5	7.18	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:14	12:17						
pH (s.u.)	6.30	6.17						
Specific Conductivity (µmhos/cm)	68.5	66.8						
Water Temperature (°C)	20.3	20.1						
Dissolved Oxygen	4.01	3.92						
Turbidity (NTU)	17.84	72.65						
PID readings, if required								

Remarks: Sample Time: 12:17 **Dry @ 1.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-12

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	18.21			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			11.79	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.92	gallons
5 casing volume (5 X CV)=		5	9.61	gallons

Total Volume of Water Purged Before Sampling 2.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:40	11:43						
pH (s.u.)	6.46	5.51						
Specific Conductivity (µmhos/cm)	52.7	88.5						
Water Temperature (°C)	22.7	19.6						
Dissolved Oxygen	4.63	5.17						
Turbidity (NTU)	16.39	87.31						
PID readings, if required								

Remarks: Sample Time: 11:43 **Dry @ 2.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-13

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	18.59			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			11.41	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.86	gallons
5 casing volume (5 X CV)=		5	9.30	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:48	10:51						
pH (s.u.)	4.97	4.78						
Specific Conductivity (μmhos/cm)	58.8	50.9						
Water Temperature (°C)	21.2	20.9						
Dissolved Oxygen	3.09	2.96						
Turbidity (NTU)	22.48	97.51						
PID readings, if required								

Remarks: Sample Time: 10:51 **Dry @ 1.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-14R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	14.98			feet
Total Well Depth (TWD)	22.5			feet
Length of the water column (LWC=TWD-DGW)			7.52	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.23	gallons
5 casing volume (5 X CV)=		5	6.13	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:41	12:44	12:47					
pH (s.u.)	5.34	5.09	4.94					
Specific Conductivity (µmhos/cm)	40.0	39.9	39.6					
Water Temperature (°C)	21.7	21.7	21.8					
Dissolved Oxygen	1.15	1.78	2.26					
Turbidity (NTU)	23.41	85.59	102.6					
PID readings, if required								

Remarks: Sample Time: 12:47 **Dry @ 2.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-15R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	6.25			feet
Total Well Depth (TWD)	14			feet
Length of the water column (LWC=TWD-DGW)			7.75	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.26	gallons
5 casing volume (5 X CV)=		5	6.32	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:27	11:30						
pH (s.u.)	6.08	5.97						
Specific Conductivity (µmhos/cm)	198.2	237.5						
Water Temperature (°C)	22.0	21.5						
Dissolved Oxygen	0.89	0.75						
Turbidity (NTU)	29.36	96.98						
PID readings, if required								

Remarks: Sample Time: 11:30 **Dry @ 2.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-17R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	2.78			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			12.22	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.99	gallons
5 casing volume (5 X CV)=		5	9.96	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:06	11:09						
pH (s.u.)	4.99	4.72						
Specific Conductivity (μmhos/cm)	46.8	44.6						
Water Temperature (°C)	21.1	20.9						
Dissolved Oxygen	3.68	3.61						
Turbidity (NTU)	29.11	137.9						
PID readings, if required								

Remarks: Sample Time: 11:09 **Dry @ 2.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-18R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	5.54			feet
Total Well Depth (TWD)	12			feet
Length of the water column (LWC=TWD-DGW)			6.46	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.05	gallons
5 casing volume (5 X CV)=		5	5.26	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:12	11:15	11:18					
pH (s.u.)	4.94	4.80	4.76					
Specific Conductivity (μmhos/cm)	45.2	44.3	41.4					
Water Temperature (°C)	22.2	21.6	20.9					
Dissolved Oxygen	3.37	3.14	2.98					
Turbidity (NTU)	26.46	121.2	187.8					
PID readings, if required								

Remarks: Sample Time: 11:18 **Dry @ 2.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-19

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	7.39			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			7.61	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.24	gallons
5 casing volume (5 X CV)=		5	6.20	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:02	10:05						
pH (s.u.)	5.29	5.07						
Specific Conductivity (µmhos/cm)	55.1	50.5						
Water Temperature (°C)	20.4	19.5						
Dissolved Oxygen	2.29	2.15						
Turbidity (NTU)	18.64	109.8						
PID readings, if required								

Remarks: Sample Time: 10:05 **Dry @ 1.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-20

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	7.76			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			7.24	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.18	gallons
5 casing volume (5 X CV)=		5	5.90	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:54	9:57						
pH (s.u.)	5.60	5.29						
Specific Conductivity (μmhos/cm)	49.7	52.8						
Water Temperature (°C)	20.4	19.7						
Dissolved Oxygen	2.63	3.07						
Turbidity (NTU)	19.74	102.6						
PID readings, if required								

Remarks: Sample Time: 9:57 **Dry @ 1.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-22R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	8.46			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			6.54	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.07	gallons
5 casing volume (5 X CV)=		5	5.33	gallons

Total Volume of Water Purged Before Sampling 2 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:16	10:19	10:22					
pH (s.u.)	5.34	5.27	5.19					
Specific Conductivity (μmhos/cm)	53.0	52.1	48.8					
Water Temperature (°C)	21.3	21.3	21.1					
Dissolved Oxygen	3.54	3.49	3.31					
Turbidity (NTU)	26.78	97.6	121.9					
PID readings, if required								

Remarks: Sample Time: 10:22 **Dry @ 2.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-24R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	5.56			feet
Total Well Depth (TWD)	13			feet
Length of the water column (LWC=TWD-DGW)			7.44	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.21	gallons
5 casing volume (5 X CV)=		5	6.06	gallons

Total Volume of Water Purged Before Sampling 1.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:02	11:05						
pH (s.u.)	4.72	4.59						
Specific Conductivity (μmhos/cm)	71.6	68.6						
Water Temperature (°C)	22.2	22.0						
Dissolved Oxygen	1.40	1.27						
Turbidity (NTU)	27.62	128.1						
PID readings, if required								

Remarks: Sample Time: 11:05 **Dry @ 1.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.29			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			38.71	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.31	gallons
5 casing volume (5 X CV)=		5	31.55	gallons

Total Volume of Water Purged Before Sampling 7 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:06	14:12						
pH (s.u.)	7.09	6.62						
Specific Conductivity (μmhos/cm)	72.3	70.4						
Water Temperature (°C)	22.1	21.8						
Dissolved Oxygen	3.48	3.29						
Turbidity (NTU)	17.76	63.48						
PID readings, if required								

Remarks: Sample Time: 14:12 **Dry @ 7.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-2R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	7.37			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			52.63	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	8.58	gallons
5 casing volume (5 X CV)=		5	42.89	gallons

Total Volume of Water Purged Before Sampling 24 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:51	9:58	10:05	10:12				
pH (s.u.)	6.49	5.43	5.75	6.04				
Specific Conductivity (µmhos/cm)	91.8	77.4	79.3	78.3				
Water Temperature (°C)	22.1	19.6	19.5	19.5				
Dissolved Oxygen	4.68	4.62	4.55	4.02				
Turbidity (NTU)	23.41	68.29	81.64	111.9				
PID readings, if required								

Remarks: Sample Time: 14:12 **Dry @ 24.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X

Calibration Buffer: 4, 7, & 10

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-3R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	18.22			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			41.78	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.81	gallons
5 casing volume (5 X CV)=		5	34.05	gallons

Total Volume of Water Purged Before Sampling 11 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:51	12:58	13:05					
pH (s.u.)	10.95	10.62	10.47					
Specific Conductivity (μmhos/cm)	846.0	621.0	487.1					
Water Temperature (°C)	24.2	24.0	23.6					
Dissolved Oxygen	4.93	4.71	4.59					
Turbidity (NTU)	17.66	91.11	109.60					
PID readings, if required								

Remarks: Sample Time: 13:05 **Dry @ 11.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	2.11			feet
Total Well Depth (TWD)	57			feet
Length of the water column (LWC=TWD-DGW)			54.89	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	8.95	gallons
5 casing volume (5 X CV)=		5	44.74	gallons

Total Volume of Water Purged Before Sampling 10 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:20	11:26						
pH (s.u.)	5.56	5.41						
Specific Conductivity (μmhos/cm)	106.1	94.9						
Water Temperature (°C)	23.8	19.8						
Dissolved Oxygen	1.61	1.54						
Turbidity (NTU)	20.78	108.40						
PID readings, if required								

Remarks: Sample Time: 11:26 **Dry @ 11.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.81			feet
Total Well Depth (TWD)	46			feet
Length of the water column (LWC=TWD-DGW)			23.19	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.78	gallons
5 casing volume (5 X CV)=		5	18.90	gallons

Total Volume of Water Purged Before Sampling 19 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:27	13:31	13:35	13:39	13:43	13:47		
pH (s.u.)	8.65	8.56	8.51	8.47	8.40	8.27		
Specific Conductivity (μmhos/cm)	84.1	79.6	72.0	70.6	69.4	66.5		
Water Temperature (°C)	21.7	21.7	21.7	21.6	21.5	21.2		
Dissolved Oxygen	5.79	5.74	5.70	5.62	5.59	5.47		
Turbidity (NTU)	22.27	49.54	87.64	96.82	101.4	108.9		
PID readings, if required								

Remarks: Sample Time: 13:47 **Dry @ 11.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.05			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			8.95	feet
1 casing volume (CV=LWC X C)= _____ X		0.66	5.91	gallons
5 casing volume (5 X CV)=		5	29.54	gallons

Total Volume of Water Purged Before Sampling 7 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:08	14:13						
pH (s.u.)	6.59	6.17						
Specific Conductivity (μmhos/cm)	66.1	62.3						
Water Temperature (°C)	21.8	21.6						
Dissolved Oxygen	1.47	1.19						
Turbidity (NTU)	21.72	79.18						
PID readings, if required								

Remarks: Sample Time: 14:13 **Dry @ 7.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.12			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			7.88	feet
1 casing volume (CV=LWC X C)= _____ X		0.66	5.20	gallons
5 casing volume (5 X CV)=		5	26.00	gallons

Total Volume of Water Purged Before Sampling 7 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:17	14:22						
pH (s.u.)	5.94	5.78						
Specific Conductivity (μmhos/cm)	73.6	68.4						
Water Temperature (°C)	21.3	21.1						
Dissolved Oxygen	1.37	1.18						
Turbidity (NTU)	19.66	62.19						
PID readings, if required								

Remarks: Sample Time: 14:22 **Dry @ 7.0 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.12			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			7.88	feet
1 casing volume (CV=LWC X C)= _____ X		0.66	5.20	gallons
5 casing volume (5 X CV)=		5	26.00	gallons

Total Volume of Water Purged Before Sampling 4.5 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:50	13:55						
pH (s.u.)	5.78	5.52						
Specific Conductivity (μmhos/cm)	107.5	102.4						
Water Temperature (°C)	22.2	20.9						
Dissolved Oxygen	1.38	1.09						
Turbidity (NTU)	17.36	87.41						
PID readings, if required								

Remarks: Sample Time: 13:55 **Dry @ 4.5 Gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/23/2014

Field Personnel: D. McCartha, T. Elder, F. Mitlin

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 33.0 °C

Quality Assurance

pH/Conductivity Meter		**DO Meter**	
YSI 63		**YSI 550A**	
09C 101302		04L 2026AK	
10K 101895		08B 101895	
07M 100905	X	04A 0912AI	X
Calibration Buffer:	4, 7, & 10		

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.09			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			7.91	feet
1 casing volume (CV=LWC X C)= _____ X		0.66	5.22	gallons
5 casing volume (5 X CV)=		5	26.10	gallons

Total Volume of Water Purged Before Sampling 7 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:23	13:28						
pH (s.u.)	9.29	8.21						
Specific Conductivity (μmhos/cm)	74.4	69.8						
Water Temperature (°C)	22.4	22.1						
Dissolved Oxygen	1.47	1.24						
Turbidity (NTU)	17.69	84.11						
PID readings, if required								

Remarks: Sample Time: 13:28 **Dry @ 7.0 Gallons**

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Midlands Environmental Consultants, Inc.
235 Dooley Rd
Lexington, SC 29073
Attention: Bryan Shane

Project Name. **Roberts Energy**

Project Number: **14-4771**

Lot Number: **PF24067**

Date Completed: **07/02/2014**

Kelly M. Maberry
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

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Case Narrative
Midlands Environmental Consultants, Inc.
Lot Number: PF24067

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

Sample Receiving
Samples -002, -004, -005, -007 and -018 for volatiles analysis contained vials with air bubbles greater than ¼" or 6mm in diameter. The laboratory uses these vials for screening and the vials without bubbles for analysis whenever possible Condition of samples is documented on the Sample Receipt Checklist (SRC).

Samples MW-19, MW-20, MW-22R and MW-24 were listed on the chain of custody twice Samples were logged in as -017, -018, -019 and -020

GC/MS Volatiles
The method blank associated with samples -026, -027, -029 and -033 had naphthalene detected at a concentration that was above the MDL but below the PQL. All samples associated with this method blank that have detections for naphthalene have been flagged with a "B".

The MS/MSD associated with sample -028 had naphthalene recovered outside of the acceptance limits The LCS/LCSD were recovered within the required acceptance limits, therefore, this demonstrates a matrix effect and data quality is not impacted

EDB/DBCP
The sample results for -00-001, -009 and -032 have a P qualifier because the relative percent difference (RPD) between the two dissimilar phase GC columns exceeds 40% Section 7.10.4 of SW-846 method 8000B states the higher of the two results is reported, however the lower results are reported for these samples The higher result for sample -001 was 0 61 ug/L The higher result for sample -009 was 1 3 ug/L The higher result for sample -032 was 0 39 ug/L

Sample Summary
Midlands Environmental Consultants, Inc.
Lot Number: PF24067

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-1	Aqueous	06/23/2014 1346	06/24/2014
002	MW-2R	Aqueous	06/23/2014 1207	06/24/2014
003	MW-3	Aqueous	06/23/2014 1227	06/24/2014
004	MW-4	Aqueous	06/23/2014 1155	06/24/2014
005	MW-5R	Aqueous	06/23/2014 1234	06/24/2014
006	MW-6R	Aqueous	06/23/2014 1039	06/24/2014
007	MW-7RR	Aqueous	06/23/2014 1046	06/24/2014
008	MW-9R	Aqueous	06/23/2014 1024	06/24/2014
009	MW-10	Aqueous	06/23/2014 1434	06/24/2014
010	MW-11	Aqueous	06/23/2014 1217	06/24/2014
011	MW-12	Aqueous	06/23/2014 1143	06/24/2014
012	MW-13	Aqueous	06/23/2014 1051	06/24/2014
013	MW-14R	Aqueous	06/23/2014 1247	06/24/2014
014	MW-15R	Aqueous	06/23/2014 1130	06/24/2014
015	MW-17R	Aqueous	06/23/2014 1109	06/24/2014
016	MW-18R	Aqueous	06/23/2014 1118	06/24/2014
017	MW-19	Aqueous	06/23/2014 1005	06/24/2014
018	MW-20	Aqueous	06/23/2014 0957	06/24/2014
019	MW-22R	Aqueous	06/23/2014 1022	06/24/2014
020	MW-24	Aqueous	06/23/2014 1105	06/24/2014
021	DW-1	Aqueous	06/23/2014 1412	06/24/2014
022	DW-2R	Aqueous	06/23/2014 1012	06/24/2014
023	DW-3R	Aqueous	06/23/2014 1305	06/24/2014
024	DW-4	Aqueous	06/23/2014 1126	06/24/2014
025	PW-1	Aqueous	06/23/2014 1408	06/24/2014
026	RW-1	Aqueous	06/23/2014 1422	06/24/2014
027	RW-2	Aqueous	06/23/2014 1422	06/24/2014
028	RW-3	Aqueous	06/23/2014 1355	06/24/2014
029	RW-4	Aqueous	06/23/2014 1328	06/24/2014
030	SW-1	Aqueous	06/23/2014 0939	06/24/2014
031	SW-2	Aqueous	06/23/2014 0936	06/24/2014
032	MW-1 Dup	Aqueous	06/23/2014 1346	06/24/2014
033	RW-4 Dup	Aqueous	06/23/2014 1328	06/24/2014
034	Field Blank	Aqueous	06/23/2014 1455	06/24/2014
035	Trip Blank	Aqueous	06/23/2014 1500	06/24/2014

(35 samples)

Executive Summary
Midlands Environmental Consultants, Inc.
Lot Number: PF24067

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-1	Aqueous	tert-Amyl alcohol (TAA)	8260B	9500	J	ug/L	7
001	MW-1	Aqueous	tert-Amyl methyl ether (TAME)	8260B	130	J	ug/L	7
001	MW-1	Aqueous	Benzene	8260B	1600		ug/L	7
001	MW-1	Aqueous	Ethylbenzene	8260B	950	J	ug/L	7
001	MW-1	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2600		ug/L	7
001	MW-1	Aqueous	Naphthalene	8260B	480	J	ug/L	7
001	MW-1	Aqueous	tert-butyl alcohol (TBA)	8260B	2000	J	ug/L	7
001	MW-1	Aqueous	Toluene	8260B	37000		ug/L	7
001	MW-1	Aqueous	Xylenes (total)	8260B	6700		ug/L	7
001	MW-1	Aqueous	1,2-Dibromoethane (EDB)	8011	0 032	P	ug/L	7
002	MW-2R	Aqueous	Naphthalene	8260B	19		ug/L	8
003	MW-3	Aqueous	Naphthalene	8260B	2 8	J	ug/L	9
006	MW-6R	Aqueous	tert-Amyl alcohol (TAA)	8260B	39	J	ug/L	12
006	MW-6R	Aqueous	Benzene	8260B	1 0	J	ug/L	12
006	MW-6R	Aqueous	Ethylbenzene	8260B	1.7	J	ug/L	12
006	MW-6R	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1.1	J	ug/L	12
006	MW-6R	Aqueous	Xylenes (total)	8260B	5.7		ug/L	12
009	MW-10	Aqueous	tert-Amyl alcohol (TAA)	8260B	1200	J	ug/L	15
009	MW-10	Aqueous	Benzene	8260B	1600		ug/L	15
009	MW-10	Aqueous	Ethylbenzene	8260B	170	J	ug/L	15
009	MW-10	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	54	J	ug/L	15
009	MW-10	Aqueous	Toluene	8260B	20000		ug/L	15
009	MW-10	Aqueous	Xylenes (total)	8260B	2100		ug/L	15
009	MW-10	Aqueous	1,2-Dibromoethane (EDB)	8011	0 081	P	ug/L	15
013	MW-14R	Aqueous	tert-Amyl alcohol (TAA)	8260B	7400	J	ug/L	19
013	MW-14R	Aqueous	Benzene	8260B	2300		ug/L	19
013	MW-14R	Aqueous	Ethylbenzene	8260B	1100		ug/L	19
013	MW-14R	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2900		ug/L	19
013	MW-14R	Aqueous	Naphthalene	8260B	400	J	ug/L	19
013	MW-14R	Aqueous	Toluene	8260B	35000		ug/L	19
013	MW-14R	Aqueous	Xylenes (total)	8260B	6300		ug/L	19
013	MW-14R	Aqueous	1,2-Dibromoethane (EDB)	8011	0 91		ug/L	19
016	MW-18R	Aqueous	tert-Amyl alcohol (TAA)	8260B	18	J	ug/L	22
016	MW-18R	Aqueous	Benzene	8260B	2 5	J	ug/L	22
016	MW-18R	Aqueous	Ethylbenzene	8260B	4 6	J	ug/L	22
016	MW-18R	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0 97	J	ug/L	22
016	MW-18R	Aqueous	Xylenes (total)	8260B	14		ug/L	22
019	MW-22R	Aqueous	Benzene	8260B	0.23	J	ug/L	25
022	DW-2R	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1 6	J	ug/L	28
023	DW-3R	Aqueous	tert-Amyl alcohol (TAA)	8260B	15	J	ug/L	29
023	DW-3R	Aqueous	Benzene	8260B	1 9	J	ug/L	29
023	DW-3R	Aqueous	Ethylbenzene	8260B	7 6		ug/L	29
023	DW-3R	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	4 2	J	ug/L	29
023	DW-3R	Aqueous	Naphthalene	8260B	4 7	J	ug/L	29
023	DW-3R	Aqueous	Toluene	8260B	56		ug/L	29

Executive Summary (Continued)

Lot Number: PF24067

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
023	DW-3R	Aqueous	Xylenes (total)	8260B	41		ug/L	29
024	DW-4	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	0 78	J	ug/L	30
026	RW-1	Aqueous	Benzene	8260B	290	J	ug/L	32
026	RW-1	Aqueous	Ethylbenzene	8260B	490	J	ug/L	32
026	RW-1	Aqueous	Naphthalene	8260B	520	BBJ	ug/L	32
026	RW-1	Aqueous	Toluene	8260B	10000		ug/L	32
026	RW-1	Aqueous	Xylenes (total)	8260B	2900		ug/L	32
027	RW-2	Aqueous	Benzene	8260B	1200	J	ug/L	33
027	RW-2	Aqueous	Ethylbenzene	8260B	1500	J	ug/L	33
027	RW-2	Aqueous	Naphthalene	8260B	890	BBJ	ug/L	33
027	RW-2	Aqueous	Toluene	8260B	63000		ug/L	33
027	RW-2	Aqueous	Xylenes (total)	8260B	8800		ug/L	33
028	RW-3	Aqueous	tert-Amyl alcohol (TAA)	8260B	5800	J	ug/L	34
028	RW-3	Aqueous	Benzene	8260B	2500		ug/L	34
028	RW-3	Aqueous	Ethylbenzene	8260B	1300	J	ug/L	34
028	RW-3	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1700	J	ug/L	34
028	RW-3	Aqueous	Toluene	8260B	47000		ug/L	34
028	RW-3	Aqueous	Xylenes (total)	8260B	6400		ug/L	34
028	RW-3	Aqueous	1,2-Dibromoethane (EDB)	8011	0 44		ug/L	34
029	RW-4	Aqueous	tert-Amyl alcohol (TAA)	8260B	2000		ug/L	35
029	RW-4	Aqueous	tert-Amyl methyl ether (TAME)	8260B	14	J	ug/L	35
029	RW-4	Aqueous	Benzene	8260B	220		ug/L	35
029	RW-4	Aqueous	Ethylbenzene	8260B	110		ug/L	35
029	RW-4	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	210		ug/L	35
029	RW-4	Aqueous	Naphthalene	8260B	50	BBJ	ug/L	35
029	RW-4	Aqueous	tert-butyl alcohol (TBA)	8260B	160	J	ug/L	35
029	RW-4	Aqueous	Toluene	8260B	2000		ug/L	35
029	RW-4	Aqueous	Xylenes (total)	8260B	780		ug/L	35
032	MW-1 Dup	Aqueous	tert-Amyl alcohol (TAA)	8260B	8800	J	ug/L	38
032	MW-1 Dup	Aqueous	tert-Amyl methyl ether (TAME)	8260B	130	J	ug/L	38
032	MW-1 Dup	Aqueous	Benzene	8260B	1500		ug/L	38
032	MW-1 Dup	Aqueous	Ethylbenzene	8260B	1100		ug/L	38
032	MW-1 Dup	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	2500		ug/L	38
032	MW-1 Dup	Aqueous	Naphthalene	8260B	580	J	ug/L	38
032	MW-1 Dup	Aqueous	Toluene	8260B	38000		ug/L	38
032	MW-1 Dup	Aqueous	Xylenes (total)	8260B	6800		ug/L	38
032	MW-1 Dup	Aqueous	1,2-Dibromoethane (EDB)	8011	0 053	P	ug/L	38
033	RW-4 Dup	Aqueous	tert-Amyl alcohol (TAA)	8260B	2100		ug/L	39
033	RW-4 Dup	Aqueous	tert-Amyl methyl ether (TAME)	8260B	12	J	ug/L	39
033	RW-4 Dup	Aqueous	Benzene	8260B	220		ug/L	39
033	RW-4 Dup	Aqueous	Ethylbenzene	8260B	120		ug/L	39
033	RW-4 Dup	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	220		ug/L	39
033	RW-4 Dup	Aqueous	Naphthalene	8260B	55	BBJ	ug/L	39
033	RW-4 Dup	Aqueous	tert-butyl alcohol (TBA)	8260B	150	J	ug/L	39
033	RW-4 Dup	Aqueous	Toluene	8260B	2000		ug/L	39
033	RW-4 Dup	Aqueous	Xylenes (total)	8260B	830		ug/L	39

Executive Summary (Continued)

Lot Number: PF24067

Sample Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page

(91 detections)

Client: **Midlands Environmental Consultants, Inc.** Laboratory ID **PF24067-001**
Description: **MW-1** Matrix **Aqueous**
Date Sampled **06/23/2014 1346**
Date Received **06/24/2014**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	07/01/2014 0326	PMM2		50309

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**9500**	**J**	**20000**	**1300**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**130**	**J**	**2000**	**40**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**1600**		**1000**	**40**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		20000	200	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1000	60	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		2000	80	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20000	200	ug/L	1
Ethanol	64-17-5	8260B	ND		200000	6600	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**950**	**J**	**1000**	**340**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20000	40	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2600**		**1000**	**80**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**480**	**J**	**1000**	**340**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**2000**	**J**	**20000**	**1300**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**37000**		**1000**	**340**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6700**		**1000**	**340**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		126	70-130
Bromofluorobenzene		113	70-130
Toluene-d8		109	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/27/2014 2319	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.032**	**P**	**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		87	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-002**
Description **MW-2R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1207**	
Date Received: **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/30/2014 2327	PMM2		50309

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**19**		**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		119	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		103	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/27/2014 2349	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		75	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-003**
Description **MW-3**	Matrix **Aqueous**
Date Sampled **06/23/2014 1227**	
Date Received. **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/30/2014 2348	PMM2		50309

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**2.8**	**J**	**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		118	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		111	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/27/2014 2359	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

PQL = Practical quantitation limit | 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 | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-004**
Description **MW-4**	Matrix. **Aqueous**
Date Sampled **06/23/2014 1155**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0010	PMM2		50309

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1 7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		121	70-130
Bromofluorobenzene		110	70-130
Toluene-d8		111	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0010	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-005**
Description **MW-5R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1234**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0007	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0020	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-006**
Description: **MW-6R**	Matrix. **Aqueous**
Date Sampled **06/23/2014 1039**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0031	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**39**	**J**	**100**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.0**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1.7**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1.1**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1 7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**5.7**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0030	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 021	0 021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-007**
Description **MW-7RR**	Matrix **Aqueous**
Date Sampled **06/23/2014 1046**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0055	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0040	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0 020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**
Description **MW-9R**
Date Sampled **06/23/2014 1024**
Date Received **06/24/2014**

Laboratory ID **PF24067-008**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0120	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1 7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0050	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 021	0 021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**
Description **MW-10**
Date Sampled **06/23/2014 1434**
Date Received **06/24/2014**

Laboratory ID: **PF24067-009**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	07/01/2014 0410	PMM2		50309

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**1200**	**J**	**10000**	**670**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1600**		**500**	**20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		10000	100	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	100	ug/L	1
Ethanol	64-17-5	8260B	ND		100000	3300	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**170**	**J**	**500**	**170**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10000	20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**54**	**J**	**500**	**40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		500	170	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		10000	670	ug/L	1
Toluene	**108-88-3**	**8260B**	**20000**		**500**	**170**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**2100**		**500**	**170**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		126	70-130
Bromofluorobenzene		114	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0101	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.081**	**P**	**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**
Description: **MW-11**
Date Sampled **06/23/2014 1217**
Date Received: **06/24/2014**

Laboratory ID. **PF24067-010**
Matrix **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0144	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0111	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		100	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-011**
Description. **MW-12**	Matrix. **Aqueous**
Date Sampled.**06/23/2014 1143**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0208	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0121	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0 020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**	Laboratory ID. **PF24067-012**
Description **MW-13**	Matrix **Aqueous**
Date Sampled **06/23/2014 1051**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0232	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1 7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0131	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0 020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

PQL = Practical quantitation limit | 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 | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-013**
Description **MW-14R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1247**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	07/01/2014 0745	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**7400**	**J**	**20000**	**1300**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		2000	40	ug/L	1
Benzene	**71-43-2**	**8260B**	**2300**		**1000**	**40**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		20000	200	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1000	60	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		2000	80	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20000	200	ug/L	1
Ethanol	64-17-5	8260B	ND		200000	6600	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1100**		**1000**	**340**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20000	40	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2900**		**1000**	**80**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**400**	**J**	**1000**	**340**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20000	1300	ug/L	1
Toluene	**108-88-3**	**8260B**	**35000**		**1000**	**340**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6300**		**1000**	**340**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		98	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0141	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.91**		**0.019**	**0.019**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

PQL = Practical quantitation limit | 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 | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID. **PF24067-014**
Description **MW-15R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1130**	
Date Received. **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0256	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0151	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 023	0.023	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		77	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**
Description: **MW-17R**
Date Sampled: **06/23/2014 1109**
Date Received: **06/24/2014**

Laboratory ID: **PF24067-015**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0320	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1 7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0201	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0 020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		86	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-016**
Description **MW-18R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1118**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0344	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**18**	**J**	**100**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	**71-43-2**	**8260B**	**2.5**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**4.6**	**J**	**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.97**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	**1330-20-7**	**8260B**	**14**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		106	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0212	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 021	0 021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		94	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-017**
Description **MW-19**	Matrix **Aqueous**
Date Sampled **06/23/2014 1005**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0408	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1 7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		89	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0222	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0 020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-018**
Description. **MW-20**	Matrix **Aqueous**
Date Sampled **06/23/2014 0957**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0432	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0232	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0 020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-019**
Description **MW-22R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1022**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0456	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	**71-43-2**	**8260B**	**0.23**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/28/2014 0242	MEM	06/27/2014 1030	50060

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 021	0 021	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.** Laboratory ID. **PF24067-020**
Description **MW-24** Matrix. **Aqueous**
Date Sampled **06/23/2014 1105**
Date Received **06/24/2014**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0520	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0814	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 023	0 023	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		74	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-021**
Description **DW-1**	Matrix **Aqueous**
Date Sampled **06/23/2014 1412**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0544	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1 7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5 0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0824	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-022**
Description **DW-2R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1012**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0608	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1.6**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5 0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0835	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID. **PF24067-023**
Description **DW-3R**	Matrix **Aqueous**
Date Sampled **06/23/2014 1305**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0632	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**15**	**J**	**100**	**6.7**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	**71-43-2**	**8260B**	**1.9**	**J**	**5.0**	**0.20**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0.30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**7.6**		**5.0**	**1.7**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**4.2**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**4.7**	**J**	**5.0**	**1.7**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	**108-88-3**	**8260B**	**56**		**5.0**	**1.7**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**41**		**5.0**	**1.7**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		95	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0845	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

PQL = Practical quantitation limit | 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 | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-024**
Description **DW-4**	Matrix **Aqueous**
Date Sampled **06/23/2014 1126**	
Date Received: **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0657	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5.0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**0.78**	**J**	**5.0**	**0.40**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		5 0	1.7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		94	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0855	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		89	57-137

PQL = Practical quantitation limit | 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 | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-025**
Description **PW-1**	Matrix **Aqueous**
Date Sampled **06/23/2014 1408**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 0721	PMM2		50307

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1 7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5 0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		96	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0906	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit | 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 | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**
Description: **RW-1**
Date Sampled: **06/23/2014 1422**
Date Received: **06/24/2014**

Laboratory ID: **PF24067-026**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	07/01/2014 1501	EH1		50346

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		20000	1300	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		2000	40	ug/L	1
Benzene	**71-43-2**	**8260B**	**290**	**J**	**1000**	**40**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		20000	200	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1000	60	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		2000	80	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20000	200	ug/L	1
Ethanol	64-17-5	8260B	ND		200000	6600	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**490**	**J**	**1000**	**340**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20000	40	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1000	80	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**520**	**BBJ**	**1000**	**340**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20000	1300	ug/L	1
Toluene	**108-88-3**	**8260B**	**10000**		**1000**	**340**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**2900**		**1000**	**340**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		119	70-130
Bromofluorobenzene		110	70-130
Toluene-d8		109	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0916	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		112	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**
Description: **RW-2**
Date Sampled **06/23/2014 1422**
Date Received **06/24/2014**

Laboratory ID. **PF24067-027**
Matrix **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	500	07/01/2014 1650	EH1		50346

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		50000	3400	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		5000	100	ug/L	1
Benzene	**71-43-2**	**8260B**	**1200**	**J**	**2500**	**100**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		50000	500	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		2500	150	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5000	200	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		50000	500	ug/L	1
Ethanol	64-17-5	8260B	ND		500000	17000	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1500**	**J**	**2500**	**850**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50000	100	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		2500	200	ug/L	1
Naphthalene	**91-20-3**	**8260B**	**890**	**BBJ**	**2500**	**850**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		50000	3400	ug/L	1
Toluene	**108-88-3**	**8260B**	**63000**		**2500**	**850**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**8800**		**2500**	**850**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		123	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		109	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0926	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		83	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-028**
Description: **RW-3**	Matrix **Aqueous**
Date Sampled **06/23/2014 1355**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	500	07/01/2014 1711	EH1		50346

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**5800**	**J**	**50000**	**3400**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		5000	100	ug/L	1
Benzene	**71-43-2**	**8260B**	**2500**		**2500**	**100**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		50000	500	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		2500	150	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		5000	200	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		50000	500	ug/L	1
Ethanol	64-17-5	8260B	ND		500000	17000	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1300**	**J**	**2500**	**850**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		50000	100	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**1700**	**J**	**2500**	**200**	**ug/L**	**1**
Naphthalene	91-20-3	8260B	ND		2500	850	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		50000	3400	ug/L	1
Toluene	**108-88-3**	**8260B**	**47000**		**2500**	**850**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**6400**		**2500**	**850**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		123	70-130
Bromofluorobenzene		111	70-130
Toluene-d8		112	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0936	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.44**		**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		86	57-137

PQL = Practical quantitation limit | 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 | J = Estimated result < PQL and ≥ MDL | P = The RPD between two GC columns exceeds 40% | N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-029**
Description **RW-4**	Matrix **Aqueous**
Date Sampled **06/23/2014 1328**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	07/01/2014 1355	EH1		50346

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2000**		**2000**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**14**	**J**	**200**	**4.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**220**		**100**	**4.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2000	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		100	6 0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		200	8 0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	20	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	660	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**110**		**100**	**34**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		2000	4.0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**210**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**50**	**BBJ**	**100**	**34**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**160**	**J**	**2000**	**130**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2000**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**780**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		125	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		111	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0946	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		91	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**
Description **SW-1**
Date Sampled **06/23/2014 0939**
Date Received **06/24/2014**

Laboratory ID **PF24067-030**
Matrix **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 1100	EH1		50346

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1.0	0.13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1 0	0 15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1 0	0 33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1.0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
Toluene	108-88-3	8260B	ND		1 0	0 33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1 0	0.33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		127	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		112	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 0957	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		84	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**
Description **SW-2**
Date Sampled **06/23/2014 0936**
Date Received **06/24/2014**

Laboratory ID **PF24067-031**
Matrix **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/01/2014 1121	EH1		50346

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
Benzene	71-43-2	8260B	ND		1 0	0 13	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1 0	0 15	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0 40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		1 0	0 33	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		1 0	0 40	ug/L	1
Naphthalene	91-20-3	8260B	ND		1 0	0.40	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		1 0	0 33	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		1 0	0 33	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		124	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		113	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 1007	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		96	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**
Description **MW-1 Dup**
Date Sampled **06/23/2014 1346**
Date Received **06/24/2014**

Laboratory ID **PF24067-032**
Matrix: **Aqueous**

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	200	07/01/2014 0348	PMM2		50309
2	5030B	8260B	500	07/02/2014 0517	PMM2		50398

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**8800**	**J**	**20000**	**1300**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**130**	**J**	**2000**	**40**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**1500**		**1000**	**40**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		20000	200	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		1000	60	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		2000	80	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		20000	200	ug/L	1
Ethanol	64-17-5	8260B	ND		200000	6600	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**1100**		**1000**	**340**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		20000	40	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**2500**		**1000**	**80**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**580**	**J**	**1000**	**340**	**ug/L**	**1**
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		20000	1300	ug/L	1
Toluene	**108-88-3**	**8260B**	**38000**		**2500**	**850**	**ug/L**	**2**
Xylenes (total)	**1330-20-7**	**8260B**	**6800**		**1000**	**340**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		122	70-130		122	70-130
Bromofluorobenzene		109	70-130		112	70-130
Toluene-d8		114	70-130		105	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 1017	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	**106-93-4**	**8011**	**0.053**	**P**	**0.020**	**0.020**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		92	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
B = Detected in the method blank
J = Estimated result < PQL and ≥ MDL
E = Quantitation of compound exceeded the calibration range
P = The RPD between two GC columns exceeds 40%
H = Out of holding time
N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client: **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-033**
Description **RW-4 Dup**	Matrix: **Aqueous**
Date Sampled **06/23/2014 1328**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	20	07/01/2014 1417	EH1		50346

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	**75-85-4**	**8260B**	**2100**		**2000**	**130**	**ug/L**	**1**
tert-Amyl methyl ether (TAME)	**994-05-8**	**8260B**	**12**	**J**	**200**	**4.0**	**ug/L**	**1**
Benzene	**71-43-2**	**8260B**	**220**		**100**	**4.0**	**ug/L**	**1**
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2000	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		100	6.0	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		200	8 0	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	20	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	660	ug/L	1
Ethylbenzene	**100-41-4**	**8260B**	**120**		**100**	**34**	**ug/L**	**1**
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		2000	4 0	ug/L	1
Methyl tertiary butyl ether (MTBE)	**1634-04-4**	**8260B**	**220**		**100**	**8.0**	**ug/L**	**1**
Naphthalene	**91-20-3**	**8260B**	**55**	**BBJ**	**100**	**34**	**ug/L**	**1**
tert-butyl alcohol (TBA)	**75-65-0**	**8260B**	**150**	**J**	**2000**	**130**	**ug/L**	**1**
Toluene	**108-88-3**	**8260B**	**2000**		**100**	**34**	**ug/L**	**1**
Xylenes (total)	**1330-20-7**	**8260B**	**830**		**100**	**34**	**ug/L**	**1**

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		124	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		107	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 1027	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 020	0.020	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		88	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-034**
Description **Field Blank**	Matrix. **Aqueous**
Date Sampled **06/23/2014 1455**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/29/2014 1441	DCS		50161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0 20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1 0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		92	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		97	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2014 1037	MEM	06/28/2014 1330	50129

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0 019	0 019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		85	57-137

PQL = Practical quantitation limit 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 J = Estimated result < PQL and ≥ MDL P = The RPD between two GC columns exceeds 40% N = Recovery is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Client **Midlands Environmental Consultants, Inc.**	Laboratory ID **PF24067-035**
Description **Trip Blank**	Matrix **Aqueous**
Date Sampled **06/23/2014 1500**	
Date Received **06/24/2014**	

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	06/29/2014 1505	DCS		50161

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6 7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0 20	ug/L	1
Benzene	71-43-2	8260B	ND		5 0	0.20	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1 0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5 0	0 30	ug/L	1
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5 0	1.7	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0 20	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1 7	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6 7	ug/L	1
Toluene	108-88-3	8260B	ND		5 0	1 7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5 0	1 7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		97	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
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
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: PQ50161-001
Batch: 50161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6 7	ug/L	06/29/2014 1328
tert-Amyl methyl ether (TAME)	ND		1	10	0 20	ug/L	06/29/2014 1328
Benzene	ND		1	5 0	0 20	ug/L	06/29/2014 1328
tert-Butyl formate (TBF)	ND		1	100	1 0	ug/L	06/29/2014 1328
1,2-Dichloroethane	ND		1	5 0	0 30	ug/L	06/29/2014 1328
Diisopropyl ether (IPE)	ND		1	10	0 40	ug/L	06/29/2014 1328
3,3-Dimethyl-1-butanol	ND		1	100	1 0	ug/L	06/29/2014 1328
Ethanol	ND		1	1000	33	ug/L	06/29/2014 1328
Ethylbenzene	ND		1	5 0	1 7	ug/L	06/29/2014 1328
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0 20	ug/L	06/29/2014 1328
Methyl tertiary butyl ether (MTBE)	ND		1	5 0	0 40	ug/L	06/29/2014 1328
Naphthalene	ND		1	5 0	1 7	ug/L	06/29/2014 1328
tert-butyl alcohol (TBA)	ND		1	100	6 7	ug/L	06/29/2014 1328
Toluene	ND		1	5 0	1 7	ug/L	06/29/2014 1328
Xylenes (total)	ND		1	5 0	1.7	ug/L	06/29/2014 1328

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		105	70-130
1,2-Dichloroethane-d4		92	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50161-002
Batch: 50161
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	900		1	90	70-130	06/29/2014 1152
tert-Amyl methyl ether (TAME)	50	48		1	96	70-130	06/29/2014 1152
Benzene	50	43		1	87	70-130	06/29/2014 1152
tert-Butyl formate (TBF)	250	240		1	98	70-130	06/29/2014 1152
1,2-Dichloroethane	50	44		1	88	70-130	06/29/2014 1152
Diisopropyl ether (IPE)	50	43		1	86	70-130	06/29/2014 1152
3,3-Dimethyl-1-butanol	1000	890		1	89	70-130	06/29/2014 1152
Ethanol	5000	5500		1	111	60-140	06/29/2014 1152
Ethylbenzene	50	48		1	96	70-130	06/29/2014 1152
Ethyl-tert-butyl ether (ETBE)	50	42		1	85	70-130	06/29/2014 1152
Methyl tertiary butyl ether (MTBE)	50	45		1	90	70-130	06/29/2014 1152

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50161-002
Batch: 50161
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	50		1	100	70-130	06/29/2014 1152
tert-butyl alcohol (TBA)	1000	980		1	98	70-130	06/29/2014 1152
Toluene	50	45		1	90	70-130	06/29/2014 1152
Xylenes (total)	100	100		1	100	70-130	06/29/2014 1152

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ50161-003
Batch: 50161
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	940		1	94	3.9	70-130	20	06/29/2014 1216
tert-Amyl methyl ether (TAME)	50	48		1	95	0 28	70-130	20	06/29/2014 1216
Benzene	50	44		1	87	0.69	70-130	20	06/29/2014 1216
tert-Butyl formate (TBF)	250	240		1	97	0.59	70-130	20	06/29/2014 1216
1,2-Dichloroethane	50	43		1	87	1.1	70-130	20	06/29/2014 1216
Diisopropyl ether (IPE)	50	43		1	86	0 53	70-130	20	06/29/2014 1216
3,3-Dimethyl-1-butanol	1000	920		1	92	3.0	70-130	20	06/29/2014 1216
Ethanol	5000	5400		1	108	2.0	60-140	20	06/29/2014 1216
Ethylbenzene	50	49		1	97	1.5	70-130	20	06/29/2014 1216
Ethyl-tert-butyl ether (ETBE)	50	42		1	84	1.6	70-130	20	06/29/2014 1216
Methyl tertiary butyl ether (MTBE)	50	45		1	89	1.1	70-130	20	06/29/2014 1216
Naphthalene	50	50		1	101	0 34	70-130	20	06/29/2014 1216
tert-butyl alcohol (TBA)	1000	1000		1	101	3 2	70-130	20	06/29/2014 1216
Toluene	50	46		1	92	2 6	70-130	20	06/29/2014 1216
Xylenes (total)	100	100		1	101	0.97	70-130	20	06/29/2014 1216

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		89	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ50307-001
Batch: 50307
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6 7	ug/L	06/30/2014 2342
tert-Amyl methyl ether (TAME)	ND		1	10	0 20	ug/L	06/30/2014 2342
Benzene	ND		1	5 0	0 20	ug/L	06/30/2014 2342
tert-Butyl formate (TBF)	ND		1	100	1 0	ug/L	06/30/2014 2342
1,2-Dichloroethane	ND		1	5 0	0 30	ug/L	06/30/2014 2342
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	06/30/2014 2342
3,3-Dimethyl-1-butanol	ND		1	100	1 0	ug/L	06/30/2014 2342
Ethanol	ND		1	1000	33	ug/L	06/30/2014 2342
Ethylbenzene	ND		1	5 0	1.7	ug/L	06/30/2014 2342
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0 20	ug/L	06/30/2014 2342
Methyl tertiary butyl ether (MTBE)	ND		1	5 0	0.40	ug/L	06/30/2014 2342
Naphthalene	ND		1	5 0	1 7	ug/L	06/30/2014 2342
tert-butyl alcohol (TBA)	ND		1	100	6 7	ug/L	06/30/2014 2342
Toluene	ND		1	5 0	1 7	ug/L	06/30/2014 2342
Xylenes (total)	ND		1	5 0	1 7	ug/L	06/30/2014 2342

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		98	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50307-002
Batch: 50307
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	940		1	94	70-130	06/30/2014 2205
tert-Amyl methyl ether (TAME)	50	52		1	104	70-130	06/30/2014 2205
Benzene	50	49		1	99	70-130	06/30/2014 2205
tert-Butyl formate (TBF)	250	270		1	110	70-130	06/30/2014 2205
1,2-Dichloroethane	50	49		1	97	70-130	06/30/2014 2205
Diisopropyl ether (IPE)	50	48		1	96	70-130	06/30/2014 2205
3,3-Dimethyl-1-butanol	1000	900		1	90	70-130	06/30/2014 2205
Ethanol	5000	5600		1	113	60-140	06/30/2014 2205
Ethylbenzene	50	51		1	102	70-130	06/30/2014 2205
Ethyl-tert-butyl ether (ETBE)	50	47		1	94	70-130	06/30/2014 2205
Methyl tertiary butyl ether (MTBE)	50	49		1	97	70-130	06/30/2014 2205

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50307-002 **Matrix:** Aqueous
Batch: 50307 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	50		1	100	70-130	06/30/2014 2205
tert-butyl alcohol (TBA)	1000	1000		1	102	70-130	06/30/2014 2205
Toluene	50	50		1	100	70-130	06/30/2014 2205
Xylenes (total)	100	110		1	106	70-130	06/30/2014 2205

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		106	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ50307-003 **Matrix:** Aqueous
Batch: 50307 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	960		1	96	2 3	70-130	20	06/30/2014 2230
tert-Amyl methyl ether (TAME)	50	52		1	103	1 1	70-130	20	06/30/2014 2230
Benzene	50	49		1	97	1 7	70-130	20	06/30/2014 2230
tert-Butyl formate (TBF)	250	270		1	109	1 3	70-130	20	06/30/2014 2230
1,2-Dichloroethane	50	48		1	96	1.3	70-130	20	06/30/2014 2230
Diisopropyl ether (IPE)	50	48		1	95	1 4	70-130	20	06/30/2014 2230
3,3-Dimethyl-1-butanol	1000	940		1	94	3 6	70-130	20	06/30/2014 2230
Ethanol	5000	5600		1	113	0.12	60-140	20	06/30/2014 2230
Ethylbenzene	50	51		1	101	0 73	70-130	20	06/30/2014 2230
Ethyl-tert-butyl ether (ETBE)	50	47		1	93	0 66	70-130	20	06/30/2014 2230
Methyl tertiary butyl ether (MTBE)	50	50		1	101	3 2	70-130	20	06/30/2014 2230
Naphthalene	50	52		1	104	4.4	70-130	20	06/30/2014 2230
tert-butyl alcohol (TBA)	1000	1000		1	104	1 8	70-130	20	06/30/2014 2230
Toluene	50	49		1	98	1 6	70-130	20	06/30/2014 2230
Xylenes (total)	100	100		1	105	0 56	70-130	20	06/30/2014 2230

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		107	70-130
1,2-Dichloroethane-d4		88	70-130
Toluene-d8		95	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: PF24067-013MS
Batch: 50307
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	7400	200000	200000		200	98	70-130	07/01/2014 0809
tert-Amyl methyl ether (TAME)	ND	10000	11000		200	108	70-130	07/01/2014 0809
Benzene	2300	10000	13000		200	105	70-130	07/01/2014 0809
tert-Butyl formate (TBF)	ND	50000	55000		200	109	70-130	07/01/2014 0809
1,2-Dichloroethane	ND	10000	10000		200	102	70-130	07/01/2014 0809
Diisopropyl ether (IPE)	ND	10000	10000		200	101	70-130	07/01/2014 0809
3,3-Dimethyl-1-butanol	ND	200000	190000		200	95	70-130	07/01/2014 0809
Ethanol	ND	1000000	1200000		200	116	70-130	07/01/2014 0809
Ethylbenzene	1100	10000	12000		200	107	70-130	07/01/2014 0809
Ethyl-tert-butyl ether (ETBE)	ND	10000	9700		200	97	70-130	07/01/2014 0809
Methyl tertiary butyl ether (MTBE)	2900	10000	13000		200	104	70-130	07/01/2014 0809
Naphthalene	400	10000	11000		200	104	70-130	07/01/2014 0809
tert-butyl alcohol (TBA)	ND	200000	210000		200	105	70-130	07/01/2014 0809
Toluene	35000	10000	45000	E	200	94	70-130	07/01/2014 0809
Xylenes (total)	6300	20000	29000		200	112	70-130	07/01/2014 0809

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		108	70-130
Toluene-d8		95	70-130

Volatile Organic Compounds by GC/MS - MSD

Sample ID: PF24067-013MD
Batch: 50307
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	7400	200000	180000		200	88	9 9	70-130	20	07/01/2014 0833
tert-Amyl methyl ether (TAME)	ND	10000	11000		200	109	0 85	70-130	20	07/01/2014 0833
Benzene	2300	10000	13000		200	106	0 83	70-130	20	07/01/2014 0833
tert-Butyl formate (TBF)	ND	50000	54000		200	108	0 83	70-130	20	07/01/2014 0833
1,2-Dichloroethane	ND	10000	10000		200	101	1 6	70-130	20	07/01/2014 0833
Diisopropyl ether (IPE)	ND	10000	10000		200	102	1 3	70-130	20	07/01/2014 0833
3,3-Dimethyl-1-butanol	ND	200000	170000		200	85	12	70-130	20	07/01/2014 0833
Ethanol	ND	1000000	970000		200	97	17	70-130	20	07/01/2014 0833
Ethylbenzene	1100	10000	12000		200	109	1 3	70-130	20	07/01/2014 0833
Ethyl-tert-butyl ether (ETBE)	ND	10000	9800		200	98	1 1	70-130	20	07/01/2014 0833
Methyl tertiary butyl ether (MTBE)	2900	10000	13000		200	106	1 5	70-130	20	07/01/2014 0833

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: PF24067-013MD
Batch: 50307
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Naphthalene	400	10000	10000		200	97	6 1	70-130	20	07/01/2014 0833
tert-butyl alcohol (TBA)	ND	200000	190000		200	96	9 3	70-130	20	07/01/2014 0833
Toluene	35000	10000	45000	E	200	100	1 3	70-130	20	07/01/2014 0833
Xylenes (total)	6300	20000	29000		200	114	0 98	70-130	20	07/01/2014 0833

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		107	70-130
Toluene-d8		96	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ50309-001
Batch: 50309
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6 7	ug/L	06/30/2014 2200
tert-Amyl methyl ether (TAME)	ND		1	10	0 20	ug/L	06/30/2014 2200
Benzene	ND		1	5 0	0 20	ug/L	06/30/2014 2200
tert-Butyl formate (TBF)	ND		1	100	1 0	ug/L	06/30/2014 2200
1,2-Dichloroethane	ND		1	5 0	0 30	ug/L	06/30/2014 2200
Diisopropyl ether (IPE)	ND		1	10	0 40	ug/L	06/30/2014 2200
3,3-Dimethyl-1-butanol	**1.0**	**J**	**1**	**100**	**1.0**	**ug/L**	**06/30/2014 2200**
Ethanol	ND		1	1000	33	ug/L	06/30/2014 2200
Ethylbenzene	ND		1	5 0	1 7	ug/L	06/30/2014 2200
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0 20	ug/L	06/30/2014 2200
Methyl tertiary butyl ether (MTBE)	ND		1	5 0	0 40	ug/L	06/30/2014 2200
Naphthalene	ND		1	5 0	1 7	ug/L	06/30/2014 2200
tert-butyl alcohol (TBA)	ND		1	100	6 7	ug/L	06/30/2014 2200
Toluene	ND		1	5 0	1 7	ug/L	06/30/2014 2200
Xylenes (total)	ND		1	5 0	1 7	ug/L	06/30/2014 2200

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		110	70-130
1,2-Dichloroethane-d4		127	70-130
Toluene-d8		110	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50309-002
Batch: 50309
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	950		1	95	70-130	06/30/2014 2033
tert-Amyl methyl ether (TAME)	50	55		1	111	70-130	06/30/2014 2033
Benzene	50	51		1	103	70-130	06/30/2014 2033
tert-Butyl formate (TBF)	250	250		1	99	70-130	06/30/2014 2033
1,2-Dichloroethane	50	58		1	116	70-130	06/30/2014 2033
Diisopropyl ether (IPE)	50	49		1	98	70-130	06/30/2014 2033
3,3-Dimethyl-1-butanol	1000	870		1	87	70-130	06/30/2014 2033
Ethanol	5000	4300		1	86	60-140	06/30/2014 2033
Ethylbenzene	50	51		1	102	70-130	06/30/2014 2033
Ethyl-tert-butyl ether (ETBE)	50	44		1	88	70-130	06/30/2014 2033
Methyl tertiary butyl ether (MTBE)	50	51		1	102	70-130	06/30/2014 2033
Naphthalene	50	60		1	120	70-130	06/30/2014 2033
tert-butyl alcohol (TBA)	1000	990		1	99	70-130	06/30/2014 2033
Toluene	50	53		1	105	70-130	06/30/2014 2033
Xylenes (total)	100	100		1	103	70-130	06/30/2014 2033

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		108	70-130
1,2-Dichloroethane-d4		120	70-130
Toluene-d8		110	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ50309-003
Batch: 50309
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	950		1	95	0.29	70-130	20	06/30/2014 2055
tert-Amyl methyl ether (TAME)	50	56		1	111	0 76	70-130	20	06/30/2014 2055
Benzene	50	52		1	105	1 9	70-130	20	06/30/2014 2055
tert-Butyl formate (TBF)	250	250		1	98	0.99	70-130	20	06/30/2014 2055
1,2-Dichloroethane	50	58		1	116	0 70	70-130	20	06/30/2014 2055
Diisopropyl ether (IPE)	50	49		1	98	0 12	70-130	20	06/30/2014 2055
3,3-Dimethyl-1-butanol	1000	890		1	89	1.8	70-130	20	06/30/2014 2055
Ethanol	5000	4300		1	85	0 13	60-140	20	06/30/2014 2055
Ethylbenzene	50	50		1	100	1.5	70-130	20	06/30/2014 2055
Ethyl-tert-butyl ether (ETBE)	50	44		1	89	0 96	70-130	20	06/30/2014 2055
Methyl tertiary butyl ether (MTBE)	50	52		1	105	2 2	70-130	20	06/30/2014 2055

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ50309-003 **Matrix:** Aqueous
Batch: 50309 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Naphthalene	50	63		1	125	3 9	70-130	20	06/30/2014 2055
tert-butyl alcohol (TBA)	1000	1000		1	100	1 6	70-130	20	06/30/2014 2055
Toluene	50	52		1	104	1 4	70-130	20	06/30/2014 2055
Xylenes (total)	100	100		1	103	0 56	70-130	20	06/30/2014 2055

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		111	70-130
1,2-Dichloroethane-d4		125	70-130
Toluene-d8		110	70-130

Volatile Organic Compounds by GC/MS - MS

Sample ID: PF24067-009MS **Matrix:** Aqueous
Batch: 50309 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1200	100000	100000		100	101	70-130	07/01/2014 0537
tert-Amyl methyl ether (TAME)	ND	5000	5800		100	117	70-130	07/01/2014 0537
Benzene	1600	5000	7400		100	115	70-130	07/01/2014 0537
tert-Butyl formate (TBF)	ND	25000	25000		100	98	70-130	07/01/2014 0537
1,2-Dichloroethane	ND	5000	6300		100	126	70-130	07/01/2014 0537
Diisopropyl ether (IPE)	ND	5000	5400		100	109	70-130	07/01/2014 0537
3,3-Dimethyl-1-butanol	ND	100000	92000		100	92	70-130	07/01/2014 0537
Ethanol	ND	500000	460000		100	91	70-130	07/01/2014 0537
Ethylbenzene	170	5000	5800		100	112	70-130	07/01/2014 0537
Ethyl-tert-butyl ether (ETBE)	ND	5000	5000		100	100	70-130	07/01/2014 0537
Methyl tertiary butyl ether (MTBE)	54	5000	5800		100	115	70-130	07/01/2014 0537
Naphthalene	ND	5000	5000		100	98	70-130	07/01/2014 0537
tert-butyl alcohol (TBA)	ND	100000	110000		100	109	70-130	07/01/2014 0537
Toluene	20000	5000	27000	N	100	143	70-130	07/01/2014 0537
Xylenes (total)	2100	10000	13000		100	113	70-130	07/01/2014 0537

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		119	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		111	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MSD

Sample ID: PF24067-009MD
Batch: 50309
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1200	100000	100000		100	102	0 60	70-130	20	07/01/2014 0559
tert-Amyl methyl ether (TAME)	ND	5000	5800		100	115	1 3	70-130	20	07/01/2014 0559
Benzene	1600	5000	7300		100	113	1 0	70-130	20	07/01/2014 0559
tert-Butyl formate (TBF)	ND	25000	24000		100	96	2 6	70-130	20	07/01/2014 0559
1,2-Dichloroethane	ND	5000	6100		100	122	2 9	70-130	20	07/01/2014 0559
Diisopropyl ether (IPE)	ND	5000	5300		100	106	3 0	70-130	20	07/01/2014 0559
3,3-Dimethyl-1-butanol	ND	100000	94000		100	94	1.6	70-130	20	07/01/2014 0559
Ethanol	ND	500000	460000		100	92	0 84	70-130	20	07/01/2014 0559
Ethylbenzene	170	5000	5600		100	108	3 4	70-130	20	07/01/2014 0559
Ethyl-tert-butyl ether (ETBE)	ND	5000	4700		100	95	6 0	70-130	20	07/01/2014 0559
Methyl tertiary butyl ether (MTBE)	54	5000	5600		100	111	4.2	70-130	20	07/01/2014 0559
Naphthalene	ND	5000	6000		100	119	19	70-130	20	07/01/2014 0559
tert-butyl alcohol (TBA)	ND	100000	100000		100	104	4 8	70-130	20	07/01/2014 0559
Toluene	20000	5000	25000	E	100	103	7 7	70-130	20	07/01/2014 0559
Xylenes (total)	2100	10000	13000		100	111	1 6	70-130	20	07/01/2014 0559

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		118	70-130
Bromofluorobenzene		113	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ50346-001
Batch: 50346
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6 7	ug/L	07/01/2014 1038
tert-Amyl methyl ether (TAME)	ND		1	10	0 20	ug/L	07/01/2014 1038
Benzene	ND		1	5 0	0.20	ug/L	07/01/2014 1038
tert-Butyl formate (TBF)	ND		1	100	1 0	ug/L	07/01/2014 1038
1,2-Dichloroethane	ND		1	5 0	0 30	ug/L	07/01/2014 1038
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	07/01/2014 1038
3,3-Dimethyl-1-butanol	ND		1	100	1 0	ug/L	07/01/2014 1038
Ethanol	ND		1	1000	33	ug/L	07/01/2014 1038
Ethylbenzene	ND		1	5 0	1 7	ug/L	07/01/2014 1038
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0 20	ug/L	07/01/2014 1038
Methyl tertiary butyl ether (MTBE)	ND		1	5 0	0 40	ug/L	07/01/2014 1038

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ50346-001
Batch: 50346
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Naphthalene	ND		1	5 0	1 7	ug/L	07/01/2014 1038
tert-butyl alcohol (TBA)	ND		1	100	6 7	ug/L	07/01/2014 1038
Toluene	ND		1	5 0	1 7	ug/L	07/01/2014 1038
Xylenes (total)	ND		1	5 0	1 7	ug/L	07/01/2014 1038

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		110	70-130
1,2-Dichloroethane-d4		125	70-130
Toluene-d8		115	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50346-002
Batch: 50346
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	960		1	96	70-130	07/01/2014 0911
tert-Amyl methyl ether (TAME)	50	54		1	109	70-130	07/01/2014 0911
Benzene	50	51		1	103	70-130	07/01/2014 0911
tert-Butyl formate (TBF)	250	250		1	100	70-130	07/01/2014 0911
1,2-Dichloroethane	50	57		1	114	70-130	07/01/2014 0911
Diisopropyl ether (IPE)	50	50		1	100	70-130	07/01/2014 0911
3,3-Dimethyl-1-butanol	1000	880		1	88	70-130	07/01/2014 0911
Ethanol	5000	4400		1	87	60-140	07/01/2014 0911
Ethylbenzene	50	50		1	99	70-130	07/01/2014 0911
Ethyl-tert-butyl ether (ETBE)	50	45		1	90	70-130	07/01/2014 0911
Methyl tertiary butyl ether (MTBE)	50	54		1	107	70-130	07/01/2014 0911
Naphthalene	50	54		1	107	70-130	07/01/2014 0911
tert-butyl alcohol (TBA)	1000	1000		1	100	70-130	07/01/2014 0911
Toluene	50	52		1	105	70-130	07/01/2014 0911
Xylenes (total)	100	100		1	101	70-130	07/01/2014 0911

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		110	70-130
1,2-Dichloroethane-d4		119	70-130
Toluene-d8		112	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ50346-003
Batch: 50346
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	960		1	96	0 75	70-130	20	07/01/2014 0933
tert-Amyl methyl ether (TAME)	50	55		1	109	0 47	70-130	20	07/01/2014 0933
Benzene	50	52		1	105	2 0	70-130	20	07/01/2014 0933
tert-Butyl formate (TBF)	250	250		1	99	0 17	70-130	20	07/01/2014 0933
1,2-Dichloroethane	50	59		1	117	2 2	70-130	20	07/01/2014 0933
Diisopropyl ether (IPE)	50	50		1	100	0 13	70-130	20	07/01/2014 0933
3,3-Dimethyl-1-butanol	1000	900		1	90	2 8	70-130	20	07/01/2014 0933
Ethanol	5000	4500		1	90	2 6	60-140	20	07/01/2014 0933
Ethylbenzene	50	50		1	99	0 20	70-130	20	07/01/2014 0933
Ethyl-tert-butyl ether (ETBE)	50	45		1	91	0 78	70-130	20	07/01/2014 0933
Methyl tertiary butyl ether (MTBE)	50	53		1	106	0 90	70-130	20	07/01/2014 0933
Naphthalene	50	58		1	117	8 5	70-130	20	07/01/2014 0933
tert-butyl alcohol (TBA)	1000	1000		1	100	0 45	70-130	20	07/01/2014 0933
Toluene	50	51		1	102	2 9	70-130	20	07/01/2014 0933
Xylenes (total)	100	100		1	102	0 28	70-130	20	07/01/2014 0933

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		122	70-130
Toluene-d8		109	70-130

Volatile Organic Compounds by GC/MS - MS

Sample ID: PF24067-028MS
Batch: 50346
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	5800	500000	430000		500	86	70-130	07/01/2014 1816
tert-Amyl methyl ether (TAME)	ND	25000	27000		500	107	70-130	07/01/2014 1816
Benzene	2500	25000	29000		500	105	70-130	07/01/2014 1816
tert-Butyl formate (TBF)	ND	130000	110000		500	90	70-130	07/01/2014 1816
1,2-Dichloroethane	ND	25000	28000		500	113	70-130	07/01/2014 1816
Diisopropyl ether (IPE)	ND	25000	24000		500	96	70-130	07/01/2014 1816
3,3-Dimethyl-1-butanol	ND	500000	410000		500	82	70-130	07/01/2014 1816
Ethanol	ND	2500000	2000000		500	78	70-130	07/01/2014 1816
Ethylbenzene	1300	25000	26000		500	100	70-130	07/01/2014 1816
Ethyl-tert-butyl ether (ETBE)	ND	25000	21000		500	85	70-130	07/01/2014 1816
Methyl tertiary butyl ether (MTBE)	1700	25000	26000		500	97	70-130	07/01/2014 1816

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: PF24067-028MS
Batch: 50346
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	ND	25000	35000	N	500	138	70-130	07/01/2014 1816
tert-butyl alcohol (TBA)	ND	500000	460000		500	92	70-130	07/01/2014 1816
Toluene	47000	25000	70000		500	95	70-130	07/01/2014 1816
Xylenes (total)	6400	50000	58000		500	103	70-130	07/01/2014 1816

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		121	70-130
Bromofluorobenzene		109	70-130
Toluene-d8		105	70-130

Volatile Organic Compounds by GC/MS - MSD

Sample ID: PF24067-028MD
Batch: 50346
Analytical Method: 8260B
Matrix: Aqueous
Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	5800	500000	450000		500	89	3 2	70-130	20	07/01/2014 1838
tert-Amyl methyl ether (TAME)	ND	25000	26000		500	104	2 3	70-130	20	07/01/2014 1838
Benzene	2500	25000	29000		500	104	0 65	70-130	20	07/01/2014 1838
tert-Butyl formate (TBF)	ND	130000	110000		500	90	0 44	70-130	20	07/01/2014 1838
1,2-Dichloroethane	ND	25000	28000		500	111	1 9	70-130	20	07/01/2014 1838
Diisopropyl ether (IPE)	ND	25000	24000		500	95	0 51	70-130	20	07/01/2014 1838
3,3-Dimethyl-1-butanol	ND	500000	410000		500	82	0 15	70-130	20	07/01/2014 1838
Ethanol	ND	2500000	2100000		500	83	5 7	70-130	20	07/01/2014 1838
Ethylbenzene	1300	25000	27000		500	102	1 9	70-130	20	07/01/2014 1838
Ethyl-tert-butyl ether (ETBE)	ND	25000	21000		500	85	0.069	70-130	20	07/01/2014 1838
Methyl tertiary butyl ether (MTBE)	1700	25000	26000		500	98	0 72	70-130	20	07/01/2014 1838
Naphthalene	ND	25000	33000	N	500	131	5 2	70-130	20	07/01/2014 1838
tert-butyl alcohol (TBA)	ND	500000	470000		500	93	0 86	70-130	20	07/01/2014 1838
Toluene	47000	25000	66000		500	78	6 2	70-130	20	07/01/2014 1838
Xylenes (total)	6400	50000	58000		500	104	1 1	70-130	20	07/01/2014 1838

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		118	70-130
Bromofluorobenzene		112	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ50346-001
Batch: 50346
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6 7	ug/L	07/01/2014 1038
tert-Amyl methyl ether (TAME)	ND		1	10	0 20	ug/L	07/01/2014 1038
Benzene	ND		1	1 0	0 13	ug/L	07/01/2014 1038
tert-Butyl formate (TBF)	ND		1	100	1 0	ug/L	07/01/2014 1038
1,2-Dichloroethane	ND		1	1 0	0 15	ug/L	07/01/2014 1038
Diisopropyl ether (IPE)	ND		1	10	0 40	ug/L	07/01/2014 1038
3,3-Dimethyl-1-butanol	ND		1	100	1 0	ug/L	07/01/2014 1038
Ethanol	ND		1	1000	33	ug/L	07/01/2014 1038
Ethylbenzene	ND		1	1.0	0 33	ug/L	07/01/2014 1038
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0 20	ug/L	07/01/2014 1038
Methyl tertiary butyl ether (MTBE)	ND		1	1 0	0 40	ug/L	07/01/2014 1038
Naphthalene	**0.55**	**J**	**1**	**1.0**	**0.40**	**ug/L**	**07/01/2014 1038**
tert-butyl alcohol (TBA)	ND		1	100	6 7	ug/L	07/01/2014 1038
Toluene	ND		1	1 0	0 33	ug/L	07/01/2014 1038
Xylenes (total)	ND		1	1 0	0 33	ug/L	07/01/2014 1038

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		110	70-130
1,2-Dichloroethane-d4		125	70-130
Toluene-d8		115	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50346-002
Batch: 50346
Analytical Method: 8260B

Matrix: Aqueous
Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	960		1	96	70-130	07/01/2014 0911
tert-Amyl methyl ether (TAME)	50	54		1	109	70-130	07/01/2014 0911
Benzene	50	51		1	103	70-130	07/01/2014 0911
tert-Butyl formate (TBF)	250	250		1	100	70-130	07/01/2014 0911
1,2-Dichloroethane	50	57		1	114	70-130	07/01/2014 0911
Diisopropyl ether (IPE)	50	50		1	100	70-130	07/01/2014 0911
3,3-Dimethyl-1-butanol	1000	880		1	88	70-130	07/01/2014 0911
Ethanol	5000	4400		1	87	60-140	07/01/2014 0911
Ethylbenzene	50	50		1	99	70-130	07/01/2014 0911
Ethyl-tert-butyl ether (ETBE)	50	45		1	90	70-130	07/01/2014 0911
Methyl tertiary butyl ether (MTBE)	50	54		1	107	70-130	07/01/2014 0911

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50346-002 **Matrix:** Aqueous
Batch: 50346 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Naphthalene	50	54		1	107	70-130	07/01/2014 0911
tert-butyl alcohol (TBA)	1000	1000		1	100	70-130	07/01/2014 0911
Toluene	50	52		1	105	70-130	07/01/2014 0911
Xylenes (total)	100	100		1	101	70-130	07/01/2014 0911

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		110	70-130
1,2-Dichloroethane-d4		119	70-130
Toluene-d8		112	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ50346-003 **Matrix:** Aqueous
Batch: 50346 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	960		1	96	0 75	70-130	20	07/01/2014 0933
tert-Amyl methyl ether (TAME)	50	55		1	109	0 47	70-130	20	07/01/2014 0933
Benzene	50	52		1	105	2 0	70-130	20	07/01/2014 0933
tert-Butyl formate (TBF)	250	250		1	99	0.17	70-130	20	07/01/2014 0933
1,2-Dichloroethane	50	59		1	117	2.2	70-130	20	07/01/2014 0933
Diisopropyl ether (IPE)	50	50		1	100	0.13	70-130	20	07/01/2014 0933
3,3-Dimethyl-1-butanol	1000	900		1	90	2 8	70-130	20	07/01/2014 0933
Ethanol	5000	4500		1	90	2 6	60-140	20	07/01/2014 0933
Ethylbenzene	50	50		1	99	0 20	70-130	20	07/01/2014 0933
Ethyl-tert-butyl ether (ETBE)	50	45		1	91	0 78	70-130	20	07/01/2014 0933
Methyl tertiary butyl ether (MTBE)	50	53		1	106	0 90	70-130	20	07/01/2014 0933
Naphthalene	50	58		1	117	8.5	70-130	20	07/01/2014 0933
tert-butyl alcohol (TBA)	1000	1000		1	100	0 45	70-130	20	07/01/2014 0933
Toluene	50	51		1	102	2 9	70-130	20	07/01/2014 0933
Xylenes (total)	100	100		1	102	0 28	70-130	20	07/01/2014 0933

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		122	70-130
Toluene-d8		109	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: PQ50398-001 **Matrix:** Aqueous
Batch: 50398 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Toluene	ND		1	5 0	1 7	ug/L	07/01/2014 2242

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		112	70-130
1,2-Dichloroethane-d4		121	70-130
Toluene-d8		111	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: PQ50398-002 **Matrix:** Aqueous
Batch: 50398 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Toluene	50	52		1	105	70-130	07/01/2014 2116

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		111	70-130
1,2-Dichloroethane-d4		121	70-130
Toluene-d8		111	70-130

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: PQ50398-003 **Matrix:** Aqueous
Batch: 50398 **Prep Method:** 5030B
Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Toluene	50	50		1	101	4 2	70-130	20	07/01/2014 2137

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		113	70-130
1,2-Dichloroethane-d4		118	70-130
Toluene-d8		103	70-130

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: PQ50060-001 **Matrix:** Aqueous
Batch: 50060 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 06/27/2014 1030

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0 020	0 020	ug/L	06/27/2014 2248

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		88	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: PQ50060-002 **Matrix:** Aqueous
Batch: 50060 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 06/27/2014 1030

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0 25	0 24		1	97	60-140	06/27/2014 2258

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		86	57-137

EDB & DBCP by Microextraction - MS

Sample ID: PF24067-001MS **Matrix:** Aqueous
Batch: 50060 **Prep Method:** 8011
Analytical Method: 8011 **Prep Date:** 06/27/2014 1030

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.032	0 24	0.22	P	1	78	60-140	06/27/2014 2329

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		77	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: PF24067-001MD
Batch: 50060
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 06/27/2014 1030

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	0 032	0 24	0 23	P	1	83	6 5	60-140	20	06/27/2014 2339

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		74	57-137

EDB & DBCP by Microextraction - MB

Sample ID: PQ50129-001
Batch: 50129
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 06/28/2014 1330

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0 020	0.020	ug/L	06/30/2014 0754

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		77	57-137

EDB & DBCP by Microextraction - LCS

Sample ID: PQ50129-002
Batch: 50129
Analytical Method: 8011
Matrix: Aqueous
Prep Method: 8011
Prep Date: 06/28/2014 1330

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0 25	0.24		1	95	60-140	06/30/2014 0804

Surrogate	Q	% Rec	Acceptance Limit
1,1,1,2-Tetrachloroethane		82	57-137

PQL = Practical quantitation limit
ND = Not detected at or above the MDL
P = The RPD between two GC columns exceeds 40%
J = Estimated result < PQL and ≥ MDL
N = Recovery is out of criteria
+ = RPD is out of criteria
Where applicable, all soil sample analysis are reported on a dry weight basis unless flagged with a "W"

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

Chain of Custody Record

Number

PF24067

Analysis

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

SHEALY

Chain of Custody Record

Number

Client: MESI
Address: 23 [illegible]
City: [illegible]
Project Name: [illegible]
Project No.:

Sampler Printed Name: Daniel McGowan
Waybill No.:
Page: 2 of 3

Preservative

PF24067

Sample ID / Description	Date	Time	Analysis	[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]		X	X			[illegible]
[illegible]		0:5		X	X	X	X	[illegible]
[illegible]		12:47		X	X	X	X	[illegible]
[illegible]		[illegible]		X	X	X	X	[illegible]
[illegible]		[illegible]		X	X	X	X	[illegible]
[illegible]		[illegible]		X	X	X	X	[illegible]
[illegible]		10:05		X	X	X	X	[illegible]
[illegible]		9:57		X	X	X	X	[illegible]
[illegible]		10:22		X	X	X	X	[illegible]
[illegible]	[illegible]	[illegible]		X	X	X	X	[illegible]

Sample Disposal: Dispose by Lab
Sample Disposal: Return to Client
Sample Disposal: Dispose by Lab
Sample Disposal: Dispose by Lab

Possible Hazard Identification

	Date	Time		Date	Time
1. Relinquished by: Daniel McGowan	[illegible]	[illegible]	1. Received by: [illegible]	[illegible]	[illegible]
2. Relinquished by: [illegible]	[illegible]	[illegible]	2. Received by: [illegible]	[illegible]	[illegible]
3. Relinquished by:			3. Received by:		
4. Relinquished by:			4. Received by:		

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Level 1 Report v2.1

Shealy Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172

Chain of Custody Record

Number

PF24067

Analysis

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

SHEALY ENVIRONMENTAL SERVICES, INC.

SHEALY

Chain of Custody Record

Shealy Environmental Services, Inc
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.shealylab.com

Number

Client: MSI
Address: 23 [illegible]
City: [illegible]
Project Name: Roberts Sheriff
Project Number: 14-4771
Sampler (Printed Name): Daniel McCaulla
Page: 1 of 1

Preservative

PF24067

Sample Identification	Date	Time	Lab	Matrix	Analysis	Bx Vol	1-2 DIA	8-OXY	SDB	
RW-2	6-23	14:22	G	X		X	X	X	X	odor
RW-3		13:55		X		X	X	X	X	odor
RW-4		13:28		X		X	X	X	X	odor
SW-1		14:39		X		X	X	X	X	Low [illegible]
SW-2		14:36		X		X	X	X	X	[illegible]
MW-1 Dup		13:45		X		X	X	X	X	
RW-4 Dup		13:28		X		X	X	X	X	
Field Blank		14:55			X	X	X	X	X	
Trip Blank	6-23	15:00	G		X	X	X	X		

Turn Around Time Required (Expected TAT): Standard / Rush (Please Specify)
Sample Disposal: Dispose by Lab
Qty Requirements (Specify)
Possible Hazard Identification: Non Hazard / Flammable / Skin Irritant / Poison / Unknown

	Date	Time		Date	Time
1. Relinquished by Sampler: Daniel McCaulla	6/23/14	15:30	1. Received by: [signature]	6/23/14	1530
2. Relinquished by: [signature]	6/24/14	[illegible]	2. Received by: [signature]	[illegible]	[illegible]
3. Relinquished by: [signature]	[illegible]	[illegible]	3. Received by: [signature]	[illegible]	[illegible]
4. Relinquished by:			4. Laboratory Received by:		

Note. All samples are retained for six weeks from receipt unless other arrangements are made.

LAB USE ONLY

Shealy Environmental Services, Inc
Document Number: F-AD-016
Revision Number: 11

Page 1 of 1
Replaces Date: 09/26/13
Effective Date: 03/07/14

Sample Receipt Checklist (SRC)

Client: _____ Cooler Inspected by/date: ____/____ Lot #: _____

Means of receipt: ☑ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ 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?

Cooler ID/Original temperature upon receipt/Derived (corrected) temperature upon receipt
____/____/____°C ____/____/____°C ____/____/____°C ____/____/____°C

Method: ☐ Temperature Blank ☑ Against Bottles IR Gun ID: #3 IR Gun Correction Factor: ____°C

Method of coolant: ☑ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None

Yes ☐	No ☐	NA ☑	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.)
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 ☐	No ☐	NA ☑	5a. Were samples relinquished by client to commercial courier?
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 ☐		9. 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?
Yes ☑	No ☐		13. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☑	No ☐		14. Was adequate sample volume available?
Yes ☑	No ☐		15. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☑		16. Were any samples containers missing?
Yes ☐	No ☑		17. Were there any excess samples not listed on COC?
Yes ☑	No ☐	NA ☐	18. Were bubbles present >"pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☑	19. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☑	20. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☑	21. Were all applicable NH3/TKN/cyanide/phenol (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☑	22. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☑	23. 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 ☑		24. 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_2SO_4, HNO_3, HCl, NaOH) using SR # _____

Sample(s) _____ were received with bubbles >6 mm in diameter

Sample(s) _____ were received with TRC >0.2 mg/L (If #21 is No)

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: _____

Comments:

APPENDIX C:

TAX MAP

(Not Applicable)

APPENDIX D:

SOIL BORING/FIELD SCREENING LOGS & 1903 FORMS

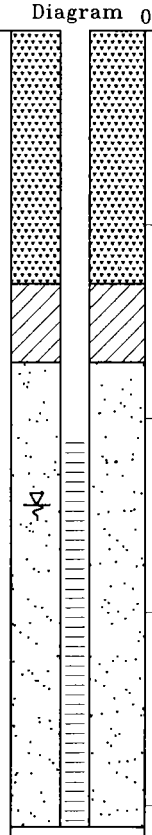
(Not Applicable)

APPENDIX E:

WELL COMPLETION LOGS & 1903 FORMS

Depth (Feet)	Description	PID PPM
	Topsoil	
	COASTAL PLAIN SEDIMENT–Red, Fine to Medium Sandy Silty CLAY	
5		0.0
	Tan, Silty Medium to Coarse SAND	
10		3.6
	White, Clayey Medium to Coarse SAND	
15		4.7
20		12.3
	Boring Terminated at 20.5 Feet Below Ground Surface (BGS). Monitoring Well Installed to 20.5 Feet BGS. Groundwater Measured at 13.21 Feet Below Top of Casing on 6/23/2014.	
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

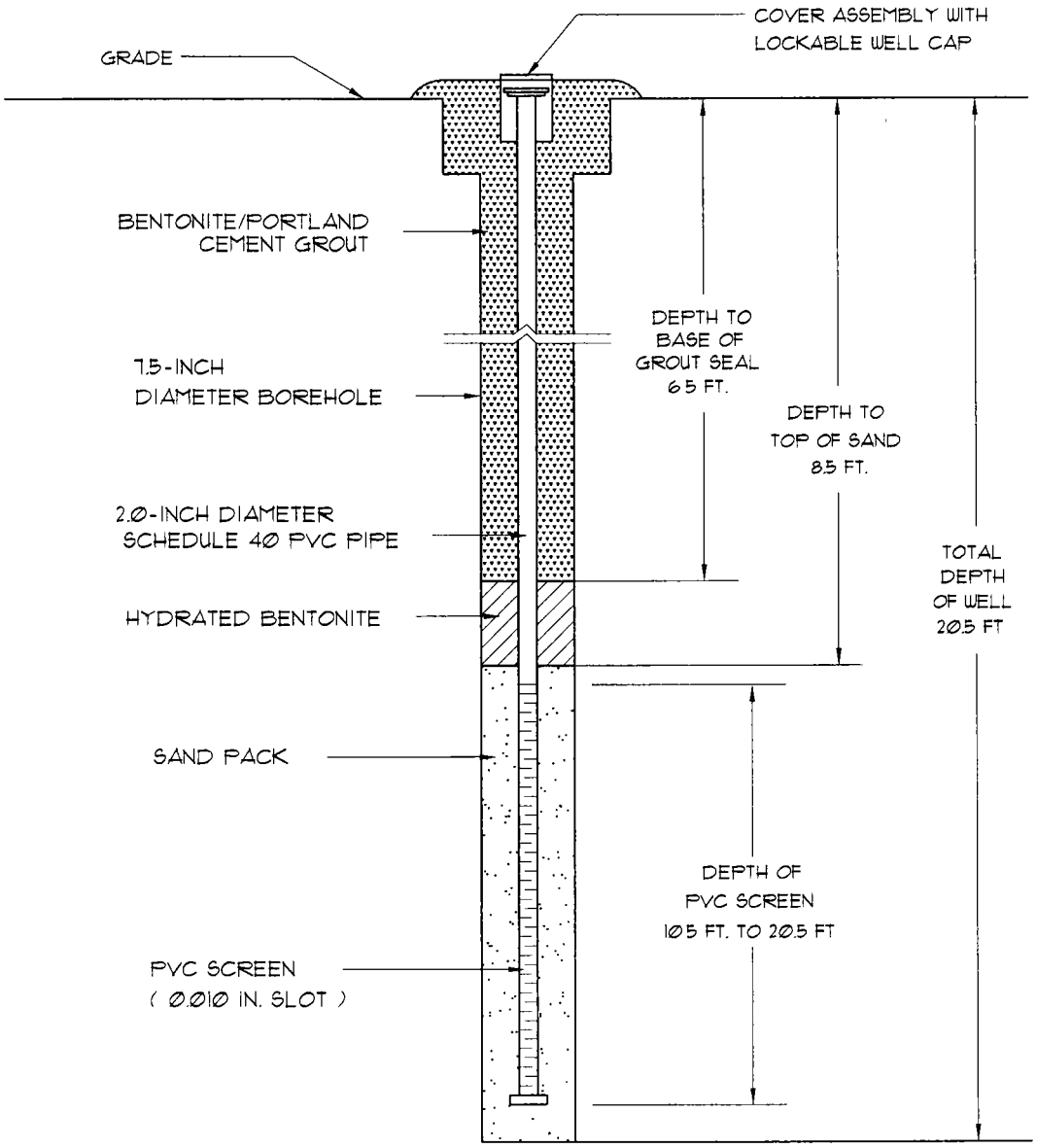
TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-5R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC
Logged By	P Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

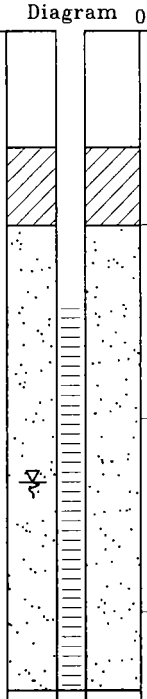


Well Number:	MW-5R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Red to Orange, Silty Medium to Coarse SAND	
5	White, Clayey Silty Medium to Coarse SAND	0.0
10	White, Clayey Medium to Coarse SAND	0.2
15		1.3
20	Boring Terminated at 17.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 17.0 Feet BGS. Groundwater Measured at 11.68 Feet Below Top of Casing on 6/23/2014.	
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

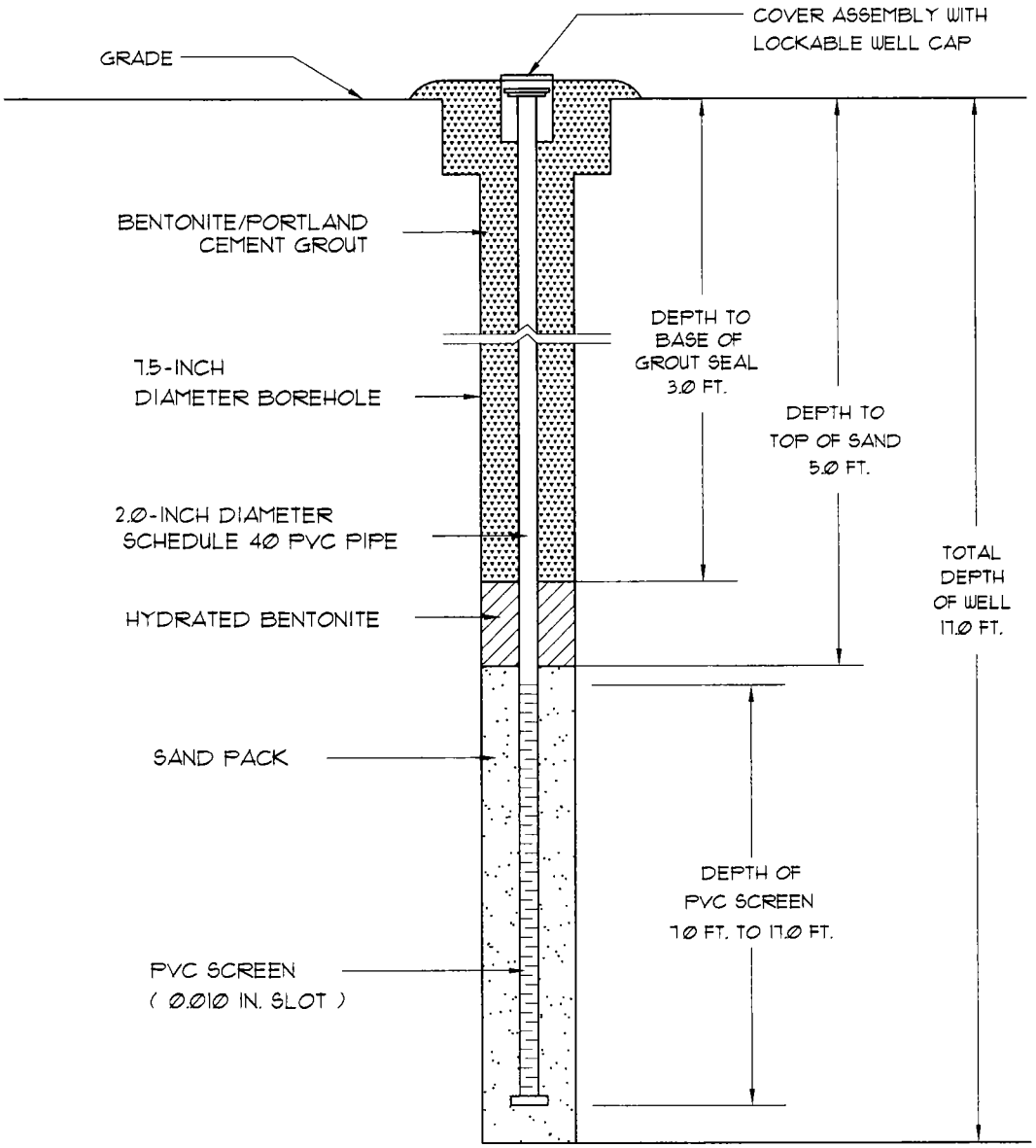
TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-6R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC
Logged By:	P Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

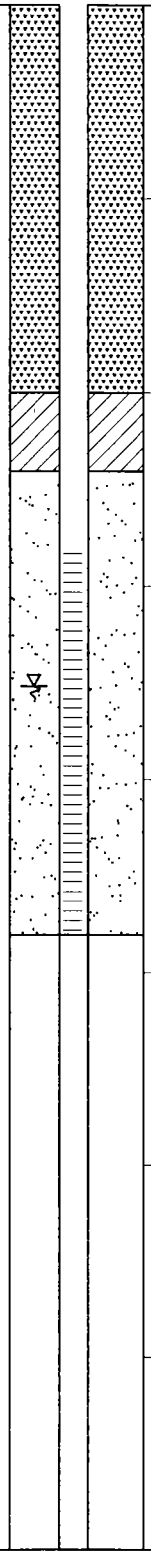


Well Number:	MW-6R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Orange, Medium to Coarse Sandy Clayey SILT	
5	Brown, Fine Sandy SILT	0.0
10	Tan, Clayey Medium to Coarse SAND	0.0
15	Gray, Clayey Medium to Coarse SAND	0.2
20		0.0
25	Boring Terminated at 24.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 24.0 Feet BGS. Groundwater Measured at 17.40 Feet Below Top of Casing on 6/23/2014.	0.0
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

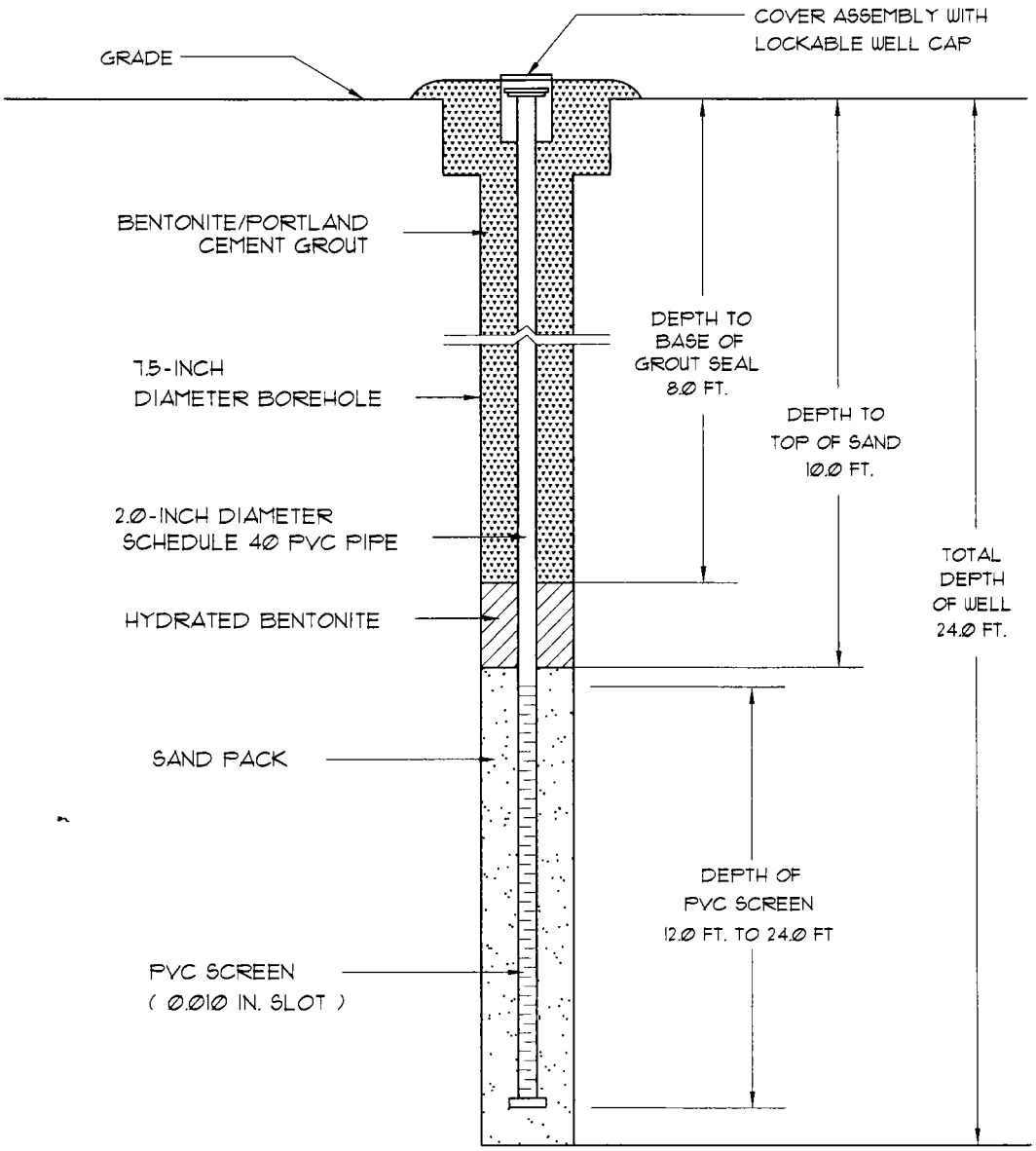
TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-7RR (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By:	P Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771



Well Number:	MW-7RR (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
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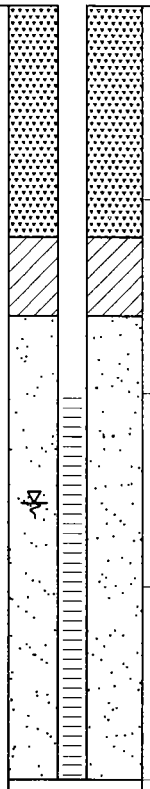
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Orange, Silty Medium to Coarse SAND	
5	Light Brown, Silty Clayey Medium to Coarse SAND	0.0
10		0.9
	White, Silty Medium to Coarse SAND	
15	Gray, Clayey Medium to Coarse SAND	0.0
20	Boring Terminated at 20.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 20.0 Feet BGS. Groundwater Measured at 12.86 Feet Below Top of Casing on 6/23/2014.	1.4
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

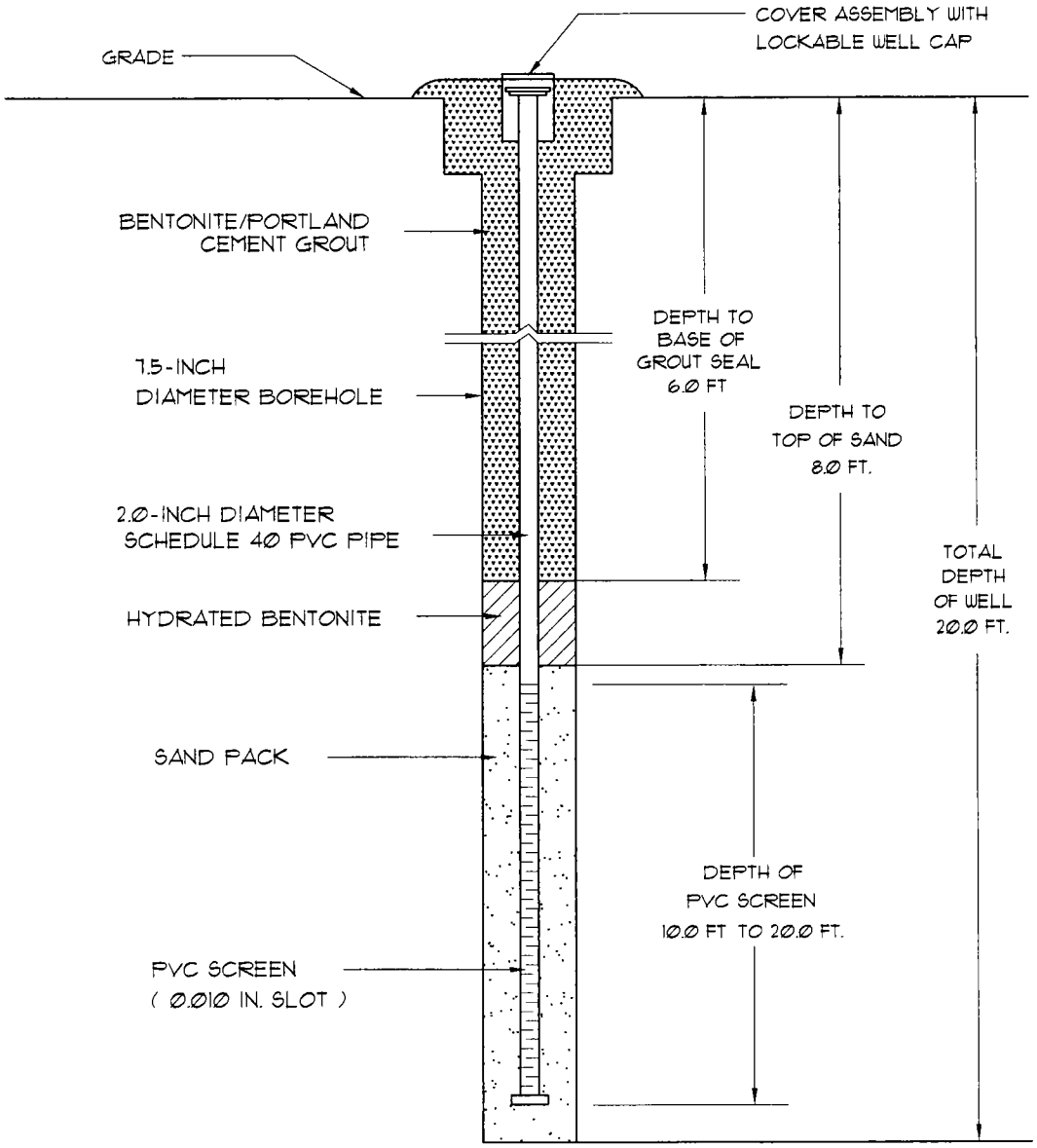
TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-9R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC
Logged By:	P Boylan

Prepared By
Midlands Environmental Consultants, Inc
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

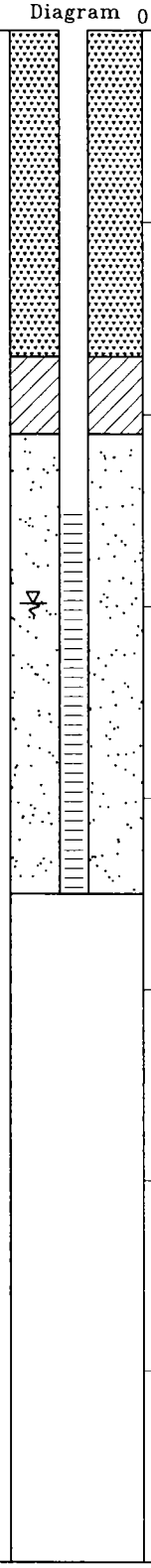


Well Number:	MW-9R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Red, Silty Fine to Medium SAND	
5		0.0
	Tan, Medium to Coarse SAND	
10		0.0
	Gray, Clayey Silty Medium to Coarse SAND	
15		0.1
20		14.6
		273
	Boring Terminated at 22.5 Feet Below Ground Surface (BGS). Monitoring Well Installed to 22.5 Feet BGS. Groundwater Measured at 14.98 Feet Below Top of Casing on 6/23/2014.	
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-14R (00120)
Date Drilled:	5/27/2014
Drilled By	Environmental Drilling & Probing Services, LLC.
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
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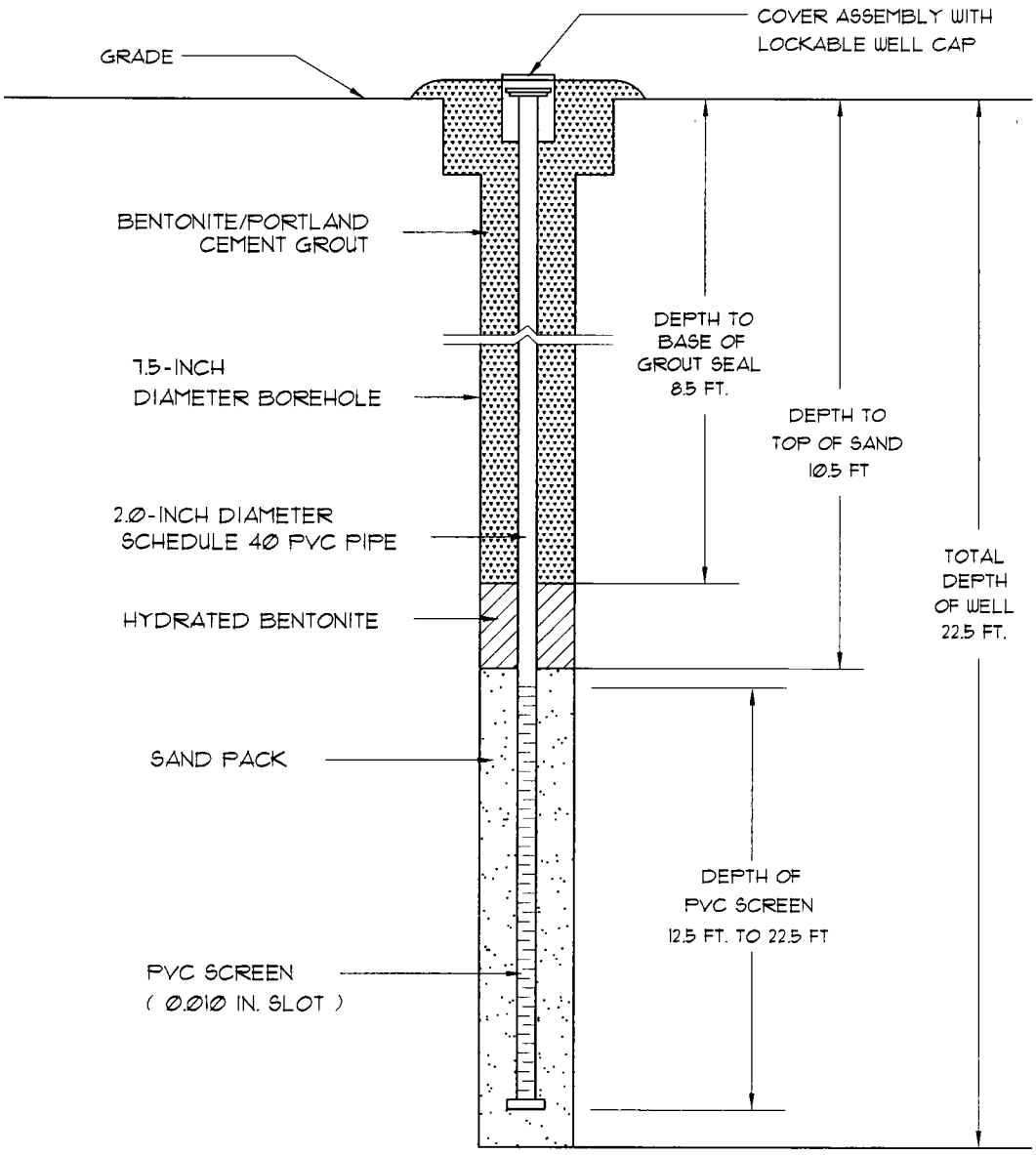
MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771



Well Number:	MW-14R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
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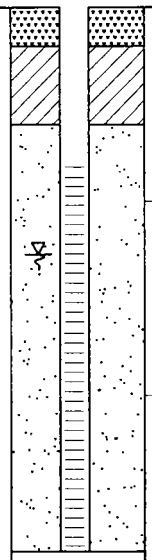
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Orange, Silty Fine to Medium SAND	
5	Gray, Silty Medium to Coarse SAND	0.1
10		10.3
		8.6
15	Boring Terminated at 14.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 14.0 Feet BGS. Groundwater Measured at 6.25 Feet Below Top of Casing on 6/23/2014.	
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-15R (00120)
Date Drilled:	5/28/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By	P Boylan

Prepared By
Midlands Environmental Consultants, Inc.
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Lexington, South Carolina 29073
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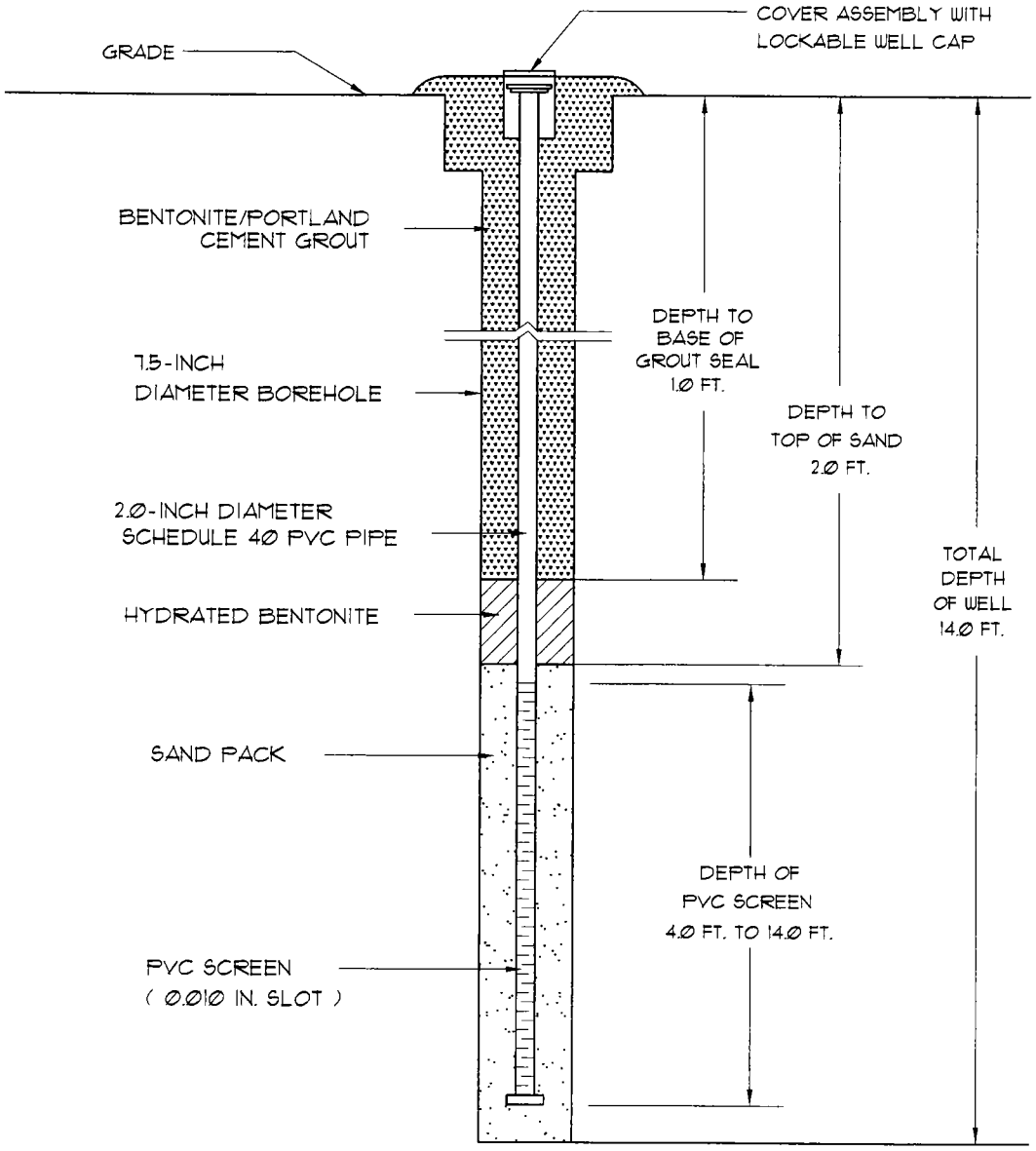
MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771



Well Number:	MW-15R (00120)
Date Drilled:	5/28/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
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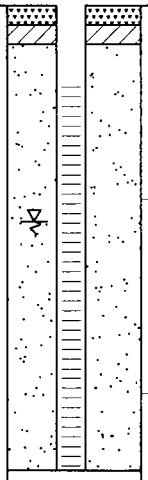
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Brown, Silty Fine to Medium SAND	
5		0.0
	Gray, Fine to Medium Sandy CLAY	
10		10.3
	White, Silty CLAY	
		7.4
	Boring Terminated at 12.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 12.0 Feet BGS. Groundwater Measured at 5.54 Feet Below Top of Casing on 6/23/2014.	
15		
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-18R (00120)
Date Drilled:	5/28/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By:	P Boylan

Prepared By
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Lexington, South Carolina 29073
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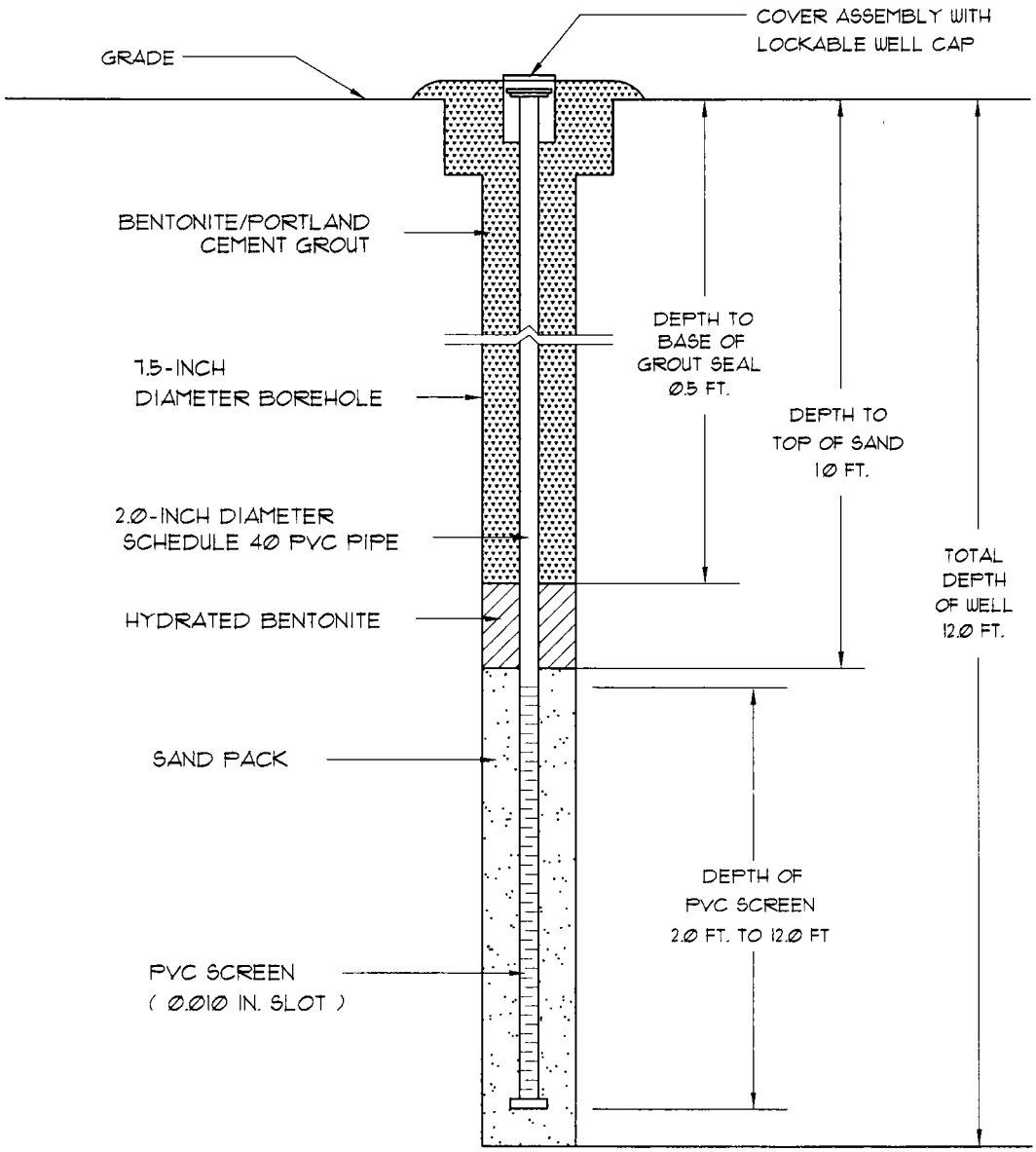
MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771



Well Number:	MW-18R (00120)
Date Drilled:	5/28/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
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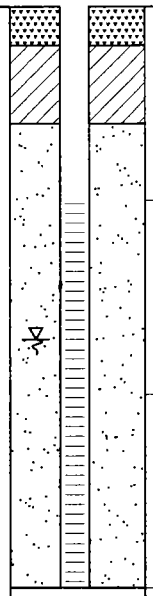
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Orange, Fine to Medium Sandy SILT	
	Gray, Silty Medium to Coarse SAND	0.0
5		
10		83.7
15	Boring Terminated at 15.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 15.0 Feet BGS. Groundwater Measured at 8.46 Feet Below Top of Casing on 6/23/2014.	99.0
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-22R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By:	P Boylan

Prepared By
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Lexington, South Carolina 29073
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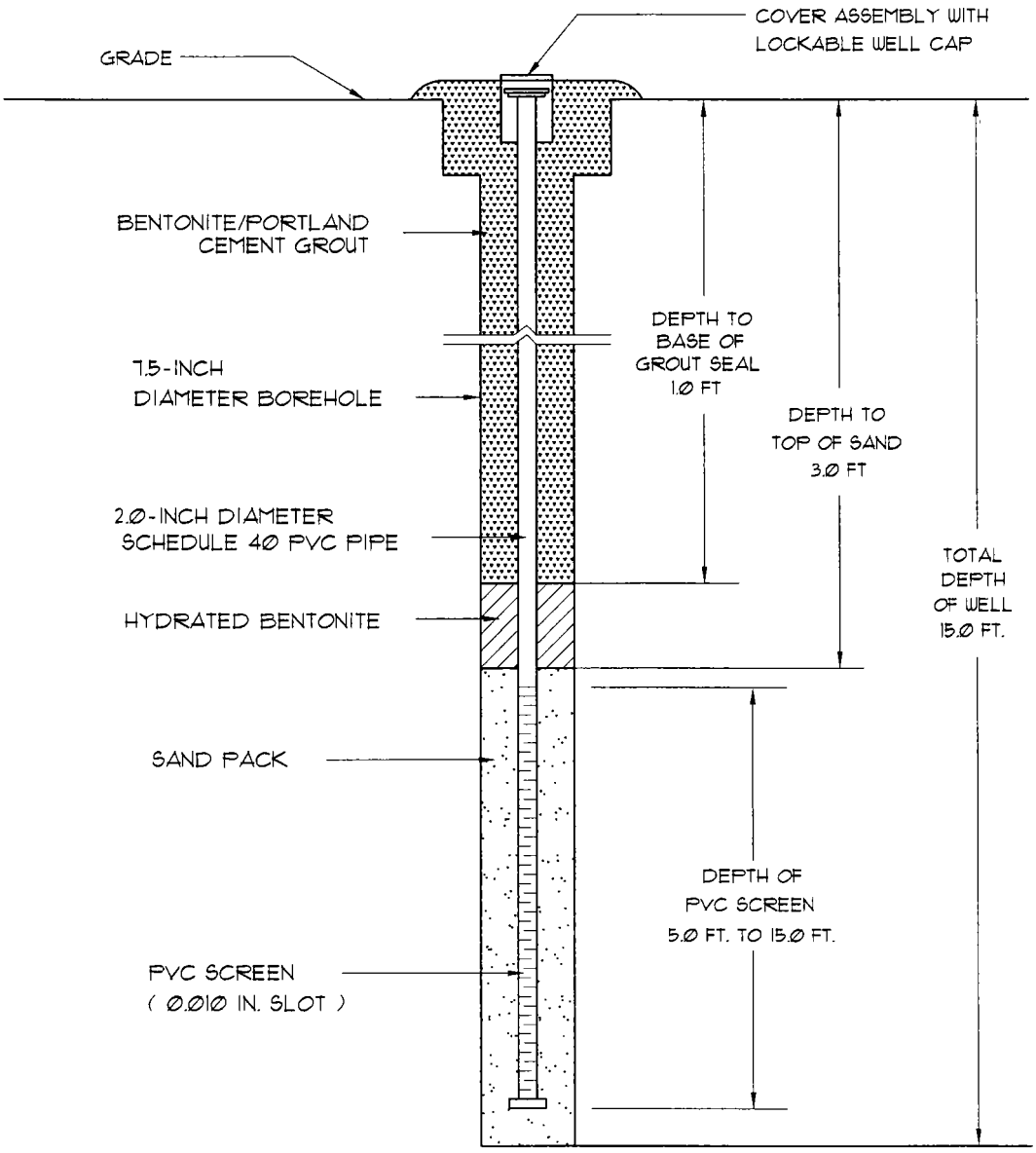
MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771



Well Number:	MW-22R (00120)
Date Drilled:	5/27/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
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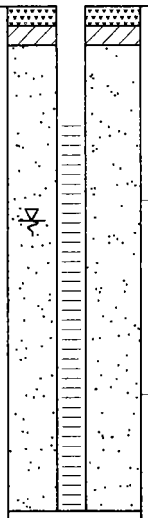
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT-Brown, Silty Fine to Medium SAND	
5	White, Silty Clayey Medium to Coarse SAND	0.0
10		25.6
	Boring Terminated at 13.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 13.0 Feet BGS. Groundwater Measured at 5.56 Feet Below Top of Casing on 6/23/2014.	14.3
15		
20		
25		
30		
35		

Well Diagram



Penetration Blows Per Foot

0 5 10 20 40 60 80 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	MW-24 (00120)
Date Drilled:	5/28/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
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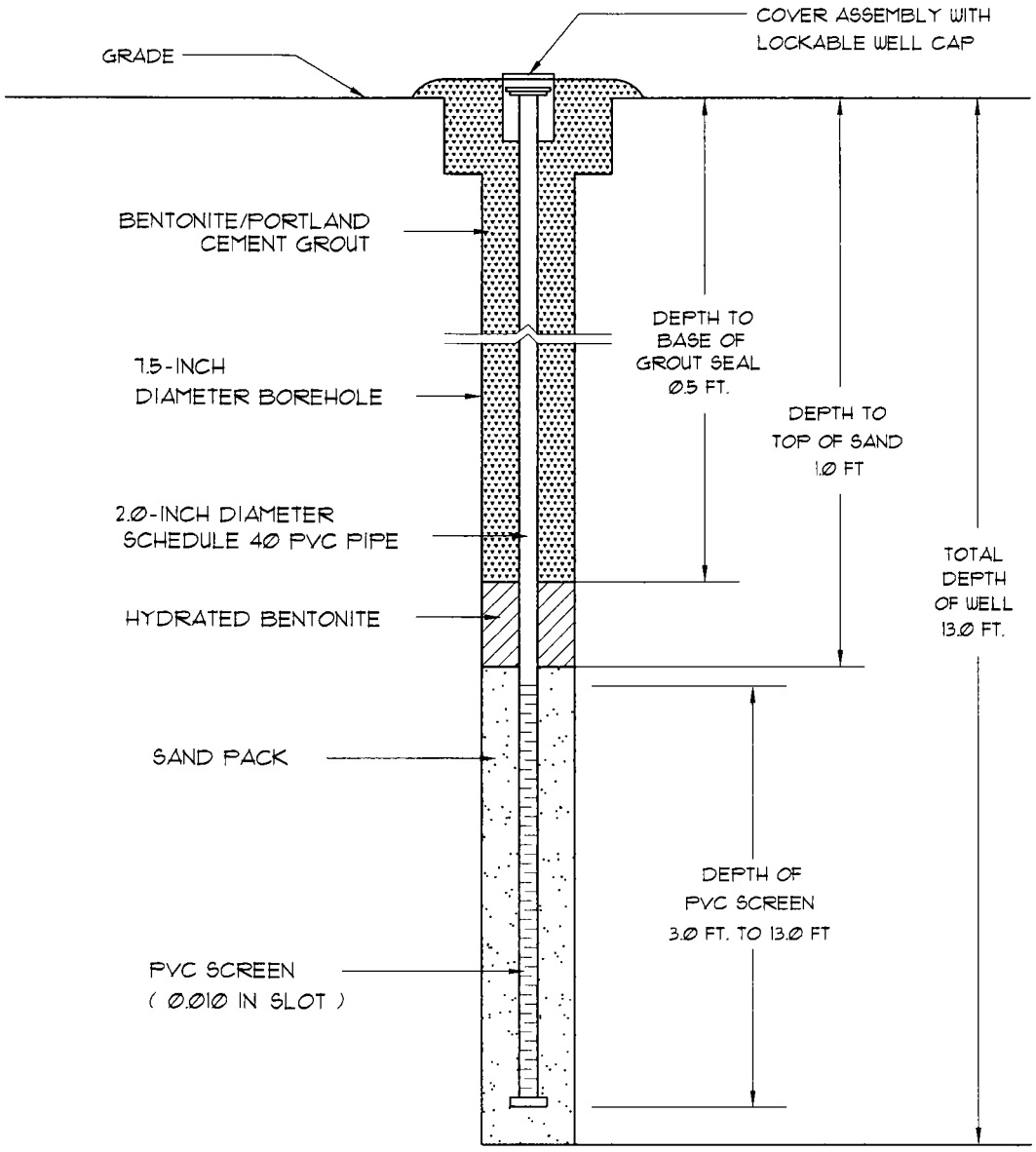
MONITORING WELL INSTALLATION RECORD

Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771



Well Number:	MW-24 (00120)
Date Drilled:	5/28/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D.#: B 02053
Logged By:	P. Boylan

Prepared By
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Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot (0, 10, 20, 40, 60, 80, 100)
	Topsoil			
	COASTAL PLAIN SEDIMENT: Brown, Silty Fine to Medium SAND			NO BLOWCOUNTS RECORDED
5		0.2		
	Brown, Clayey Medium to Coarse SAND			
10		1.0		
	Tan, Silty Fine SAND			
15		1.1		
20		0.7		
	Tan, Fine Sandy CLAY			
25		0.9		
	Light Brown, Silty CLAY			
30		0.3		
35		0.0		
	Gray, Clayey Fine to Medium SAND			
		0.0		

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	DW-2R (00120)
Date Drilled:	6/12/2014
Drilled By:	Environmental Drilling & Probing Services
Logged By:	P. Boylan

Prepared By
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Lexington, South Carolina 29073
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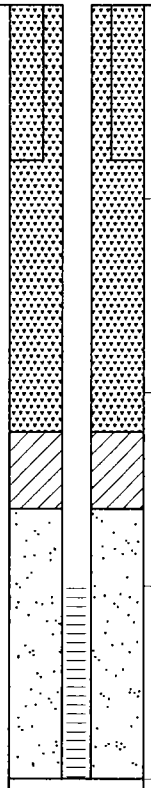
Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot (0 10 20 40 60 80 100)
	Gray, Clayey Fine to Medium SAND			NO BLOWCOUNTS RECORDED
45	Light Brown, Clayey Fine to Medium SAND NOTE: 10-inch boring terminated at 45.0 feet. 6-inch outer casing set at 45.0 feet and 4-inch boring initiated.	0.1		
50		0.2		
55		0.0		
	Brown, Silty CLAY			
60	Mud-Rotary Terminated at 60.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 60.0 Feet BGS. Groundwater Measured at 7.37 Feet Below Top of Casing on 6/23/14.	0.1		
65				
70				
75				



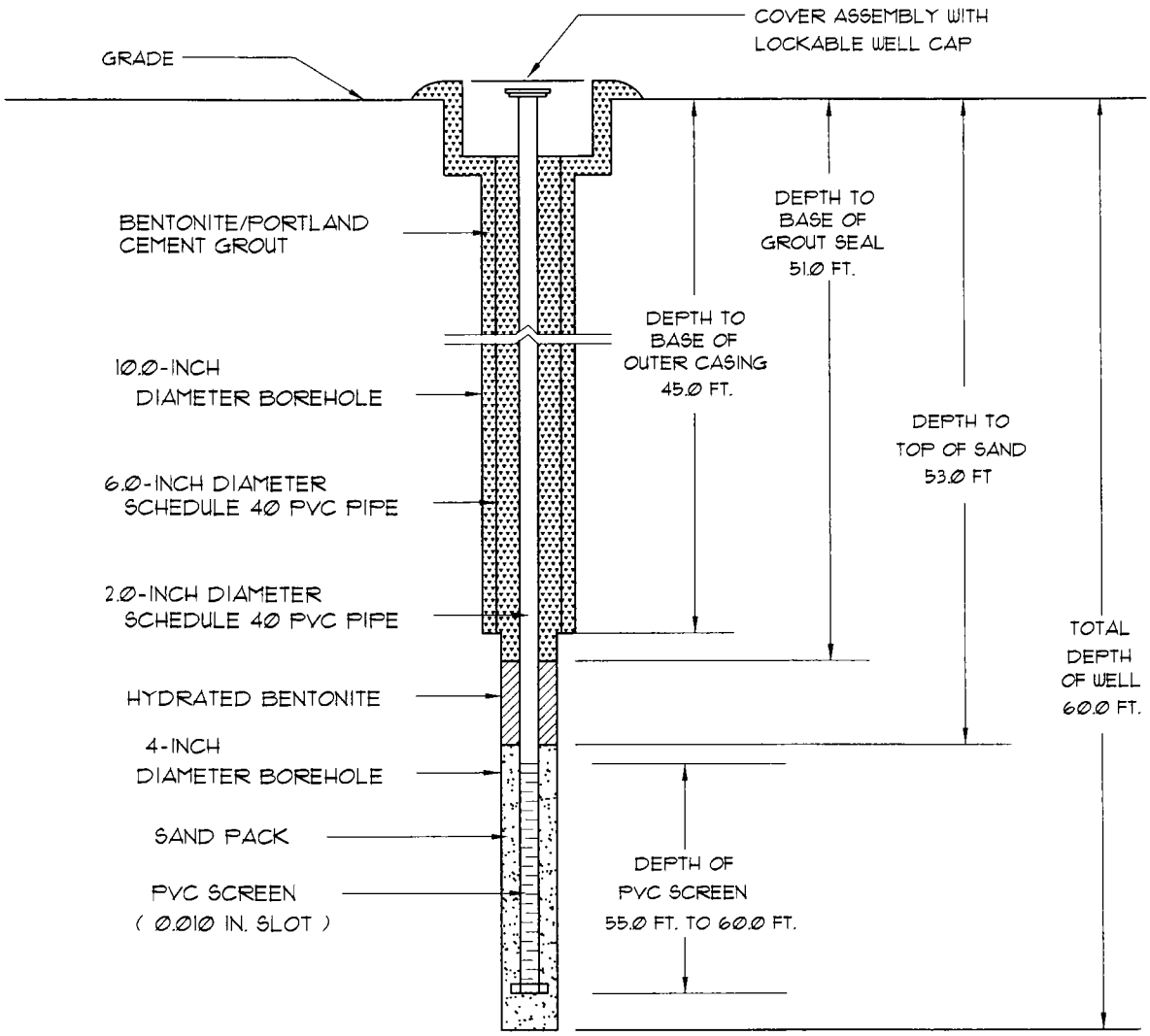
TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number	DW-2R (00120)
Date Drilled:	6/12/2014
Drilled By:	Environmental Drilling & Probing Services
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Doolely Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

MONITORING WELL INSTALLATION RECORD

Barnwell Patrol Facility
Barnwell, South Carolina
SCDHEC Site ID# 09608
MECI Project Number 14-4758



Well Number:	DW-2R (00120)
Date Drilled:	6/12/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D. #: C 02053
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot (0 10 20 40 60 80 100)
	Grass			
	COASTAL PLAIN SEDIMENT: Red, Fine Sandy Silty CLAY			NO BLOWCOUNTS RECORDED
5		0.0		
10		0.0		
	Gray, Silty Medium to Coarse SAND			
15	Tan, Medium to Coarse SAND	16.7		
20	White, Clayey Medium to Coarse SAND	24.3		
25		14.9		
	White, Silty Medium to Coarse SAND			
30		37.8		
35		22.9		
	NOTE: 10-inch boring terminated at 40.0 feet. 6-inch outer casing set at 40.0 feet and 4-inch boring initiated.	24.0		

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	DW-3R (00120)
Date Drilled:	6/18/2014
Drilled By:	Environmental Drilling & Probing Services
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
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Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot (0, 10, 20, 40, 60, 80, 100)
				NO BLOWCOUNTS RECORDED
45	Tan, Clayey Fine SAND	0.0		
50	Tan, Clayey Fine to Medium SAND	0.0		
55		0.0		
	Tan, Fine to Medium Sandy CLAY			
60	Mud-Rotary Terminated at 60.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 60.0 Feet BGS. Groundwater Measured at 18.22 Feet Below Top of Casing on 6/23/14.	0.0		
65				
70				
75				

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number	DW-3R (00120)
Date Drilled	6/18/2014
Drilled By:	Environmental Drilling & Probing Services
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
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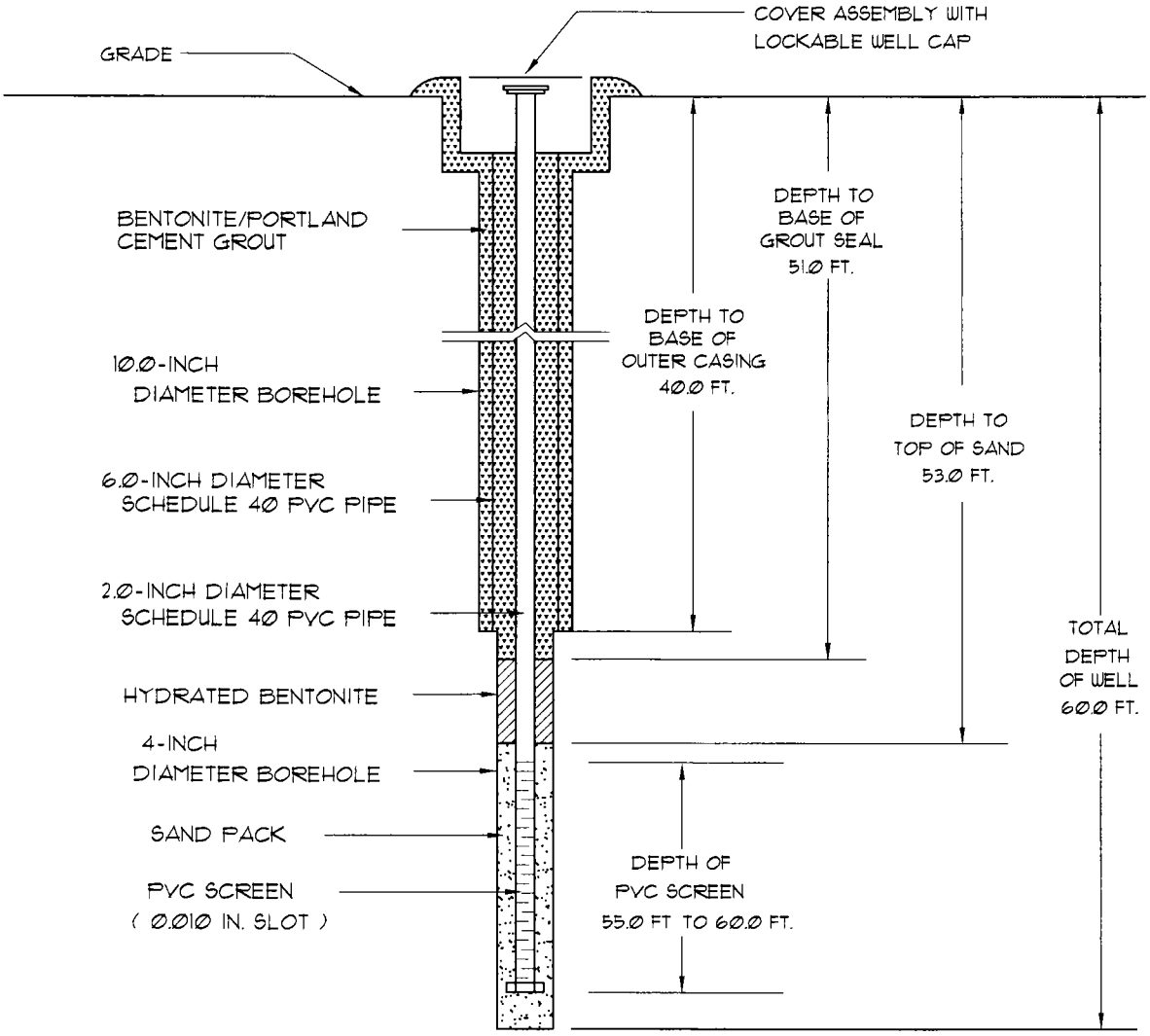
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

MONITORING WELL INSTALLATION RECORD

Barnwell Patrol Facility
Barnwell, South Carolina
SCDHEC Site ID# 09608
MECI Project Number 14-4758



Well Number:	DW-3R (00120)
Date Drilled:	6/18/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D. #: C 02053
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
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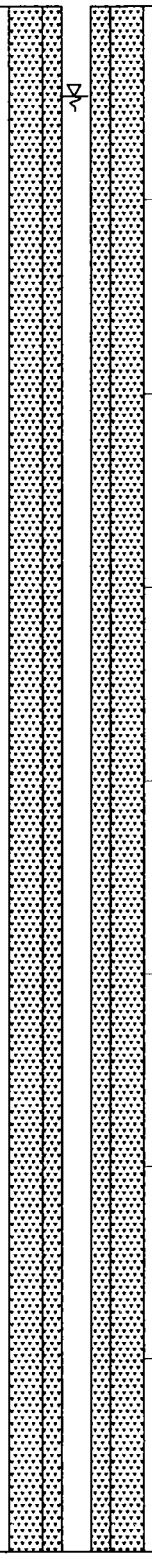
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM
	Grass	
	COASTAL PLAIN SEDIMENT: Light Brown, Silty Medium to Coarse SAND	
5	White, Silty Coarse SAND	0.0
10		0.0
	Yellow, Silty Coarse SAND	
15		0.1
	Light Brown, Clayey SILT	
20		0.2
	Red to Brown, Fine to Medium Sandy Silty CLAY	
25		0.0
30		0.1
35		0.2
	Tan, Clayey Medium to Coarse SAND	
		0.2

Well Diagram



Penetration Blows Per Foot: 0, 10, 20, 40, 60, 80, 100

NO BLOWCOUNTS RECORDED

TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	DW-4 (00120)
Date Drilled:	6/12/2014
Drilled By:	Environmental Drilling & Probing Services
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
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Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot (0 10 20 40 60 80 100)
	Light Brown, Clayey Medium to Coarse SAND			NO BLOWCOUNTS RECORDED
45	NOTE: 10-inch boring terminated at 45.0 feet. 6-inch outer casing set at 45.0 feet and 4-inch boring initiated.	0.0		
50		0.0		
55	Green, CLAY with Mudstone	0.0		
	Mud-Rotary Refusal at 57.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 57.0 Feet BGS. Groundwater Measured at 2.11 Feet Below Top of Casing on 6/23/14.			
60				
65				
70				
75				

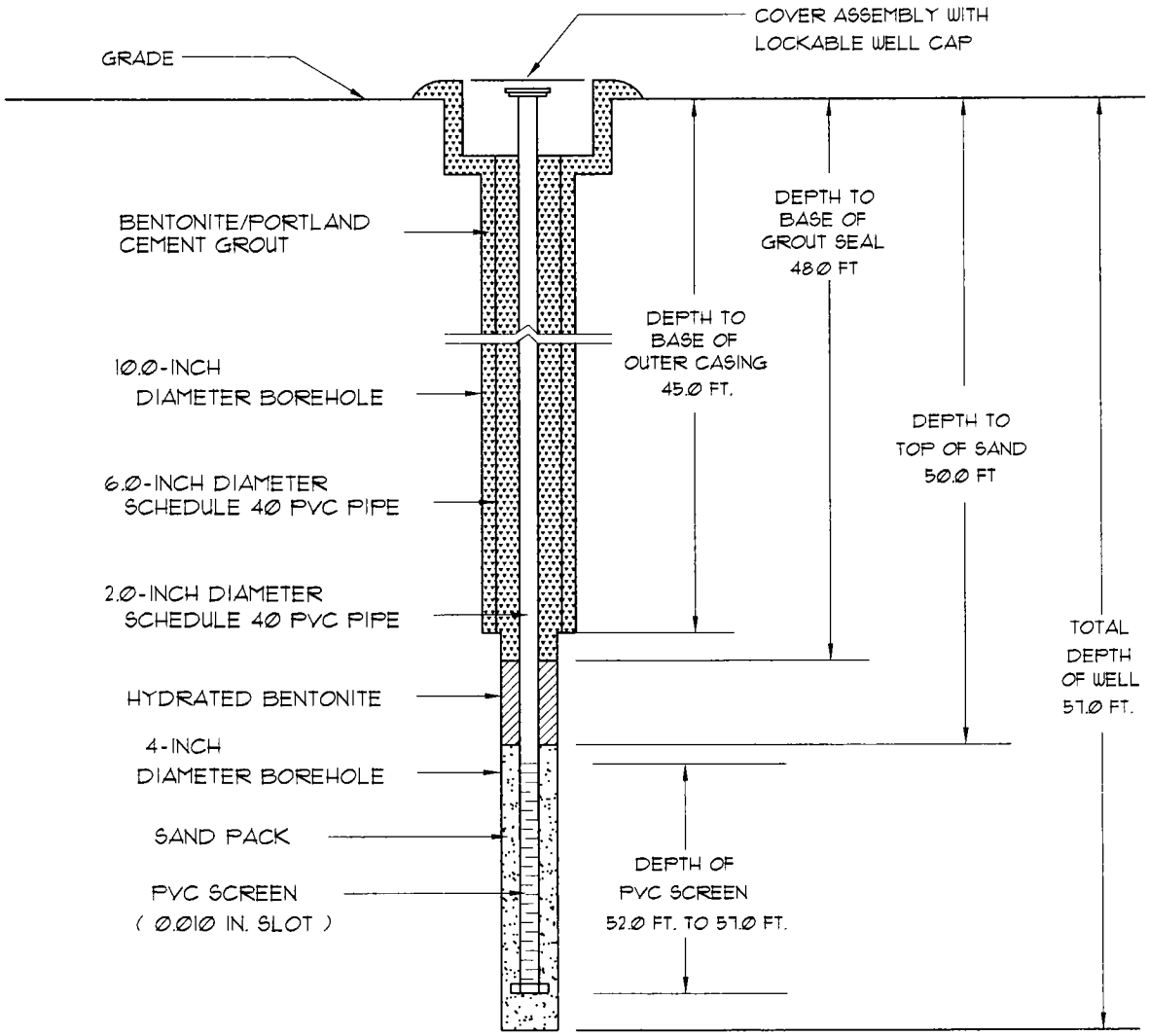
TEST BORING RECORD
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID# 00120
MECI Project Number 14-4771

Boring Number:	DW-4 (00120)
Date Drilled:	6/12/2014
Drilled By:	Environmental Drilling & Probing Services
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Doolely Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

MONITORING WELL INSTALLATION RECORD

Barnwell Patrol Facility
Barnwell, South Carolina
SCDHEC Site ID# 09608
MECI Project Number 14-4758



Well Number:	DW-4 (00120)
Date Drilled:	6/12/2014
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: D. Brown	S.C. I.D. #: C 02053
Logged By:	P. Boylan

Prepared By
Midlands Environmental Consultants, Inc.
231 Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax 808-2048

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone. Work (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-5R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Topsoil	0.5	0.5
Red, Sandy Silty CLAY	5.0	5.5
Tan, Silty SAND	4.0	9.5
White, Clayey SAND	11.0	20.5
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-5R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 5/27/2014
20.5 ft Date Completed 5/27/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 10.5 ft depth
_____ in to _____ ft depth
Height Above/Below Surface _____ ft
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type. Schedule 40 PVC Diam. 2 Inch
Slot/Gauge: 0.010 Length. 10.0 Feet
Set Between 10.5 ft and 20.5 ft.
_____ ft and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 13.21 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft. after _____ hrs Pumping _____ GPM
Pumping Test. ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 8.5 ft to 20.5 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft to 6.5 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr. Name. _____ Model No _____
H P _____ Volts _____ Length of drop pipe _____ ft. Capacity ____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level: A B ✓ C D (circle one)
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No. 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date: 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004) **COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER**

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone Work (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-6R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Red/Orange, Silty SAND	4.5	5.0
White, Clayey Silty SAND	5.0	10.0
White, Clayey SAND	7.0	17.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-6R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 5/27/2014
17.0 ft Date Completed: 5/27/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 7.0 ft depth
_____ in to _____ ft depth
Height. Above/Below Surface _____ ft
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Schedule 40 PVC Diam 2 Inch
Slot/Gauge: 0.010 Length 10.0 Feet
Set Between 7.0 ft and 17.0 ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 11.68 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs Pumping _____ G.P.M.
Pumping Test ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 5.0 ft to 17.0 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft. to 3.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name _____ Model No _____
H P _____ Volts _____ Length of drop pipe _____ ft Capacity _____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one) ✓
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No. 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed. David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004) **COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State. SC Zip: 29201-1708
Telephone Work. (803) 898-4300 Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-7RR

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Topsoil	0.5	0.5
Orange, Sandy Clayey SILT	3.5	4.0
Brown, Sandy SILT	5.5	9.5
Tan, Clayey SAND	5.0	14.5
Gray, Clayey SAND	9.5	24.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-7RR

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started. 5/27/2014
24.0 ft Date Completed. 5/27/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in. to 14.0 ft. depth
_____ in to _____ ft depth
Height. Above/Below Surface _____ ft.
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Schedule 40 PVC Diam 2 Inch
Slot/Gauge. 0.010 Length 10.0 Feet
Set Between: 14.0 ft and 24.0 ft.
_____ ft and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 17.40 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs Pumping _____ GPM
Pumping Test ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 12.0 ft to 24.0 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft. to 10.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr Name: _____ Model No _____
H.P _____ Volts _____ Length of drop pipe _____ ft Capacity ____ gpm
TYPE. ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level. A B C D (circle one) ✓
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No. 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004) **COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone Work (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name Robert's Energy
Street Address: 2031 Pisgah Road
City North Augusta Zip. 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-9R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Orange, Silty SAND	4.0	4.5
Brown, Silty Clayey SAND	6.0	10.5
White, Silty CLAY	4.0	14.5
Gray, Clayey SAND	5.5	20.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-9R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 5/27/2014
20.0 ft Date Completed 5/27/2014

10. CASING: ☑ Threaded ☐ Welded
Diam. 2 Inch
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 10.0 ft depth
_____ in to _____ ft depth
Height Above/Below Surface _____ ft.
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type Schedule 40 PVC Diam 2 Inch
Slot/Gauge 0.010 Length 10.0 Feet
Set Between: 10.0 ft and 20.0 ft.
_____ ft. and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 12.86 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs Pumping _____ G.P.M
Pumping Test. ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 8.0 ft. to 20.0 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft to 6.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name _____ Model No. _____
H.P. _____ Volts _____ Length of drop pipe _____ ft Capacity _____ gpm
TYPE. ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one) ✓
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No.. 704-607-7529 Fax No : 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date. 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone: Work (803) 898-4300 Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name. Robert's Energy
Street Address. 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-14R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Red, Sandy Silty CLAY	5.0	5.5
Tan, SAND	5.5	11.0
Gray, Clayey Silty SAND	11.5	22.5
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-14R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE: ☐ Residential ☐ Public Supply ☐ Process ☐ Irrigation ☐ Air Conditioning ☐ Emergency ☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started. 5/27/2014
22.5 ft Date Completed 5/27/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 12.5 ft depth
_____ in to _____ ft depth
Height. Above/Below Surface _____ ft.
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type. Schedule 40 PVC Diam 2 Inch
Slot/Gauge: 0.010 Length. 10.0 Feet
Set Between: 12.5 ft and 22.5 ft.
_____ ft. and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 14.98 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs Pumping _____ GPM
Pumping Test ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 10.5 ft to 22.5 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft to 8.5 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name: _____ Model No _____
H P. _____ Volts _____ Length of drop pipe _____ ft Capacity ____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address. (Print) Level A B C D (circle one)
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone Work (803) 898-4300 Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-15R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Orange, Silty SAND	4.0	4.5
Gray, Silty SAND	9.5	14.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-15R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 5/28/2014
14.0 ft Date Completed 5/28/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 4.0 ft depth
_____ in to _____ ft depth
Height Above/Below Surface _____ ft
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type Schedule 40 PVC Diam 2 Inch
Slot/Gauge 0.010 Length 10.0 Feet
Set Between 4.0 ft and 14.0 ft
_____ ft and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 6.25 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs Pumping _____ GPM
Pumping Test ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 2.0 ft to 14.0 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft to 1.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name _____ Model No _____
H P _____ Volts _____ Length of drop pipe _____ ft Capacity _____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one)
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004) COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone Work (803) 898-4300 Home

2. LOCATION OF WELL: COUNTY: Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-18R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Brown, Silty SAND	4.5	5.0
Gray, Sandy CLAY	4.0	9.0
White, Silty CLAY	3.0	12.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-18R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 5/28/2014
12.0 ft Date Completed 5/28/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type. ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 2.0 ft depth
_____ in to _____ ft depth
Height: Above/Below Surface _____ ft
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type Schedule 40 PVC Diam. 2 Inch
Slot/Gauge 0.010 Length: 10.0 Feet
Set Between 2.0 ft and 12.0 ft.
_____ ft and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5.54 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs. Pumping _____ GPM
Pumping Test. ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft to 12.0 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft to 0.5 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed. _____ Not installed ☐
Mfr. Name _____ Model No : _____
H P_____ Volts_____ Length of drop pipe _____ ft Capacity ____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one)
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed. David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address. 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone Work (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-22R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Orange, Sandy SILT	3.5	4.0
Gray, Silty SAND	11.0	15.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-22R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 5/27/2014
15.0 ft Date Completed 5/27/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 5.0 ft depth
_____ in. to _____ ft depth
Height Above/Below Surface _____ ft
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Schedule 40 PVC Diam 2 Inch
Slot/Gauge. 0.010 Length: 10.0 Feet
Set Between: 5.0 ft and 15.0 ft
_____ ft and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 8.46 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface.
_____ ft after _____ hrs Pumping _____ GPM
Pumping Test ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 3.0 ft to 15.0 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft to 1.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name _____ Model No _____
H P _____ Volts _____ Length of drop pipe _____ ft Capacity ____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one) ✓
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No. 704-607-7529 Fax No. 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name

DHEC 1903 (03/2004) **COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name. SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone: Work (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name. Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude. Longitude.

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** MW-24

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Brown, Silty SAND	4.0	4.5
White, Silty Clayey SAND	8.5	13.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-24

6. TYPE: ☐ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☑ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 5/28/2014
13.0 ft Date Completed 5/28/2014

10. CASING: ☑ Threaded ☐ Welded
Diam 2 Inch
Type ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
2.0 in to 13.0 ft depth
_____ in to _____ ft. depth
Height: Above/Below Surface _____ ft
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Schedule 40 PVC Diam 2 Inch
Slot/Gauge: 0.010 Length 10.0 Feet
Set Between 3.0 ft and 13.0 ft
_____ ft and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 5.56 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs Pumping _____ GPM
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 1.0 ft to 13.0 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft to 0.5 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft _____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name _____ Model No _____
H P _____ Volts _____ Length of drop pipe _____ ft Capacity _____ gpm
TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one) ✓
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No: 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date. 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone Work (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** DW-2R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Topsoil	0.5	0.5
Brown, Silty SAND	5.0	5.5
Brown, Clayey SAND	4.5	10.0
Tan, Silty SAND	10.5	20.5
Tan, Sandy CLAY	5.0	25.5
Brown, Silty CLAY	10.5	36.0
Gray, Clayey SAND	8.0	44.0
Brown, Clayey SAND	10.5	55.5
Brown, Silty CLAY	11.0	60.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
DW-2R

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started: 6/11/2014
60.0 ft Date Completed: 6/12/2014

10. CASING: ☑ Threaded ☐ Welded
Diam _____
Type. ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
6.0 in to 45.0 ft depth
2.0 in to 55.0 ft. depth
Height Above/Below Surface _____ ft
Weight _____ lb./ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type Schedule 40 PVC Diam 2 Inch
Slot/Gauge: 0.010 Length: 5.0 Feet
Set Between 55.0 ft and 60.0 ft
_____ ft and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 7.37 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft. after _____ hrs Pumping _____ G P M
Pumping Test ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 53.0 ft to 60.0 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft to 51.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type. _____ Amount _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name _____ Model No _____
H P _____ Volts _____ Length of drop pipe _____ ft Capacity ____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one)
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No. 704-607-7529 Fax No. 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief
Signed David Brown Date 7/23/2014
Well Driller
If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004) **COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name. SCDHEC
(last) (first)
Address 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone: Work: (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City: North Augusta Zip 29841-2134
Latitude: Longitude.

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** DW-3R

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Red, Sandy Silty CLAY	10.0	10.5
Gray, Silty SAND	3.5	14.0
Tan, SAND	5.5	19.5
White, Clayey SAND	6.0	25.5
White, Silty SAND	15.0	40.5
Tan, Clayey SAND	15.5	56.0
Tan, Sandy CLAY	4.0	60.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
DW-3R

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started. 6/17/2014
60.0 ft Date Completed: 6/18/2014

10. CASING: ☑ Threaded ☐ Welded
Diam: _____
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
6.0 in to 40.0 ft depth
2.0 in to 55.0 ft. depth
Height. Above/Below Surface _____ ft
Weight _____ lb /ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type Schedule 40 PVC Diam 2 Inch
Slot/Gauge 0.010 Length: 5.0 Feet
Set Between 55.0 ft and 60.0 ft
_____ ft and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 18.22 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft after _____ hrs Pumping _____ G.P.M.
Pumping Test ☐ Yes (please enclose) ☐ No
Yield. _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 53.0 ft to 60.0 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth: From 0.0 ft to 51.0 ft

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount _____

18. PUMP: Date installed: _____ Not installed ☐
Mfr Name: _____ Model No: _____
H.P _____ Volts _____ Length of drop pipe _____ ft Capacity ____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one)
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name

DHEC 1903 (03/2004)

COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER

D H E C

PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name SCDHEC (last) (first)
Address. 2600 Bull Street
City Columbia State SC Zip 29201-1708
Telephone Work (803) 898-4300 Home

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Robert's Energy
Street Address: 2031 Pisgah Road
City North Augusta Zip: 29841-2134
Latitude: Longitude:

3. PUBLIC SYSTEM NAME: 00120 **PUBLIC SYSTEM NUMBER:** DW-4

4. ABANDONMENT: ☐ Yes ☑ No
Give Details Below
Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass	0.5	0.5
Brown, Silty SAND	3.5	4.0
White, Silty SAND	6.5	10.5
Yellow, Silty SAND	5.5	16.0
Brown, Silty CLAY	5.0	21.0
Red/Brown, Sandy Silty CLAY	13.5	34.5
Tan, Clayey SAND	5.5	40.0
Brown, Clayey SAND	14.5	54.5
Green, CLAY w/ Mudstone	2.5	57.0
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
DW-4

6. TYPE: ☑ Mud Rotary ☐ Jetted ☐ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: UMW-25482

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☑ Monitor Well ☐ Replacement

9. WELL DEPTH (completed) Date Started 6/11/2014
60.0 ft Date Completed 6/12/2014

10. CASING: ☑ Threaded ☐ Welded
Diam.: _____
Type. ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
6.0 in to 45.0 ft. depth
2.0 in to 52.0 ft depth
Height Above/Below Surface _____ ft.
Weight _____ lb /ft
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: Schedule 40 PVC Diam 2 Inch
Slot/Gauge 0.010 Length 5.0 Feet
Set Between: 52.0 ft and 57.0 ft
_____ ft. and _____ ft
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL 2.11 ft below land surface after 24 hours

13. PUMPING LEVEL Below Land Surface
_____ ft. after _____ hrs Pumping _____ G P M
Pumping Test ☐ Yes (please enclose) ☐ No
Yield _____

14. WATER QUALITY
Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.

15. ARTIFICIAL FILTER (filter pack) ☑ Yes ☐ No
Installed from 50.0 ft to 57.0 ft
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☑ Yes ☐ No
☐ Neat Cement ☐ Bentonite ☑ Bentonite/Cement ☐ Other _____
Depth From 0.0 ft to 48.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft ____ direction
Type _____
Well Disinfected ☐ Yes ☐ No Type _____ Amount: _____

18. PUMP: Date installed _____ Not installed ☐
Mfr Name _____ Model No.: _____
H P _____ Volts _____ Length of drop pipe _____ ft. Capacity ____ gpm
TYPE ☐ Submersible ☐ Jet (shallow) ☐ Turbine ☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: David Brown **CERT. NO.:** 02053
Address (Print) Level A B C D (circle one)
17539 Greenhill Road
Charlotte, North Carolina 28278
Telephone No: 704-607-7529 Fax No 803-548-2233

20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief

Signed David Brown Date 7/23/2014
Well Driller

If D Level Driller, provide supervising driller's name:

DHEC 1903 (03/2004) **COPY 1 MAIL TO SCDHEC, COPY 2 TO WELL OWNER, COPY 3 TO WELL DRILLER**

APPENDIX F:

AQUIFER EVALUATION SUMMARY FORMS, DATA, GRAPHS, EQUATIONS

(Not Applicable)

APPENDIX G:
DISPOSAL MANIFEST

Midlands
Environmental
Consultants, Inc.

July 23, 2014

Re: Treatment of Purge Water
Robert's Energy (Four Seasons Food and Fuel)
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 14-4771

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.

2. No free-product was detected in any of the purge water drums.

3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.

4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.

5. Record of usage is maintained by Contractor.

6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.

7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

22.5 gallons of water was disposed on May 27th -28th, 2014 during the development of the newly installed monitoring wells.

20.0 gallons of water was disposed on June 12th, 2014 during the development of the newly installed monitoring well.

10.0 gallons of water was disposed on June 18th, 2014 during the development of the newly installed monitoring well.

132.5 gallons of wastewater was disposed on June 23rd, 2014 during the sampling/purging of the monitoring well network.

A total of 185.0 gallons were treated at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Jeff L. Coleman
Senior Scientist

WASTE MANAGEMENT

Richland County LF
1047 Shannon Church Road
Elgin, SC. 29045
Ph: (803) 788-8004

Original
[illegible]

Customer Name MIDLANDSENVIRON MIDLANDS ENVI Carrier MIDLANDSENVIRON [illegible]
Ticket Date 05/30/2014 Vehicle# 9975 [illegible]
Payment Type Credit Account Container
Manual Ticket# Driver
Hauling Ticket# Check#
Route Billing # 0000466
State Waste Code Gen EPA ID
Manifest 0
Destination
PO
Profile VA2719 (SOIL FROM 1ST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

	Time	Scale	ScaleMaster		
In	05/30/2014 08:30:27	Inbound #2	Dwayne	Gross	15300 lb
Out	05/30/2014 08:46:22	Outbound	Dwayne	Tare	9260 lb
				Net	6040 lb
				Tons	3.02

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Taxes
1	SOIL-Cont. Soil -	100	3.02	Tons				40-RICHLAN
2	FUEL-Fuel Surcharg	100		%				40-RICHLAN
3	ENV-P-Standard Env	100		%				40-RICHLAN
4	RCR-P-Regulatory C	100		%				40-RICHLAN

Total Fees
Total Taxes

SIGNATURE Patricia Dixon

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE December 11, 2016	Special Waste Phone: 803-744-3345 Fax: 866-904-7194

Prepared by: Sandra Reeves

GENERATOR OF WASTE: MIDLANDS ENV. CONSULTANTS, INC. - VARIOUS

CUSTOMER: MIDLANDS ENV. CONSULTANTS, INC. ACCOUNT NUMBER: 820-469

LOCATION OF WASTE:

CITY: COUNTY:

PHONE NUMBER: 803-808-2043 CONTACT: LYNN SHANE

FAX NUMBER: 803-808-2048

GENERATOR'S SIGNATURE DATE:

TRANSPORTER OF WASTE: Midlands Environmental Consultants

DATE: 5/30/14 TRUCK NUMBER: 3975

DRIVER'S SIGNATURE Patrick Boylan

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: SOIL

DESCRIPTION OF WASTE: SOIL FROM UST ASSESSMENT

TICKET NUMBER: 1312238 TONNAGE:

RECEIVED BY: DCM

Highway 11 Grocery 50%
Roberts Energy 30%
Holly Oak 20%

WASTE MANAGEMENT

Richland County of
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 798-3054

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 06/20/2014
Payment Type Credit Account
Manual Ticket#
Haulinn Ticket#
Route
State Waste Code
Manifest 0
Destination
PO
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

Carrier MIDLANDSENVIRON MIDLANDS ENVI
Vehicle# 3115
Container
Check#
Billing # 0000467
Gen EPA ID

	Time	Scale	ScaleMaster		
In	06/20/2014 10:11:15	Inbound #2	Dwayne	Gross	[illegible]
Out	06/20/2014 10:27:54	Outbound	vhoke	Tare	[illegible]
				Net	3720 lb
				Tons	1.86

Comments

	Product	LD%	Qty	UOM	Rate	Fee	Amount	Profile
1	SOIL-Cont. Soil -	100	1.86	Tons				[illegible]
2	FUEL-Fuel Surcharg	100		%				40-RICHLAN
3	EVF-P-Standard Env	100		%				40-RICHLAN
4	RCR-P-Regulatory C	100		%				40-RICHLAN

Total Fees
Total Ticket

SIGNATURE [signature]

Bill's One Stop 50%

Robert's Energy 50%

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	*Richland Landfill* 1047 Highway Church Road Elgin, SC 29045
EXPIRATION DATE **December 11, 2016**	Special Waste Phone: 803-744-3345 Fax: 866-904-7194

Prepared by: Sandra Reeves

GENERATOR OF WASTE: MIDLANDS ENV. CONSULTANTS, INC. - VARIOUS

CUSTOMER: MIDLANDS ENV. CONSULTANTS, INC. ACCOUNT NUMBER: 820-469

LOCATION OF WASTE:

CITY: COUNTY:

PHONE NUMBER: 803-808-2043 CONTACT: LYNN SHANE

FAX NUMBER: 803-808-2048

GENERATOR'S SIGNATURE DATE:

TRANSPORTER OF WASTE: Midlands Environmental Consultants

DATE: 6/20/14 TRUCK NUMBER: 3975

DRIVER'S SIGNATURE Patrick Begley

**** TO BE COMPLETED BY RICHLAND LANDFILL******

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

Waste Class: SOIL

DESCRIPTION OF WASTE: SOIL FROM UST ASSESSMENT

TICKET NUMBER: 1316420 TONNAGE:

RECEIVED BY: YH

WASTE MANAGEMENT

Richland County LF
1047 Hickory Church Road
Elgin, SC 29045
Ph: 803-788-3054

Customer Name MIDLANDSENVIRON MIDLANDS ENVI
Ticket Date 06/30/2014
Payment Type Legal Account
Manifest Ticket#
Cashing Ticket#
Route
Plate Waste Code
Manifest 0
Destination
Ph
Profile VA2718 (SOIL FROM UST ASSESSMENT)
Generator 136-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

Carrier [illegible]
Vehicle#
Container
Driver
Check#
Million $ [illegible]
Gen EPA [illegible]

	Time	Scale	ScaleMaster		
In	06/30/2014 10:19:27	Inbound #2	Dwayne	Gross	5560 lb
Out	06/30/2014 10:29:07	Outbound	Dwayne	Tare	[illegible] lb
				Net	[illegible] lb
				Tons	[illegible]

Comments

Product		Lot	Qty	UOM	Rate	Fee	Amount	[illegible]
	[illegible]-Cont Soil -	100	[illegible]	Ton				[illegible]
2	FUEL-Fuel Surcharge	100		%				[illegible]
3	EVP-P-Standard Env	100		%				[illegible]
4	[illegible]-Regulatory L	100		%				[illegible]

Total Fee
[illegible]

SIGNATURE

Roberts Energy

403WM

SPECIAL WASTE MANIFEST

WASTE ID NUMBER

VA2718

EXPIRATION DATE

December 11, 2016

Richland Landfill
1047 Highway Church Road
Elgin, SC 29045

Special Waste Phone: 803-744-3345
Fax: 866-904-7194

Prepared by: Sandra Reeves

GENERATOR OF WASTE: MIDLANDS ENV. CONSULTANTS, INC. - VARIOUS

CUSTOMER: MIDLANDS ENV. CONSULTANTS, INC.

ACCOUNT NUMBER: 820-469

LOCATION OF WASTE:

CITY: Lexington

COUNTY: Lexington

PHONE NUMBER: 803-808-2043

CONTACT: LYNN SHANE

FAX NUMBER: 803-808-2048

GENERATOR'S SIGNATURE

DATE: 6-30-14

TRANSPORTER OF WASTE: MECI

DATE: 6-30-14

TRUCK NUMBER: 1

DRIVER'S SIGNATURE

**** TO BE COMPLETED BY RICHLAND LANDFILL*****

DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC

DESCRIPTION OF WASTE: SOIL FROM UST ASSESSMENT

Waste Class: SOIL

TICKET NUMBER: 1318097

TONNAGE:

RECEIVED BY: DLM

APPENDIX H:
LOCAL ZONING REGULATIONS
(Not Applicable)

APPENDIX I:

FATE AND TRANSPORT MODELING

(Not Applicable)

APPENDIX J:
ACCESS AGREEMENTS

SOUTH CAROLINA DEPARTMENT OF TRANSPORTATION
Encroachment Permit

Permit No : 168677
Permit Decision Date : 5/5/2014
Expiration Date : 5/5/2015
9:55:43 AM

Type
Permit :ENVIRONMENTAL

Location:

District	Work County	Type	Route	Aux	Begin MP	End MP
	Aiken, SC	S-	45	None	2.297	2.353
	Aiken, SC	S-	901	None	0.137	0.074

Contact Information

Applicant: MidlandsEnvironmentalConsultantsInc Phone: 8038082043
Contact: Ryan Ariail
Address: 231 Dooley Road,
City: Lexington State: SC Zip: 29073

Comments

Due to recent road configuration, SCDOT abandoned twelve (12) groundwater monitoring wells for SCDHEC during road construction. SCDHEC would like to replace those twelve monitoring wells now that road construction is over. The groundwater monitoring wells will be installed in the SCDOT "Right of Way" out of wheel path. Eight (8) monitoring wells will be installed alongside Five Notch Road and four (4) monitoring wells will be installed alongside Pisgah Road.

Special Provisions:

9999 - See Attached for Additional Special Provisions

0004 - SCDOT SHALL BE NOTIFIED WHEN WORK DEFINED IN THE PERMIT STARTS AS WELL AS WHEN THE WORK IS COMPLETED. REFERENCE SHALL BE MADE BY PERMIT NUMBER.

0123 - ALL WORK PERFORMED IN CONNECTION WITH THIS PERMIT SHALL CONFORM TO THE SCDOT "A POLICY FOR ACCOMODATING UTILITIES ON HIGHWAY RIGHT-OF-WAY" MOST CURRENT EDITION.

0209 - DISTURBED VEGETATION SHALL BE RESEEDED ACCORDING TO THE SPECIFICAION FOR HIGHWAY CONSTRUCTION.

0302 - NO EXCAVATION SHALL BE LEFT OPEN ALONG HIGHWAY.

0306 - TRAFFIC CONTROL, LIGHTS, SIGNS AND FLAG-MEN WILL BE FURNISHED BY APPLICANT AND WILL CONFORM TO PART VI OF THE MANUAL ON UNIFORM TRAFFIC CONTROL DEVICES.

0308 - WORK SHALL NOT BE PERFORMED DURING THE HOURS OF 7-9 AM OR 4-6 PM.

0310 - FIELD CHANGES, IF NECESSARY, MUST BE APPROVED IN WRITING BEFORE ACTUAL CONSTRUCTION OF PROPOSED CHANGES.

0312 - THE PERMITTEE SHALL HOLD THE DEPARTMENT HARMLESS FOR DAMAGES TO BOTH UPSTREAM AND DOWNSTREAM PROPERTIES.

0311 - SEDIMENT AND EROSION CONTROL DEVICES SHALL BE USED TO MINIMIZE THE MOVEMENT OF SEDIMENT.

0318 - THE APPLICANT SHALL BE RESPONSIBLE FOR IMMEDIATE REMOVAL OF SUCH TRAFFIC HAZARDS AS MUD, DEBRIS, LOOSE STONE, AND TRASH AS MAY BE WASHED OR SPILLED ON THE TRAVELED ROADWAY AS A RESULT OF THE PROPOSED WORK.

0303 - THE ENTIRE DISTURBED AREA SHALL BE TOP-SOILED USING 3" OF SELECTED MATERIAL AND RE-GRASSED TO SCDOT SPECIFICATIONS.

0320 - ALL DEBRIS TO BE CLEARED FROM THE RIGHTS-OF-WAY WITHIN TEN (10) DAYS.

0315 - TEST WELL SHALL BE LOCATED OUTSIDE OF WHEEL PATH.

Midlands Environmental Consultants, Inc.

PERMISSION TO ENTER PROPERTY

I, B. Todd Glover, hereby certify that I am the owner of record or otherwise have the legal right to grant entry and access to the property for the purpose described below ("Owner") and do hereby grant Midlands Environmental Consultants, Inc.(MECI),and its agents, employees and subcontractors, and assigns the right to enter upon the property physically located at Pisgah Road and Five Notch Road (Aiken County Tax Map Number 005-19-03-002) for the purpose of performing an environmental assessment, as requested by SCDHEC which will include the following categories of work:

- Installation of groundwater monitoring well(s);
- Measuring depth to groundwater, about once every three months;
- Collection of groundwater samples, about once every three months;
- Maintenance of the monitoring well(s).

Access to the monitoring well will be needed for a time period not likely to exceed three to five years after well installation has been completed. The property owner will be notified at least 48 hours in advance of any planned activities on the property. At any time the property owner may contact MECI if there are any questions or concerns about work performed on the property.

The Permission to Enter Property is effective upon execution of this document.

This Permission to Enter Property is granted with consideration of MECI making reasonable restoration to the property resulting from MECI activities on the property.

Consented to giving access:

B. Todd Glover 4/16/14 Daytime Phone# 803-441-4202
Property Owner's Signature Date

B. Todd Glover 4/16/14 Evening Phone# —
Printed Name Date

Access Denied:

Daytime Phone#
Property Owners Signature Date

Evening Phone#
Printed Name Date

4/7/14
MECI Representative

231 Dooley Rd , Lexington, SC 29073 Telephone (803) 808-2043 * Fax (803) 808-2048

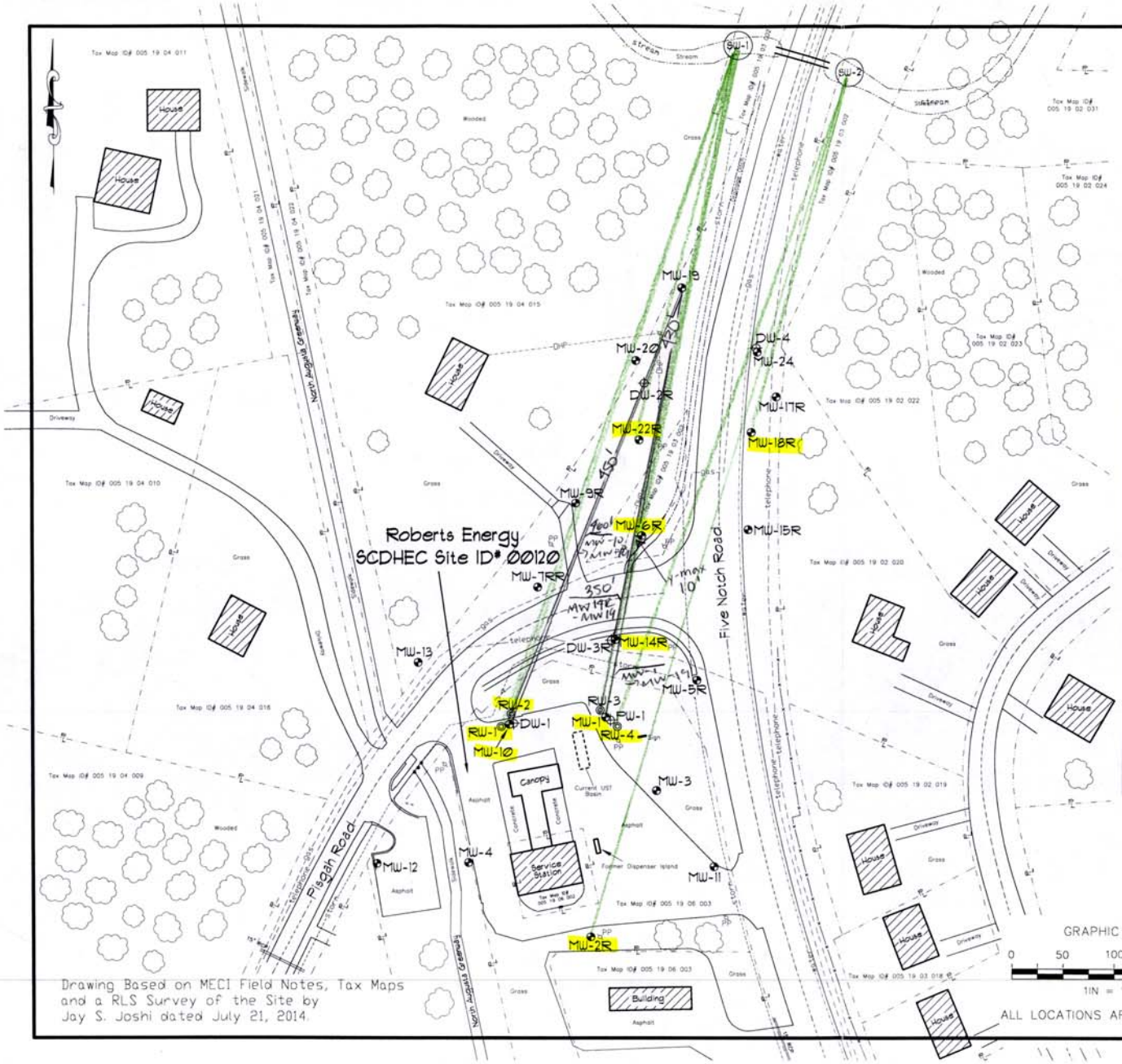
APPENDIX K:
DATA VERIFICATION CHECKLIST

Contractor Checklist

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

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

MODEL 1/30/15



Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated July 21, 2014.

Shallow BTEX + N + 1,2DCA + MTBE + EDB + Oxys Model

Seepage velocity (from tier II): 10.59 ft/yr
bulk density: 1.6 plume length: ~~[illegible]~~ 450'

Shallow Benzene
Calibration line: RW-3 → MW-6R → MW-19
X max = 430' v_x = 30 ft/yr*
Y max = 10'

Shallow TEX, N, DCA
calibration line: RW-2 → MW-19
X max = 450' v_x = 40 ft/yr*

Shallow MTBE, EDB
calibration line: MW-14R → MW-19
X max = 350' v_x = 30 ft/yr*

Shallow Oxys
calibration line: MW-1 → MW-19
X max = 430' v_x = 20 ft/yr*

* used data from 6/23/14 sampling
* increased v_x in order to calibrate model

dist. to receptor

well	receptor SW-1	receptor SW-2
MW-1	680'	
MW-2R		890'
MW-6R	490'	
MW-10	700'	
MW-14R	600'	
MW-18R		370'
MW-22R	400'	
RW-1	710'	
RW-2	700'	
RW-3	670'	
RW-4		680'

see UST 42 fed DOCKETING

Site Base Map

Robert's Energy I
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771
DATE July 25, 2014
FIGURE 2

Shallow Benzene

Domenico Model

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1/23/2015

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	30	ft/yr

Transport Parameters

x_{max}	430	ft
y_{max}	10	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene	25	81
Toluene		133
Ethylbenzene		176
Xylenes		639
Naphthalene		1543
MtBE		11
EDB		28
1,2-DCA		17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.104	27.18
Toluene	1.170	25.64
Ethylbenzene	1.225	24.48
Xylenes	1.818	16.50
Naphthalene	2.975	10.08
MtBE	1.014	29.58
EDB	1.036	28.96
1,2-DCA	1.022	29.34

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

Benzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	25	25
43		9.480
86		3.614
129		1.482
172		0.633
215		0.277
258		0.123
301		0.055
344		0.025
387		0.011
430	0.005	0.005

Temporal Calibration Data

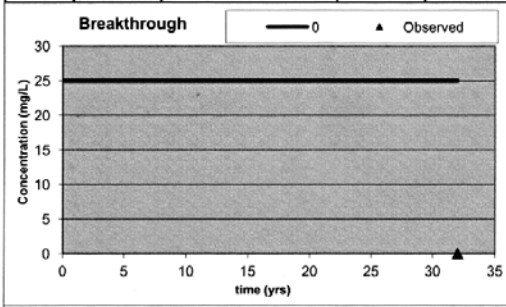
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		25		25
3.2		25.000		25.000
6.4		25.000		25.000
9.6		25.000		25.000
12.8		25.000		25.000
16		25.000		25.000
19.2		25.000		25.000
22.4		25.000		25.000
25.6		25.000		25.000
28.8		25.000		25.000
32	0.0091	25.000		25.000

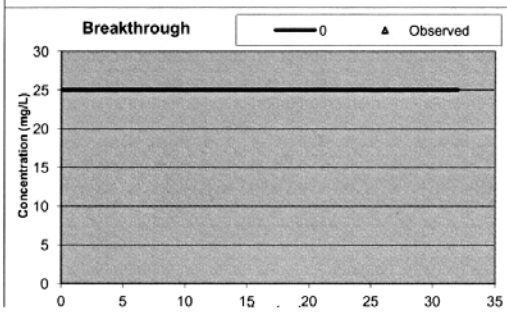
Site ID 00120

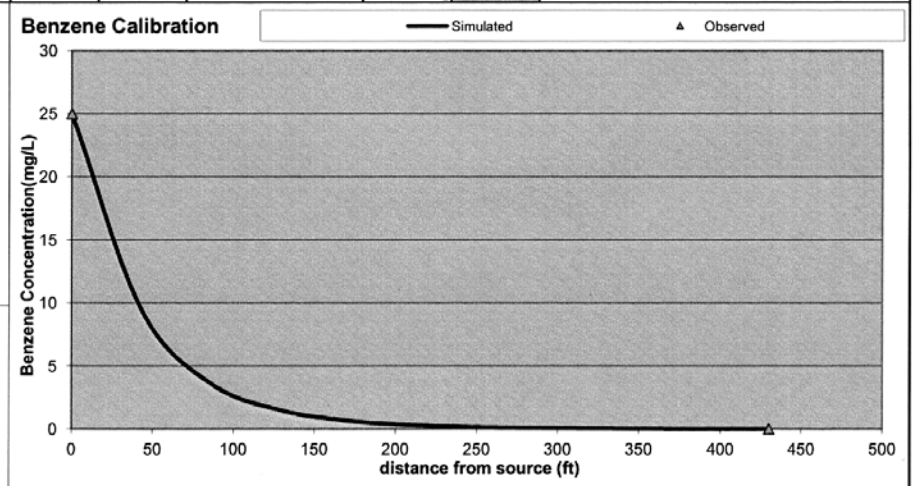
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.17	yrs	λ	0.59231	yr^{-1}
v_x	30	ft/yr			
R	1.104				
v_R	27.182	ft/yr	C_{source}	25	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
10	7.74035906	3.16808211	1.34712397	0.58715968	0.26032946	0.1168578	0.052946	0.024163	0.011092	0.005116
5	9.01642937	3.49680939	1.4474049	0.62112905	0.2726332	0.1215241	0.054776	0.0249	0.011394	0.005241
0	9.47955471	3.61354708	1.48244136	0.63288011	0.27686174	0.1231205	0.0554	0.02515	0.011496	0.005284
5	9.01642937	3.49680939	1.4474049	0.62112905	0.2726332	0.1215241	0.054776	0.0249	0.011394	0.005241

UST Permit # 00120
Site Name: Robert's Energy

SSTLs t 1000 yrs

SSTLs in mg/L			RBSLs (mg/L):	0.005							
MW #	x (ft)	y (ft)	z (ft)	Benzene SSTL							
MW-1	680	0	0	2023.615							
MW-2R	890	0	0	80491.354							
MW-6R	490	0	0	69.466							
MW-10	700	0	0	2878.455							
MW-14R	600	0	0	492.189							
MW-18R	370	0	0	7.985							
MW-22R	400	0	0	13.761							
RW-1	710	0	0	3432.513							
RW-2	700	0	0	2878.455							
RW-3	670	0	0	1696.472							
RW-4	680	0	0	2023.615							
			λ (yr^{-1}):	0.592							
			R:	1.104							
			Pure Substance Solubility:	1750							
			Effective Solubility:	44.39							

Calib. Line: RW-3 --> MW-19
X-max: 430' receptors: SW-1 & SW-2

Shallow MtBE + EDB

Domenico Model

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1.26.15

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	30	ft/yr

Transport Parameters

x_{max}	350	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene		81
Toluene		133
Ethylbenzene		176
Xylenes		639
Naphthalene		1543
MtBE	2.9	11
EDB	0.0091	28
1,2-DCA		17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.104	27.18
Toluene	1.170	25.64
Ethylbenzene	1.225	24.48
Xylenes	1.818	16.50
Naphthalene	2.975	10.08
MtBE	1.014	29.58
EDB	1.036	28.96
1,2-DCA	1.022	29.34

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t) = \left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right] erfc\left[\frac{x - vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right] - erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right] - erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

MtBE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2.9	2.9
35		1.418
70		0.672
105		0.339
140		0.177
175		0.094
210		0.051
245		0.028
280		0.016
315		0.009
350	0.005	0.005

Temporal Calibration Data

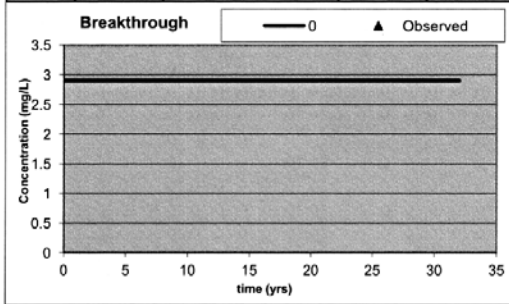
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		2.9		2.9
3.2		2.900		2.900
6.4		2.900		2.900
9.6		2.900		2.900
12.8		2.900		2.900
16		2.900		2.900
19.2		2.900		2.900
22.4		2.900		2.900
25.6		2.900		2.900
28.8		2.900		2.900
32		2.900		2.900

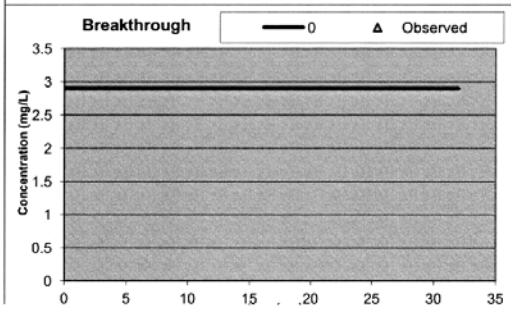
Site ID 00120

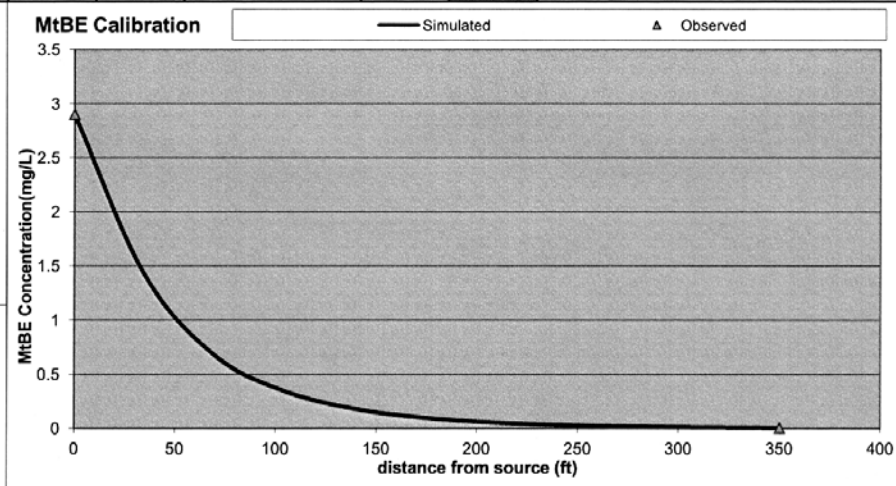
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.23	yrs	λ	0.56341	yr^{-1}
v_x	30	ft/yr			
R	1.014				
v_R	29.583	ft/yr	C_{source}	2.9	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	35	70	105	140	175	210	245	280	315	350
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868

EDB Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.0091	0.00910
35		0.00448
70		0.00214
105		0.00109
140		0.00057
175		0.00031
210		0.00017
245		0.00009
280		0.00005
315		0.00003
350	0.00002	0.00002

Temporal Calibration Data

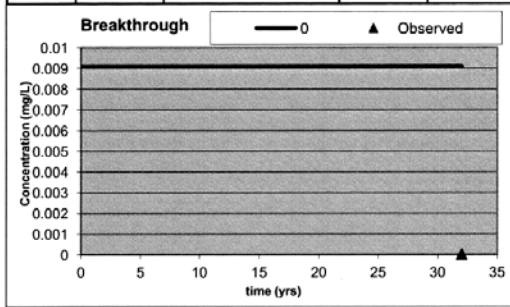
t (yrs)	0 C_{obs} (mg/L)	0 C_{sim} (mg/L)	0 C_{obs} (mg/L)	0 C_{sim} (mg/L)
0		0.00910		0.00910
3.2		0.00910		0.00910
6.4		0.00910		0.00910
9.6		0.00910		0.00910
12.8		0.00910		0.00910
16		0.00910		0.00910
19.2		0.00910		0.00910
22.4		0.00910		0.00910
25.6		0.00910		0.00910
28.8		0.00910		0.00910
32	0.000019	0.00910		0.00910

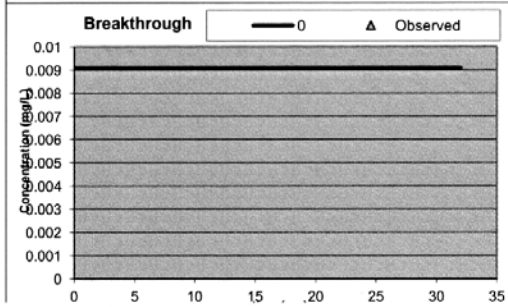
Site ID 00120

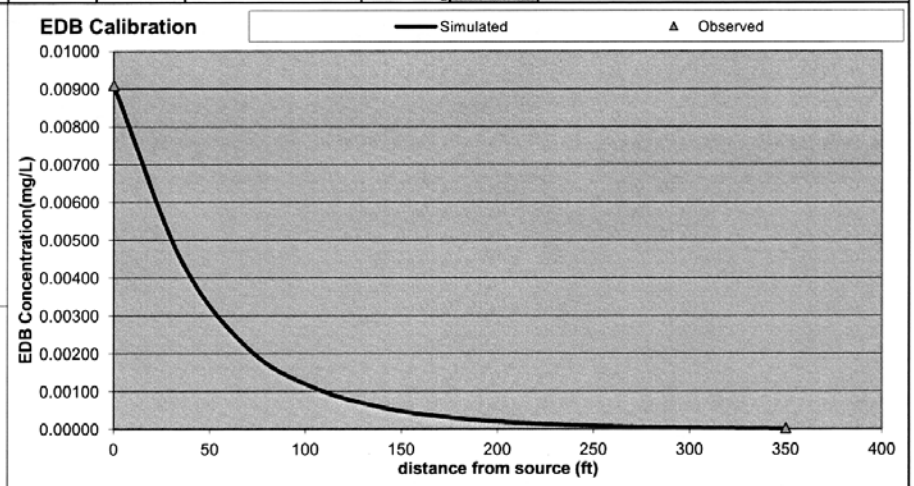
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.28	yrs	λ	0.54141	yr^{-1}
v_x	30	ft/yr			
R	1.036				
v_R	28.962	ft/yr	C_{source}	0.0091	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	35	70	105	140	175	210	245	280	315	350
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05

UST Permit # 00120
Site Name: Robert's Energy

SSTLs t 1000 yrs

SSTLs in mg/L		RBSLs (mg/L):						0.040		0.00005	
MW #	x (ft)	y (ft)	z (ft)					MtBE SSTL		EDB SSTL	
MW-1	680	0	0					4838.711		5.16448	
MW-2R	890	0	0					>99999		134.73618	
MW-6R	490	0	0					232.766		0.25965	
MW-10	700	0	0					6642.555		7.05690	
MW-14R	600	0	0					1356.559		1.47505	
MW-18R	370	0	0					33.111		0.03798	
MW-22R	400	0	0					54.102		0.06163	
RW-1	710	0	0					7781.708		8.24792	
RW-2	700	0	0					6642.555		7.05690	
RW-3	670	0	0					4129.159		4.41741	
RW-4	680	0	0					4838.711		5.16448	
			λ (yr^{-1}):					0.563		0.541	
			R:					1.014		1.036	
			Pure Substance Solubility:					5110		4321	
			Effective Solubility:					173		1.9	

Calib. Line: MW-14R --> MW-19
X-MAX: 350'
receptors: SW-1 & SW-2 (Whichever was closest)

Shallow TEX, N, 1,2-DCA

Domenico Model

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1/23/2015

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	40	ft/yr

Transport Parameters

x_{max}	450	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene		81
Toluene	63	133
Ethylbenzene	1.5	176
Xylenes	8.8	639
Naphthalene	0.89	1543
MtBE		11
EDB		28
1,2-DCA	2.5	17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.104	36.24
Toluene	1.170	34.18
Ethylbenzene	1.225	32.65
Xylenes	1.818	22.00
Naphthalene	2.975	13.45
MtBE	1.014	39.44
EDB	1.036	38.62
1,2-DCA	1.022	39.12

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

Toluene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	63	63
45		21.500
90		7.445
135		2.782
180		1.082
225		0.432
270		0.175
315		0.072
360		0.030
405		0.012
450	0.005	0.005

Temporal Calibration Data

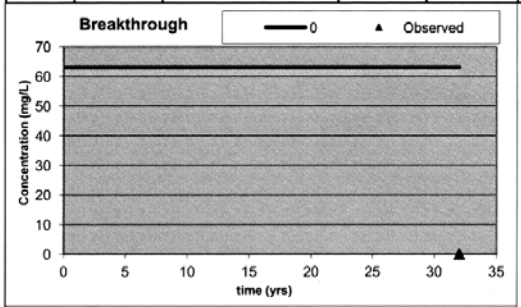
t (yrs)	C_{obs} (mg/L)	0 C_{sim} (mg/L)	C_{obs} (mg/L)	0 C_{sim} (mg/L)
0		63		63
3.2		63.000		63.000
6.4		63.000		63.000
9.6		63.000		63.000
12.8		63.000		63.000
16		63.000		63.000
19.2		63.000		63.000
22.4		63.000		63.000
25.6		63.000		63.000
28.8		63.000		63.000
32	0.005	63.000		63.000

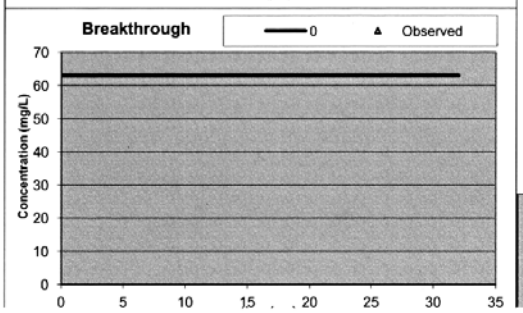
Site ID 00120

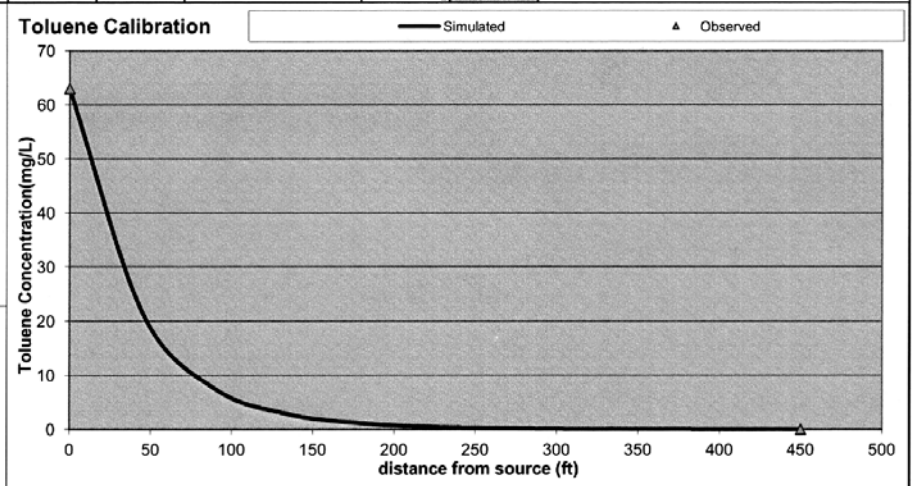
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	0.85	yrs	λ	0.81529	yr^{-1}
v_x	40	ft/yr			
R	1.170				
v_R	34.181	ft/yr	C_{source}	63	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199

Ethylbenzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	1.5	1.5
45		0.738
90		0.369
135		0.199
180		0.112
225		0.064
270		0.038
315		0.022
360		0.013
405		0.008
450	0.005	0.005

Temporal Calibration Data

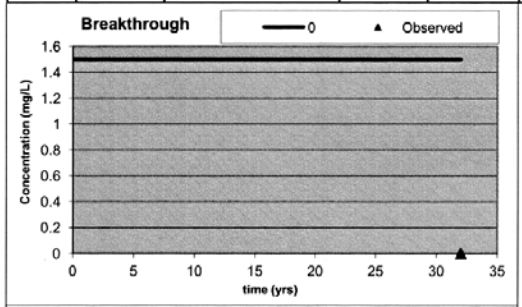
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		1.5		1.5
3.2		1.500		1.500
6.4		1.500		1.500
9.6		1.500		1.500
12.8		1.500		1.500
16		1.500		1.500
19.2		1.500		1.500
22.4		1.500		1.500
25.6		1.500		1.500
28.8		1.500		1.500
32	0.0011	1.500		1.500

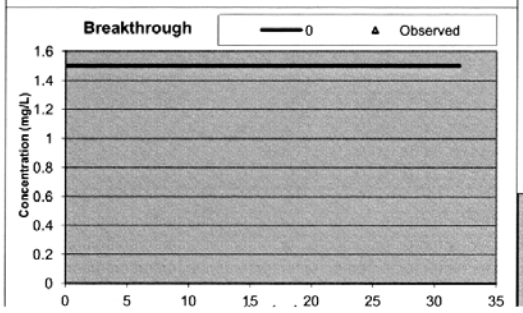
Site ID 00120

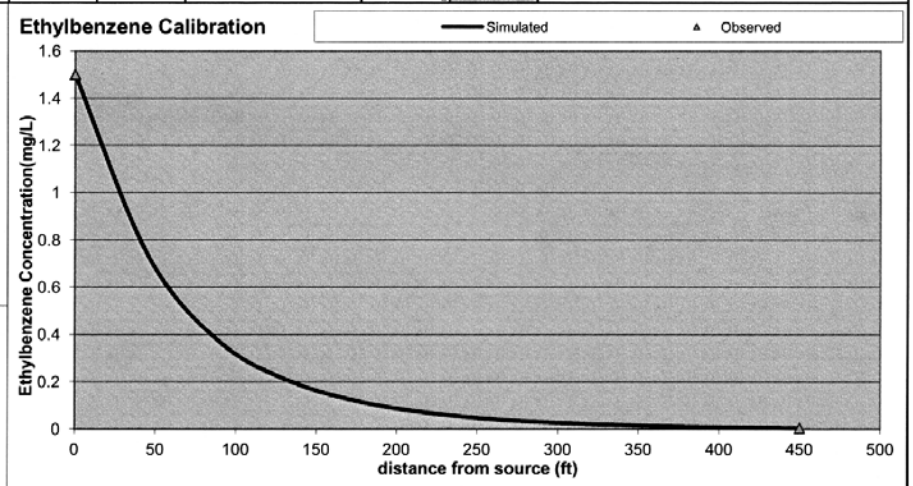
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.8	yrs	λ	0.385	yr^{-1}
v_x	40	ft/yr			
R	1.225				
v_R	32.646	ft/yr	C_{source}	1.5	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824

Xylenes Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	8.8	8.8
45		3.612
90		1.504
135		0.676
180		0.316
225		0.152
270		0.074
315		0.036
360		0.018
405		0.009
450	0.005	0.005

Temporal Calibration Data

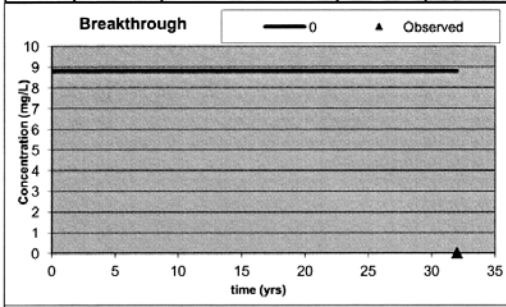
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		8.8		8.8
3.2		8.800		8.800
6.4		8.800		8.800
9.6		8.800		8.800
12.8		8.800		8.800
16		8.800		8.800
19.2		8.800		8.800
22.4		8.800		8.800
25.6		8.800		8.800
28.8		8.800		8.800
32	0.0188	8.800		8.800

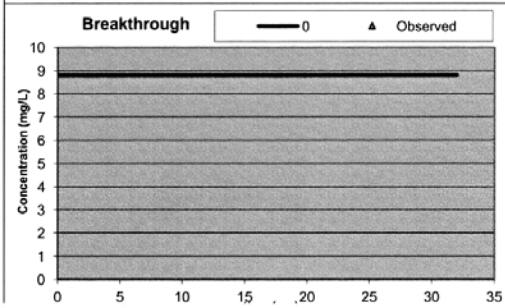
Site ID 00120

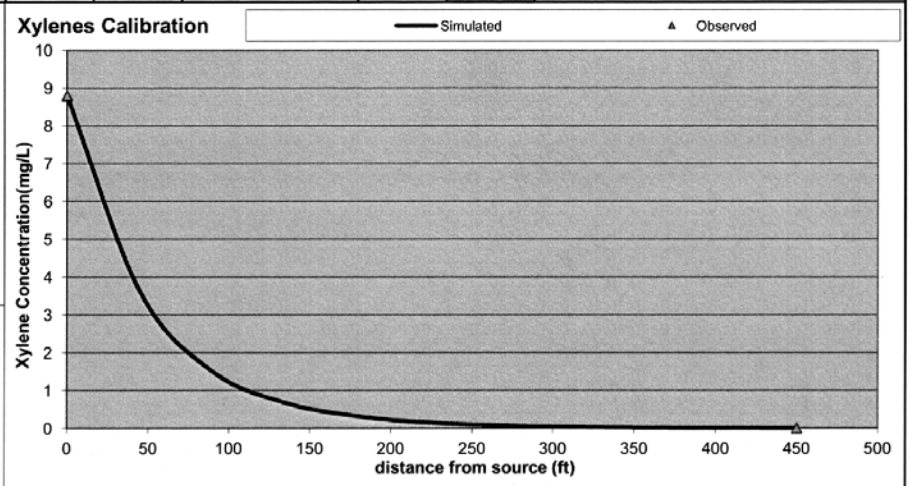
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.8	yrs	λ	0.385	yr^{-1}
v_x	40	ft/yr			
R	1.818				
v_R	22.003	ft/yr	C_{source}	8.8	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593

Naphthalene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.89	0.89
45		0.470
90		0.252
135		0.146
180		0.088
225		0.054
270		0.034
315		0.021
360		0.013
405		0.008
450	0.005	0.005

Temporal Calibration Data

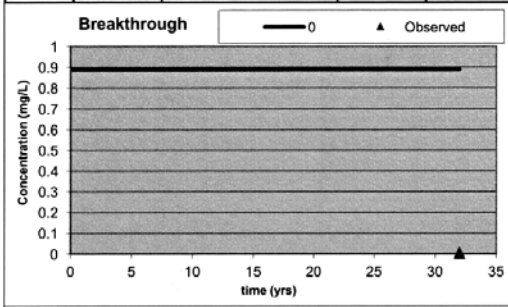
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		0.89		0.89
3.2		0.890		0.890
6.4		0.890		0.890
9.6		0.890		0.890
12.8		0.890		0.890
16		0.890		0.890
19.2		0.890		0.890
22.4		0.890		0.890
25.6		0.890		0.890
28.8		0.890		0.890
32	0.0033	0.890		0.890

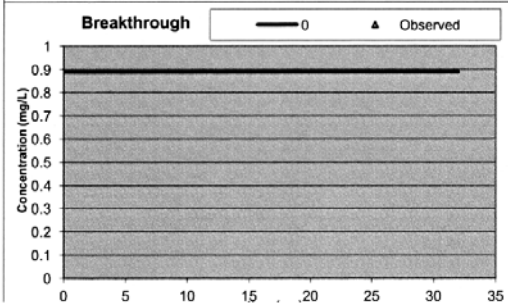
Site ID 00120

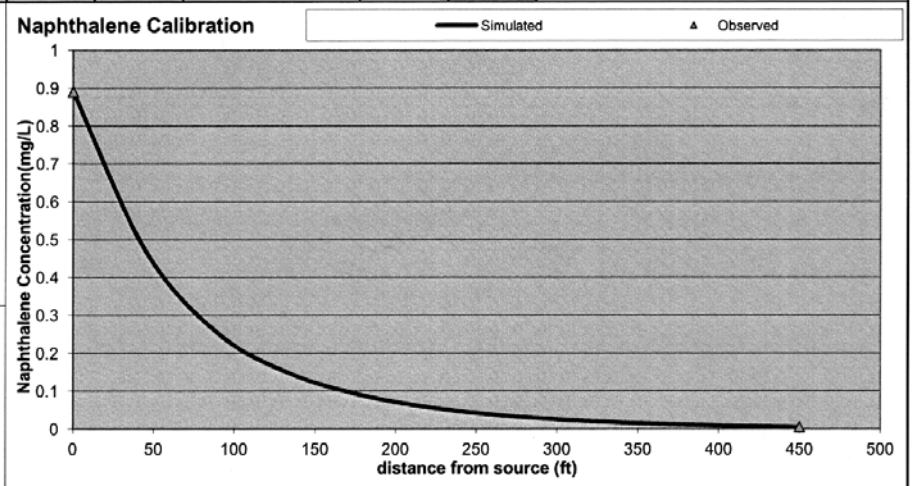
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	5.3	yrs	λ	0.13075	yr^{-1}
v_x	40	ft/yr			
R	2.975				
v_R	13.445	ft/yr	C_{source}	0.89	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682

1,2-DCA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2.5	2.5
45		1.178
90		0.563
135		0.290
180		0.156
225		0.086
270		0.048
315		0.027
360		0.016
405		0.009
450	0.005	0.005

Temporal Calibration Data

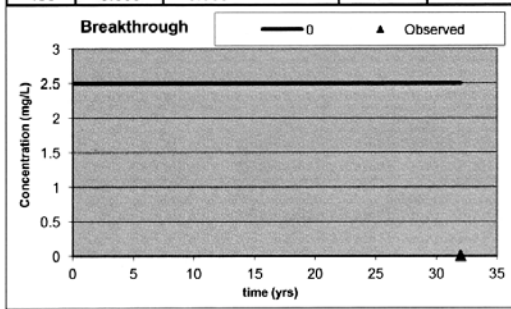
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		2.5		2.5
3.2		2.500		2.500
6.4		2.500		2.500
9.6		2.500		2.500
12.8		2.500		2.500
16		2.500		2.500
19.2		2.500		2.500
22.4		2.500		2.500
25.6		2.500		2.500
28.8		2.500		2.500
32	0.005	2.500		2.500

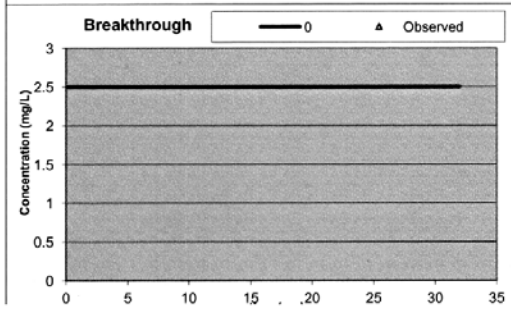
Site ID 00120

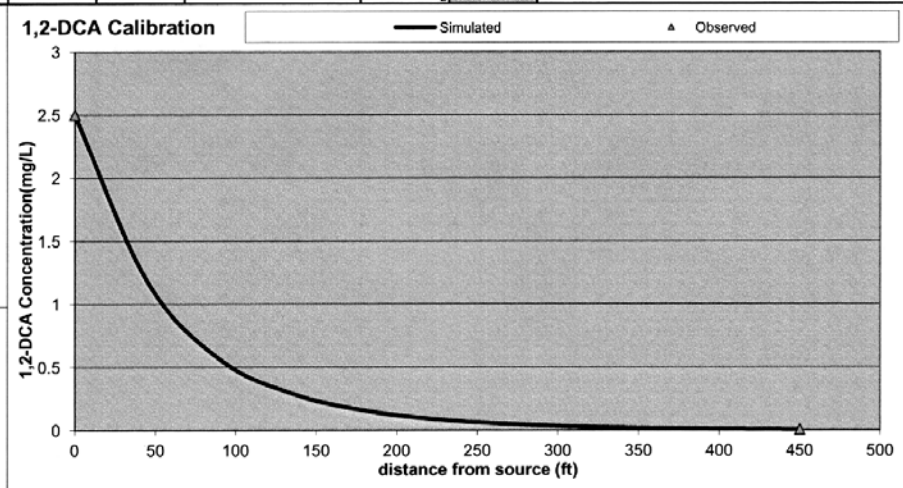
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.35	yrs	λ	0.51333	yr^{-1}
v_x	40	ft/yr			
R	1.022				
v_R	39.124	ft/yr	C_{source}	2.5	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181

SSTLs t 1000 yrs

UST Permit # 00120
Site Name: Robert's Energy

SSTLs in mg/L			RBSLs (mg/L):		1.000	0.700	10.000		0.025		0.005
MW #	x (ft)	y (ft)	z (ft)		Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL		Naphthalene SSTL		1,2-DCA SSTL
MW-1	680	0	0		>99999	2688.387	>99999		32.980		37.301
MW-2R	890	0	0		>99999	25376.749	>99999		223.806		432.225
MW-6R	490	0	0		26140.248	339.092	35079.699		5.607		3.908
MW-10	700	0	0		>99999	3334.496	>99999		39.640		47.178
MW-14R	600	0	0		>99999	1131.015	>99999		15.733		14.513
MW-18R	370	0	0		2573.787	88.668	5648.485		1.770		0.909
MW-22R	400	0	0		4610.673	124.426	8947.885		2.370		1.313
RW-1	710	0	0		>99999	3713.099	>99999		43.453		53.050
RW-2	700	0	0		>99999	3334.496	>99999		39.640		47.178
RW-3	670	0	0		>99999	2413.555	>99999		30.077		33.162
RW-4	680	0	0		>99999	2688.387	>99999		32.980		37.301
			λ (yr^{-1}):		0.815	0.385	0.385		0.131		0.513
			R:		1.170	1.225	1.818		2.975		1.022
			Pure Substance Solubility:		526	169	175		31		8520
			Effective Solubility:		26.54	3.7	21.68		6.7		3.7

calib. Line: RW-2 --> MW-19
X-MAX: 450
Receptors: SW-1, SW-2 (Whichever was closest)

Shallow Oxys

Domenico Model (Oxygenates)

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1.26.15

Groundwater Flow Parameters

K	500	ft/yr
dh/dx	0.01	
θ	0.25	dec. %
v_x	20	ft/yr

Transport Parameters

x_{max}	430	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
tBA	2	1
tAA	9.5	1
DIPE	2	1.5
tAME	0.13	1.5
EtBE	20	1.5
Ethanol	200	0.5

Retarded Velocity (ft/yr)

CoC	R	v_R
tBA	1.001	19.97
tAA	1.001	19.97
DIPE	1.002	19.96
tAME	1.002	19.96
EtBE	1.002	19.96
Ethanol	1.001	19.99

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

tBA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2	2
43		1.313
86		0.866
129		0.615
172		0.455
215		0.344
258		0.265
301		0.206
344		0.162
387		0.127
430	0.1	0.100

Temporal Calibration Data

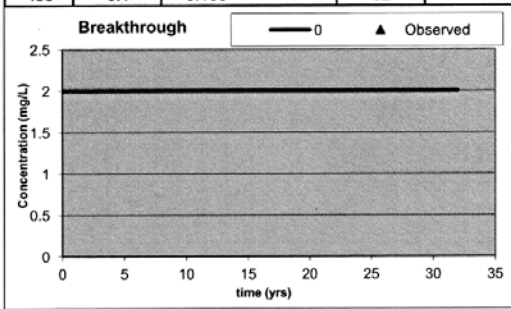
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		2		2
3.2		2.000		2.000
6.4		2.000		2.000
9.6		2.000		2.000
12.8		2.000		2.000
16		2.000		2.000
19.2		2.000		2.000
22.4		2.000		2.000
25.6		2.000		2.000
28.8		2.000		2.000
32		2.000		2.000

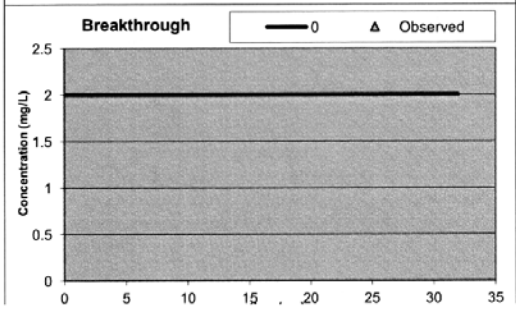
Site ID 00120

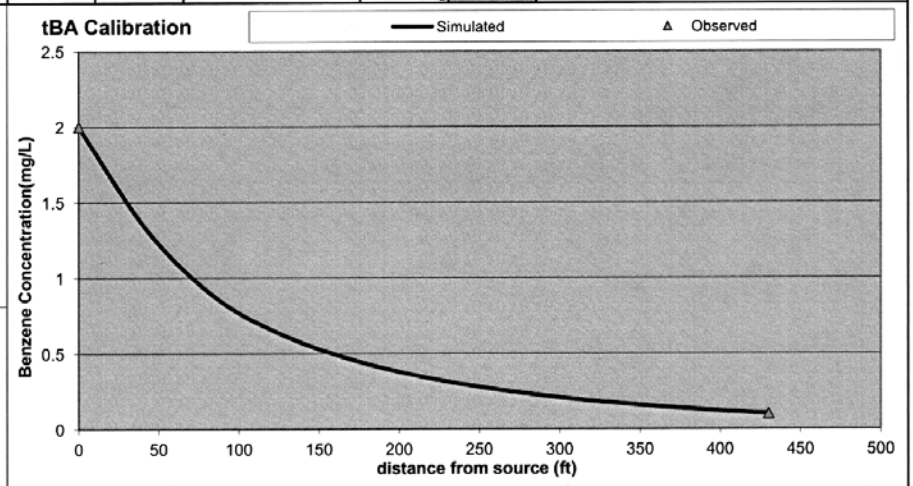
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	7.8	yrs	λ	0.08885	yr^{-1}
v_x	20	ft/yr			
R	1.001				
v_R	19.974	ft/yr	C_{source}	2	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003

tAA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	9.5	9.5
43		5.341
86		3.018
129		1.836
172		1.162
215		0.754
258		0.497
301		0.331
344		0.223
387		0.151
430	0.1	0.103

Temporal Calibration Data

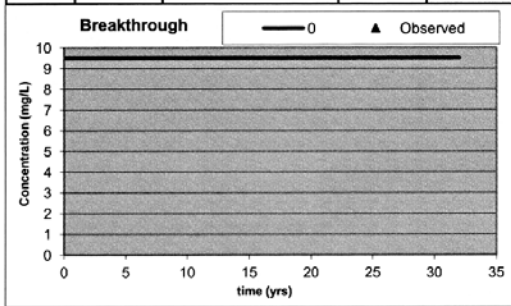
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		9.5		9.5
3.2		9.500		9.500
6.4		9.500		9.500
9.6		9.500		9.500
12.8		9.500		9.500
16		9.500		9.500
19.2		9.500		9.500
22.4		9.500		9.500
25.6		9.500		9.500
28.8		9.500		9.500
32		9.500		9.500

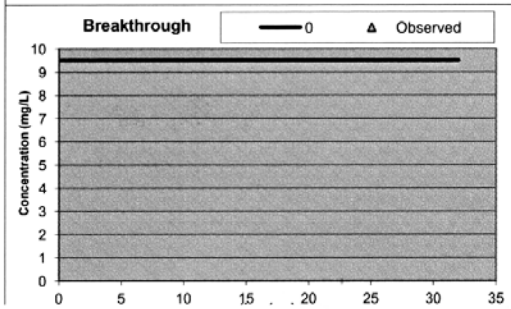
Site ID 00120

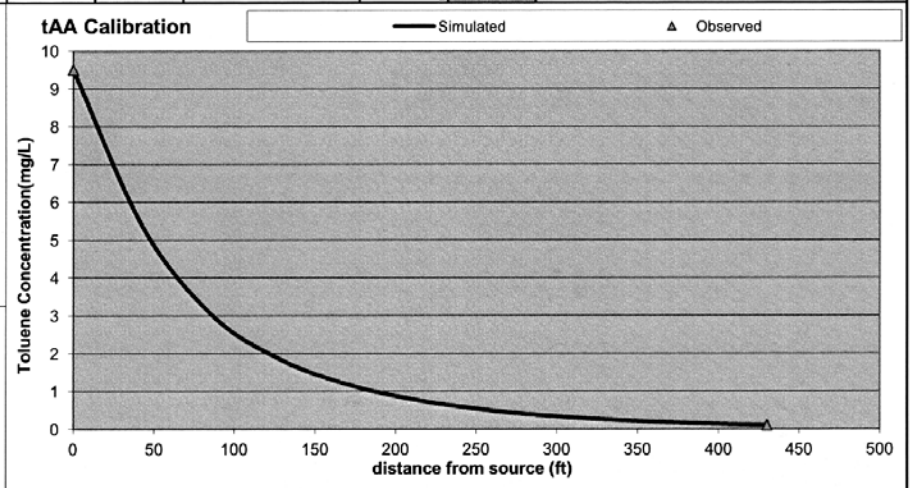
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.95	yrs	λ	0.17544	yr^{-1}
v_x	20	ft/yr			
R	1.001				
v_R	19.974	ft/yr	C_{source}	9.5	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514

DIPE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2	2
43		1.044
86		0.548
129		0.309
172		0.182
215		0.109
258		0.067
301		0.041
344		0.026
387		0.016
430	0.01	0.010

Temporal Calibration Data

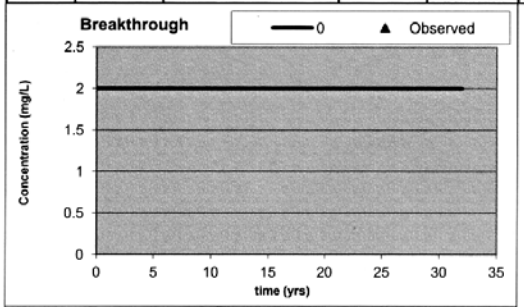
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		2		2
3.2		2.000		2.000
6.4		2.000		2.000
9.6		2.000		2.000
12.8		2.000		2.000
16		2.000		2.000
19.2		2.000		2.000
22.4		2.000		2.000
25.6		2.000		2.000
28.8		2.000		2.000
32		2.000		2.000

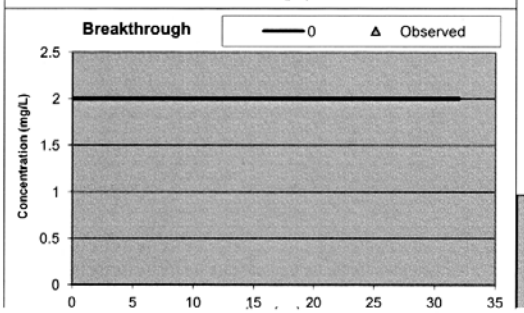
Site ID 00120

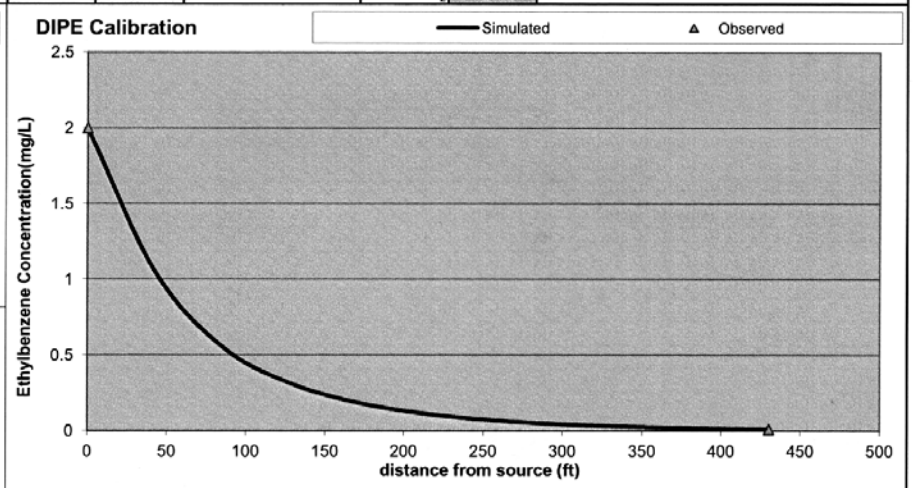
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.15	yrs	λ	0.22	yr^{-1}
v_x	20	ft/yr			
R	1.002				
v_R	19.962	ft/yr	C_{source}	2	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287

tAME Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.13	0.13
43		0.090
86		0.062
129		0.046
172		0.036
215		0.028
258		0.023
301		0.019
344		0.015
387		0.013
430	0.01	0.010

Temporal Calibration Data

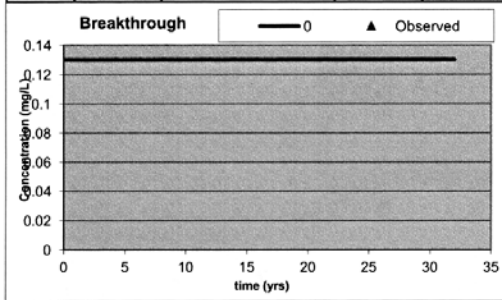
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		0.13		0.13
3.2		0.130		0.130
6.4		0.130		0.130
9.6		0.130		0.130
12.8		0.130		0.130
16		0.130		0.130
19.2		0.130		0.130
22.4		0.130		0.130
25.6		0.130		0.130
28.8		0.130		0.130
32		0.130		0.130

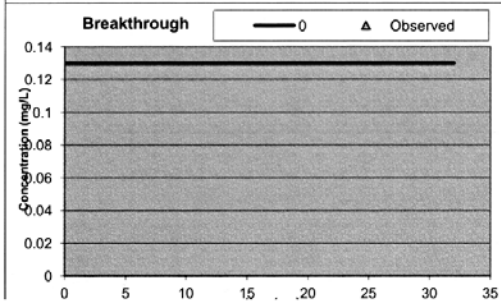
Site ID 00120

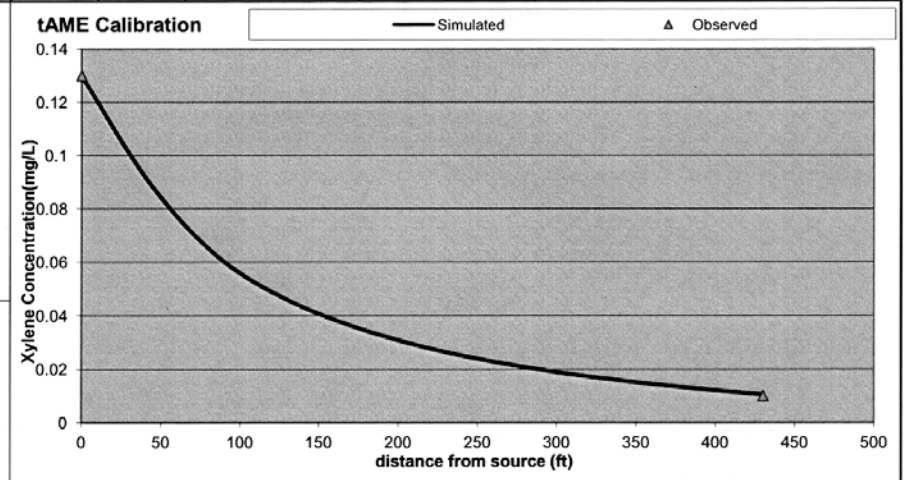
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	10.9	yrs	λ	0.06358	yr^{-1}
v_x	20	ft/yr			
R	1.002				
v_R	19.962	ft/yr	C_{source}	0.13	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439

Ethanol Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	200	200
43		104.091
86		54.462
129		30.667
172		17.970
215		10.790
258		6.586
301		4.067
344		2.534
387		1.589
430	1	1.001

Temporal Calibration Data

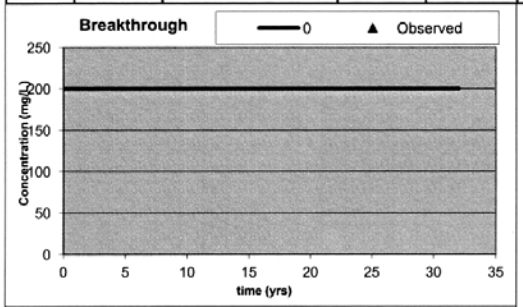
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		200		200
3.2		200.000		200.000
6.4		200.000		200.000
9.6		200.000		200.000
12.8		200.000		200.000
16		200.000		200.000
19.2		200.000		200.000
22.4		200.000		200.000
25.6		200.000		200.000
28.8		200.000		200.000
32		200.000		200.000

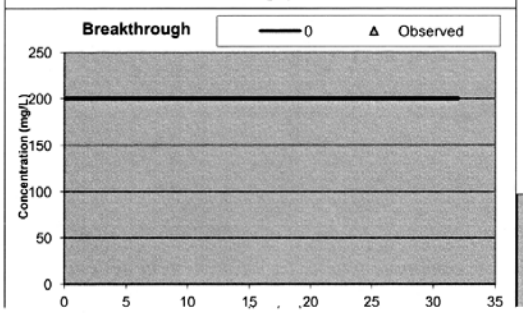
Site ID 00120

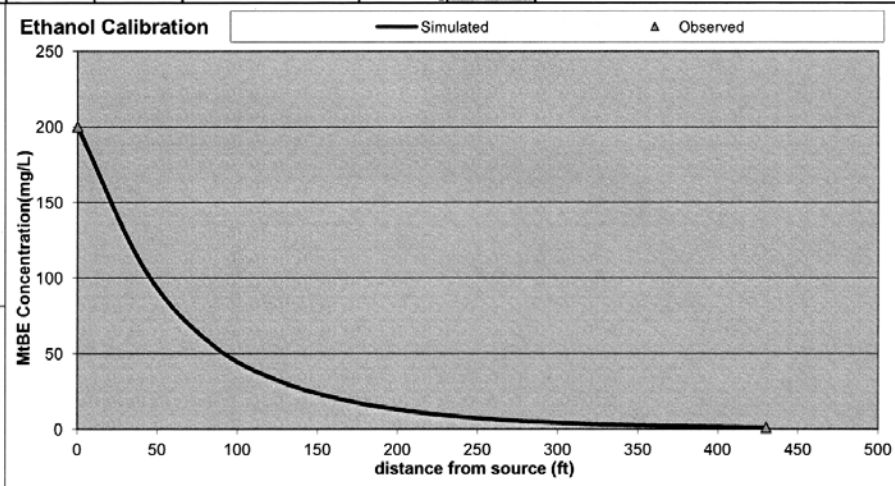
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.122	yrs	λ	0.22197	yr^{-1}
v_x	20	ft/yr			
R	1.001				
v_R	19.987	ft/yr	C_{source}	200	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906

EtBE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	20	20
43		10.408
86		5.445
129		3.066
172		1.796
215		1.078
258		0.658
301		0.406
344		0.253
387		0.159
430	0.1	0.100

Temporal Calibration Data

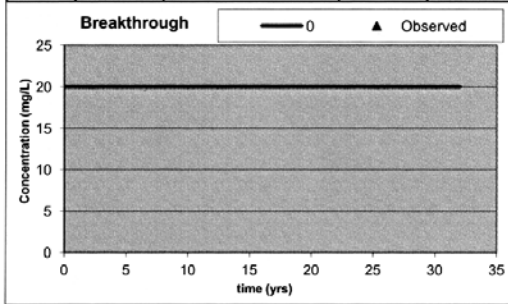
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		20		20
3.2		20.000		20.000
6.4		20.000		20.000
9.6		20.000		20.000
12.8		20.000		20.000
16		20.000		20.000
19.2		20.000		20.000
22.4		20.000		20.000
25.6		20.000		20.000
28.8		20.000		20.000
32		20.000		20.000

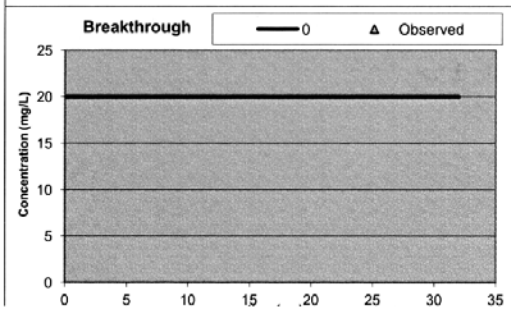
Site ID 00120

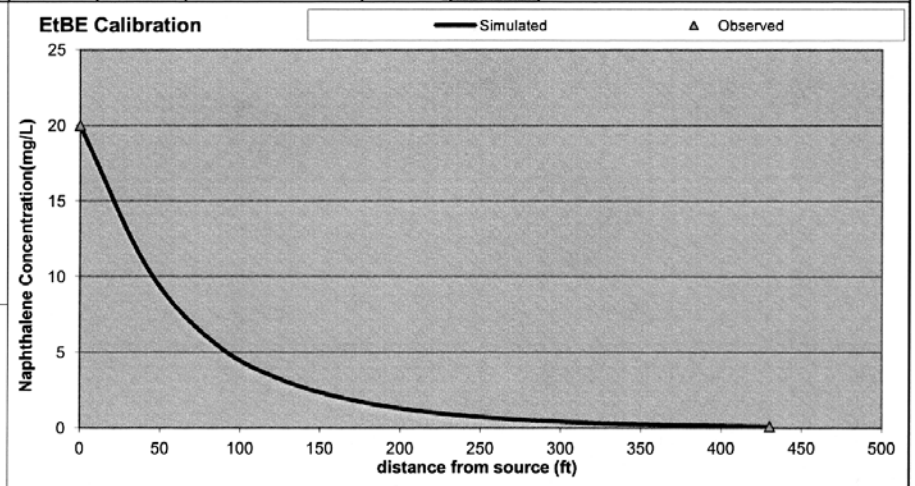
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.125	yrs	λ	0.22176	yr^{-1}
v_x	20	ft/yr			
R	1.002				
v_R	19.962	ft/yr	C_{source}	20	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972

UST Permit # 00120
Site Name: Robert's Ener

SSTLs t 1000 yrs

SSTLs in mg/L			RBSLs (mg/L):	1.400	0.240	0.150	0.128	10.000	0.047
MW #	x (ft)	y (ft)	z (ft)	tBA SSTL	tAA SSTL	DIPE SSTL	tAME SSTL	Ethanol SSTL	EtBE SSTL
MW-1	680	0	0	96.443	191.747	388.522	4.102	27051.961	127.375
MW-10	700	0	0	106.279	227.097	476.346	4.420	33209.392	156.375
MW-14R	600	0	0	65.116	97.034	171.206	3.031	11859.892	55.831
RW-1	935	0	0	324.765	1618.708	5098.101	10.368	>99999	1700.002
RW-2	700	0	0	106.279	227.097	476.346	4.420	33209.392	156.375
RW-3	670	0	0	91.858	176.166	350.830	3.951	24411.940	114.941
RW-4	680	0	0	96.443	191.747	388.522	4.102	27051.961	127.375
			λ (yr^{-1}):	0.089	0.175	0.220	0.064	0.222	0.222
			R:	1.001	1.001	1.002	1.002	1.001	1.002

D H E C

PROMOTE PROTECT PROSPER

W. Marshall Taylor Jr., Acting Director

Promoting and protecting the health of the public and the environment

UST DOCKETING 43tch

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

APR 10 2015

Re: **Site Specific Work Plan Request**
Groundwater Sampling Contract
Solicitation # IFB-5400007403, PO#4600368640

Dear Mr. Shane:

In accordance with bid solicitation # IFB-5400007403 and the UST Management Division Quality Assurance Program Plan (QAPP), Revision 2.0 it is requested that you submit a Site Specific Work Plan for each site listed below. The plans must be submitted **within 15 business days** to my attention. The project manager for each site will issue a notice to proceed once the plan has been reviewed and approved.

UST Permit	Site Name	County	# samples and requested analysis*	Project Manager
18447	Former Gulf Station	Orangeburg	5-BTEXMN, DCA, Oxygenates & EDB	R. Miner
11702	Colonel Creek Landing	Fairfield	4-BTEXMN, DCA, & Oxygenates	R. Miner
06926	Quick Pantry 12	Orangeburg	6-BTEXMN, DCA, & Oxygenates	R. Miner
00428	Roger's Auto Parts	Anderson	14- BTEXN, DCA, Oxygenates & EDB	R. Miner
00120	Robert's Energy	Aiken	32- BTEXN, DCA, Oxygenates & EDB	A. Thrash

*The number of samples do not include trip blanks, field blanks, or field duplicate

Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me at (803) 898-0606 or bryantjc@dhec.sc.gov.

Sincerely,

John C. Bryant, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Site Information Packages
cc: Technical Files

Midlands Environmental Consultants, Inc.

UST APR 1 6 2015 PROGRAM

April 15, 2015

RECEIVED APR 1 5 2015 SC Department of Health and Environmental Control

Mr. John Bryant, Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST 44 tech DOCKETING

Subject: Site-Specific Work Plan
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 15-5185
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Bryant,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Site-Specific Work Plan for the referenced site.

On April 14, 2015 MECI personnel performed a site visit to the subject site to evaluate site conditions, locate monitoring wells and identify potential problems for future sampling activities.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Todd D. Elder
Staff Hydrogeologist

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Midlands Environmental Consultants, Inc.

D H E C

PROMOTE PROTECT PROSPER

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

To: Ms. Ashleigh Thrash (SCDHEC Project Manager)
From: Mr. Jeff Coleman (Contractor Project Manager)
Contractor: Midlands Environmental Consultants, Inc. UST Contractor Certification Number: 009

Facility Name: Robert's Energy UST Permit #: 00120
Facility Address: 2031 Pisgah Road, North Augusta SC 29841
Responsible Party: Jackson Petroleum Company Phone: N/A
RP Address: N/A
Property Owner (if different): George McKie
Property Owner Address: 4667 Jefferson Davis Hwy, Beech Island, SC 29842
Current Use of Property: Convenience Store

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier I
- ☐ Tier II
- ☐ Monitoring Well Installation
- ☑ Groundwater Sampling
- ☐ Other
- ☐ GAC

Analyses (Please check all that apply)

Groundwater/Surface Water:

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

Soil:

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

Air:

- ☐ BTEXN

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

____ Soil	____ Water Supply Wells	____ Air	1 Field Blank
29 Monitoring Wells	2 Surface Water	2 Duplicate	1 Trip Blank

Field Screening Methodology

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

# of shallow points proposed: ____ Estimated Footage: ____ feet per point
# of deep points proposed: ____ Estimated Footage: ____ feet per point
Field Screening Methodology: ____

Permanent Monitoring Wells

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

# of shallow wells: ____ Estimated Footage: ____ feet per point
# of deep wells: ____ Estimated Footage: ____ feet per point
# of recovery wells: ____ Estimated Footage: ____ feet per point
Monitoring Well development method (consistent with SOP): ____
Comments, if warranted:

UST Permit #: 00120 Facility Name: Robert's Energy

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 4/29/2015 Field Work Completion: 5/29/2015
Report Submittal: 6/29/2015 # of Copies Provided to Property Owners: _____

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

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: 300.0 Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
-During the initial site visit, monitoring wells MW-13 and MW-17R were not located. If either of these wells are located during the sampling event, they will be sampled accordingly.
-All other wells were located and found to be in good condition.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

N/A Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

Yes Other variations from ACQAP. Please describe below.

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

D H E C

PROMOTE PROTECT PROSPER

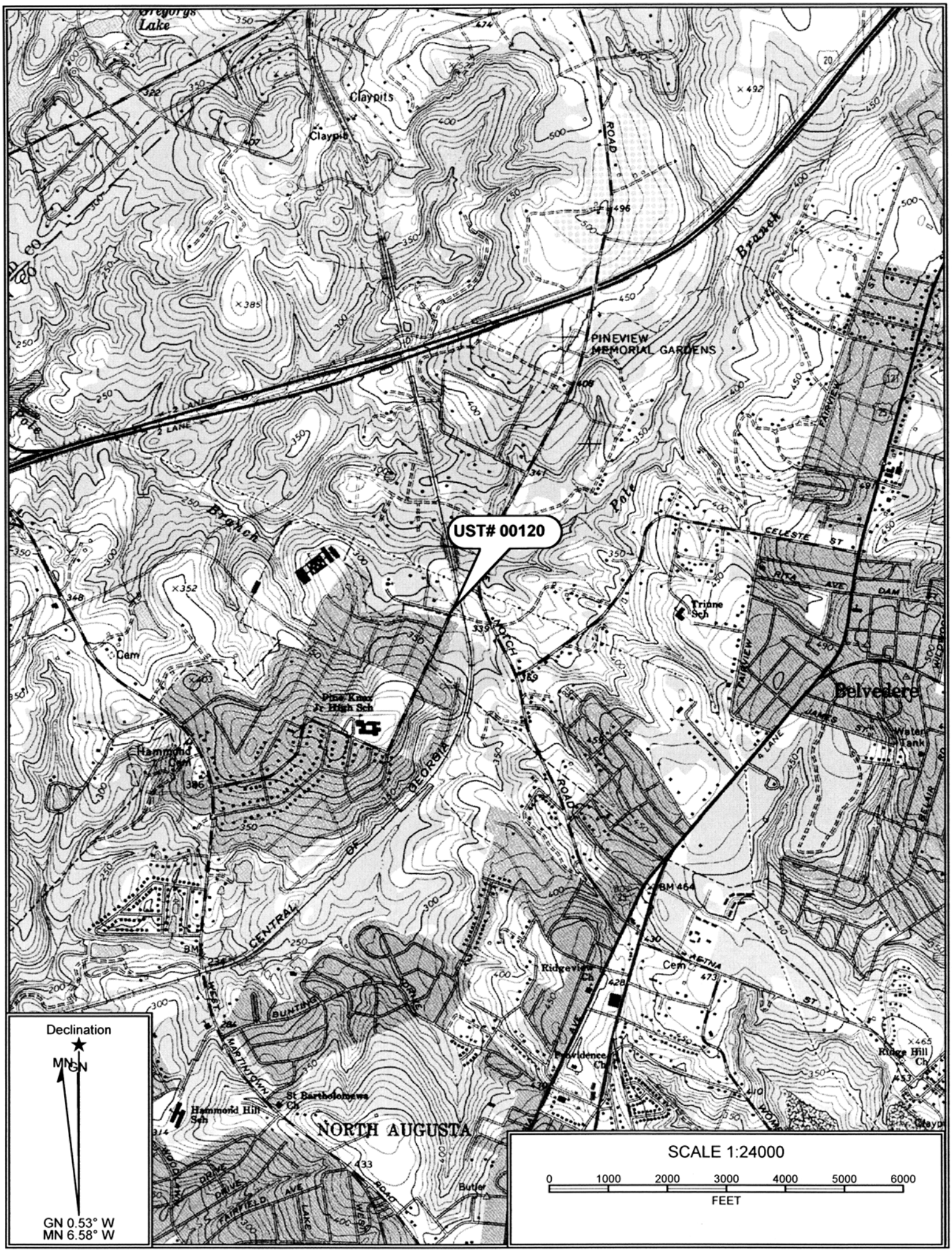
South Carolina Department of Health and Environmental Control

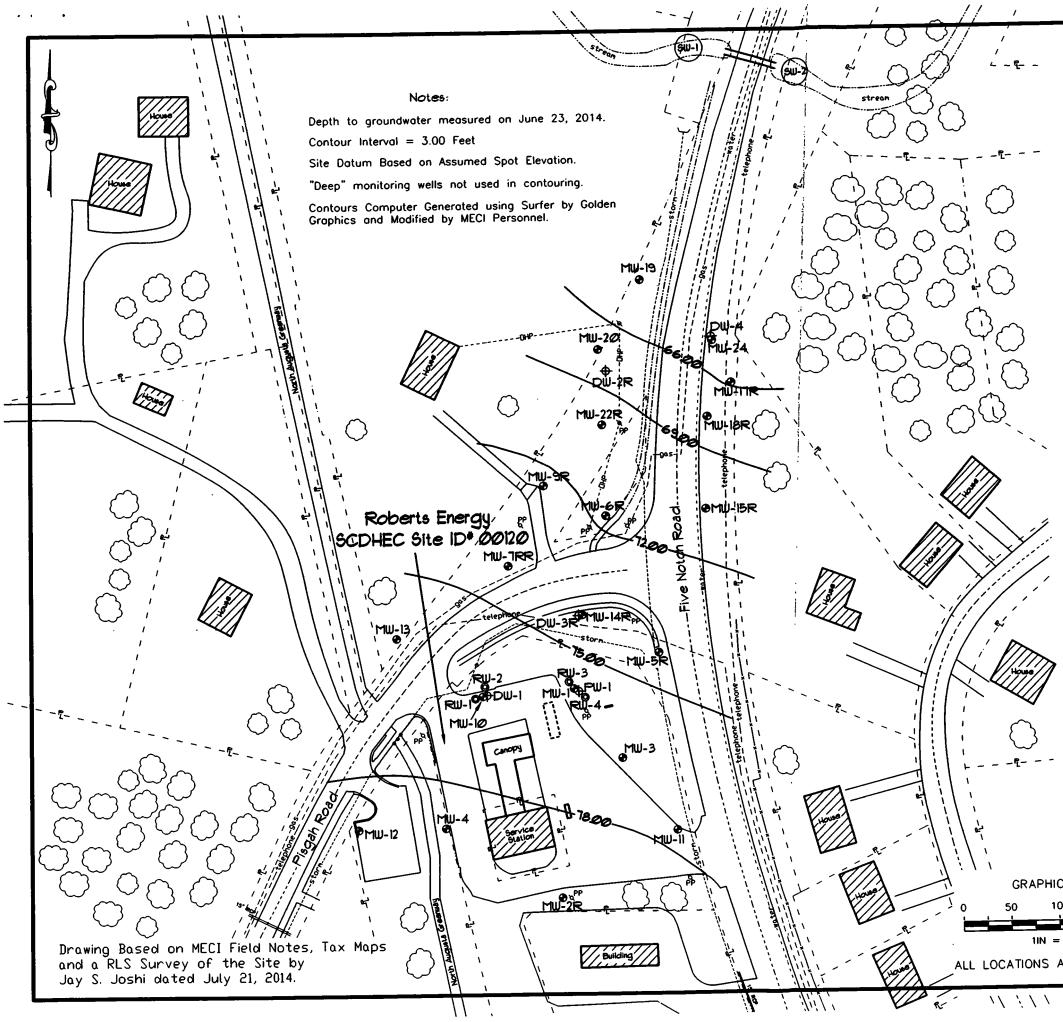
ASSESSMENT COMPONENT INVOICE
SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Management Division
State Underground Petroleum Environmental Response Bank Account
CONTRACT PO NUMBER 4600328425

Facility Name: **Robert's Energy**

UST Permit #: 00120 **Cost Agreement #:** Proposal

ITEM	QUANTITY	UNIT	UNIT PRICE		TOTAL
1. **Plan***					
A1. Site Specific Work Plan	1	each	$0.00		$0.00
C1. QAPP Appendix B		each	$0.00		$0.00
2. A1. Receptor Survey		each	$0.00		$0.00
4. **Mob/Demob**					
B1. Personnel	2	each	$350.00		$700.00
10. **Groundwater Sample Collection / Gauge Depth to Water or Product (Each)**					
A1. Groundwater Purge	29	per well	$16.00		$464.00
B1. Air or Vapors		samples	$0.00		$0.00
C1. Water Supply		samples	$5.00		$0.00
D1. Groundwater No Purge or Duplicate	2	per well	$8.00		$16.00
E1. Gauge Well only		per well	$0.00		$0.00
F1. Sample Below Product		per well	$0.00		$0.00
G1. Pasive Diffusion Bag		each	$20.00		$0.00
H1. Field Blank	1	each	$10.00		$10.00
17. **Disposal* (gallons or tons)**					
AA. Disposal/Water	300	gallons	$1.00		$300.00
BB. Free Product		gallons	$0.00		$0.00
Note: Rate includes costs or rental of suitable container(s)					
23. D. Site Reconnaissance		each	$0.00		$0.00
18. **Miscellaneous (attach receipts)**					
GW Contour Map		each	$25.00		$0.00
Isopleth Map		each	$25.00		$0.00
High-Strength Well Pad Replacement		each	$75.00		$0.00
Trip Blank	1	each	$10.00		$10.00
Data Table		each	$25.00		$0.00
25. **Well Repair**					
B1. Repair 2x2 MW Pad		each	$75.00		$0.00
C1. Repair 4x4 MW Pad		each	$75.00		$0.00
D1. Replace Well Vault		each	$75.00		$0.00
E. Replace well cover		each	$25.00		$0.00
F1. Replace well cover bolts		each	$2.60		$0.00
G. Replace locking well cap & lock		each	$15.00		$0.00
K1. Replace Missing Well ID Plate		each	$10.00		$0.00
TOTAL					$1,500.00


UST# 00120
Gregorys Lake
Claypits
PINEVIEW MEMORIAL GARDENS
Pole Branch
Pine Knox Jr High Sch
Hammond Cem
CENTRAL OF GEORGIA
Trinne Sch
Belvedere
Water Tank
Ridgeview Ch
Providence Ch
St Bartholomews Ch
Hammond Hill Sch
NORTH AUGUSTA
Ridge Hill Ch
Butler
Declination
MN
GN
GN 0.53° W
MN 6.58° W
SCALE 1:24000
0
1000
2000
3000
4000
5000
6000
FEET



Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated July 21, 2014.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-Inch Recovery Well
- (SW-2) Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks

Potentiometric Data

Well #	Screened Interval (ft)	Depth to Water (ft)	Well Head Elevation	Groundwater Elevation
MW-1	15-29	22.13	97.91	75.78
MW-2R	15-30	22.64	101.78	79.14
MW-3	17-27	22.43	99.17	76.74
MW-4	17-27	21.33	99.81	78.48
MW-5R	10.5-20.5	13.21	87.40	74.19
MW-6R	7-17	11.68	83.26	71.58
MW-7RR	14-24	17.40	91.67	74.27
MW-9R	10-20	12.86	85.41	72.55
MW-10	15-30	21.39	97.88	76.49
MW-11	15-30	21.19	98.99	77.80
MW-12	15-30	18.21	96.75	78.54
MW-13	15-30	18.59	94.88	76.29
MW-14R	12.5-22.5	14.98	89.02	74.04
MW-15R	4-14	6.25	77.29	71.04
MW-17R	5-15	2.78	68.58	65.80
MW-18R	2-12	5.54	73.27	67.73
MW-19	5-15	7.39	70.99	63.60
MW-20	5-15	7.76	75.23	67.47
MW-22R	5-15	8.46	79.27	70.81
MW-24	3-13	5.56	70.83	65.27
DW-1	55-60	21.29	97.40	76.11
DW-2R	55-60	7.37	75.69	68.32
DW-3R	55-60	18.22	89.50	71.28
DW-4	52-57	2.11	70.93	68.82
PW-1	36-46	22.81	98.24	75.43
RW-1	15-30	21.05	97.98	76.93
RW-2	15-30	21.49	97.87	76.38
RW-3	15-30	22.12	97.91	75.79
RW-4	15-30	22.09	97.97	75.88

Potentiometric Data Site Map
(Groundwater Contour)

Robert's Energy I
2031 Plaugh Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771
DATE July 25, 2014
FIGURE 5

D H E C
PROMOTE PROTECT PROSPER
W. Marshall Taylor Jr., Acting Director
Promoting and protecting the health of the public and the environment

UST DOCKETING 45 tech

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

APR 2 7 2015

Re: Notice to Proceed-Site Specific Work Plan Approval
Groundwater Sampling Contract
Solicitation #IFB-5400007403, PO#4600368640
Robert's Energy 1, 2031 Pisgah Road, North Augusta, SC
UST Permit #00120; CA #50191 (Pace CA #50191)
Aiken County

Dear Mr. Shane:

In accordance with bid solicitation #IFB-5400007403 and the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Work Plan has been reviewed and approved. In accordance with the approved ACQAP, a status report of the project should be provided on a weekly basis via e-mail. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken, and the results must be included in the final report submitted to the UST Management Division.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

Please note; sampling should be conducted within 15 calendar days from the date of this letter. The final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed. The final report should contain the requirements of Section III.2.15 of the bid solicitation. The final report should be submitted to John Bryant, the contract manager.

If you have any site-specific questions, please contact me at (803) 898-0607 or via e-mail at thrasham@dhec.sc.gov. If you have any contract specific questions, please contact John Bryant at (803) 898-0606 or via e-mail at bryantjc@dhec.sc.gov.

Sincerely,

Ashleigh Thrash

Ashleigh Thrash, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved Cost Agreement (both CAs)

cc: John Bryant, Corrective Action Section, UST Management Division (w/o encs.)
Trey Carter, Pace Analytical Services, 9800 Kincey Ave, Ste 100, Huntersville, NC, 28078 (w/ approved CA)
Technical Files (w/ encs.)

Approved Cost Agreement 50192

Facility: 00120 ROBERTS ENERGY 1
THRASHAM
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	37.0000	19.00	703.00
		F1	EDB BY 8011	36.0000	18.00	648.00
				Total Amount		1,351.00

Approved Cost Agreement 50191

Facility: 00120 ROBERTS ENERGY 1
THRASHAM
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B1	PERSONNEL	2.0000	350.00	700.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	31.0000	16.00	496.00
		C1	WATER SUPPLY	2.0000	5.00	10.00
		D1	GROUNDWATER NO PURGE/DUPLICATE	2.0000	8.00	16.00
		H1	FIELD BLANK	1.0000	10.00	10.00
17 DISPOSAL						
		AA	WASTEWATER	300.0000	1.00	300.00
18 MISCELLANEOUS						
			SITE SPECIFIC WORK PLAN	1.0000	0.00	0.00
			TRIP BLANK	1.0000	10.00	10.00
				Total Amount		1,542.00

Midlands
Environmental
Consultants, Inc.

UST
Ashleigh
MAY 07 2015
PROGRAM

May 4, 2015

RECEIVED
MAY 07 2015
SC Department of
Health and Environmental
Control

Mr. John C. Bryant, Hydrogeologist
Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
DOCKETING
46 tech

Subject: Report of Groundwater Sampling
Robert's Energy
N. Augusta, South Carolina
SCDHEC Site ID Number 00120; CA# 50191
MECI Project Number 15-5185
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Bryant,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling for the referenced site. This report describes site activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control's (SCDHEC) Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP).

PROJECT INFORMATION

The subject site (Robert's Energy) is located at 2031 Pisgah Road, North Augusta, Aiken County, South Carolina. The subject site previously maintained three 4,000 gallon gasoline underground storage tanks (UST's). These UST's were abandoned by removal from ground in January of 1999. The subject site currently maintains one 12,000 gallon UST of multiple petroleum types. The South Carolina Department of Health and Environmental Control reported and confirmed a release of petroleum product in November of 1997. The subject site is currently rated a Class 3BF.

The above information is based on reports and correspondence obtained from MECI field notes and SCDHEC files.

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On May 1st, 2015, MECI personnel collected groundwater samples from twenty-nine (29) monitoring wells, and two (2) surface waters at the subject site. MECI personnel utilized an electronic water level indicator for water level measurements and an oil/water interface probe for free phase petroleum product level measurements. Five (5) monitoring wells were purged prior to sampling. Purging was completed by bailing at least five well volumes of water from the well, until pH,

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

conductivity, dissolved oxygen stabilized to within 10%, or all water was evacuated from the well, whichever occurred first. Sampling/purging was completed utilizing a prepackaged, clear, disposable polyethylene bailer and nylon rope. A new set of nitrile gloves were worn at each monitoring well, and at all time samples were handled. Field measurements of pH, conductivity, dissolved oxygen, water temperature, and turbidity were obtained before well sampling process. MECI utilized YSI550A meter for DO (mg/L) and temperature readings (°C), YSI63 meters for pH and conductivity (uS) readings and a MicroTPI/TPW turbidimeter for turbidity readings (NTU). The attached Field Data Information Sheets presents the results of the field measurements obtained. The wells were sampled in accordance with SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP, Revision 2.0) and MECI's Standard Operating Procedures (January, 2014).

Groundwater samples obtained were sent to Pace Analytical Services, Inc. of Huntersville, NC (SCDHEC Laboratory Certification #99006001) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
					Analyte Sampled									
MW-1		X			X	X	X	X						
MW-2R		X			X	X	X	X						
MW-3		X			X	X	X	X						
MW-4		X			X	X	X	X						
MW-5R		X			X	X	X	X						
MW-6R		X			X	X	X	X						
MW-7RR		X			X	X	X	X						
MW-9R		X			X	X	X	X						
MW-10		X			X	X	X	X						
MW-11		X			X	X	X	X						
MW-12		X			X	X	X	X						
MW-13		X			X	X	X	X						
MW-14R		X			X	X	X	X						
MW-15R		X			X	X	X	X						
MW-17R		X			X	X	X	X						
MW-18R		X			X	X	X	X						
MW-19		X			X	X	X	X						
MW-20		X			X	X	X	X						
MW-22R		X			X	X	X	X						
MW-24		X			X	X	X	X						

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons
Trip Blank provided by Pace Analytical Services, temperature obtained upon receipt at Laboratory

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
					Analyte Sampled									
DW-1	X				X	X	X	X						
DW-2R	X				X	X	X	X						
DW-3R	X				X	X	X	X						
DW-4	X				X	X	X	X						
PW-1	X				X	X	X	X						
RW-1		X			X	X	X	X						
RW-2		X			X	X	X	X						
RW-3		X			X	X	X	X						
RW-4		X			X	X	X	X						
SW-1		X			X	X	X	X						
SW-2		X			X	X	X	X						
MW-5R Duplicate		X			X	X	X	X						
MW-15R Duplicate		X			X	X	X	X						
Field Blank		X			X	X	X	X						
Trip Blank		X			X		X	X						

Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane
PAH = polycyclic aromatic hydrocarbons
Trip Blank provided by Pace Analytical Services, temperature obtained upon receipt at Laboratory

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 110.0 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

Todd D. Elder
Staff Hydrogeologist

Jeff L. Coleman
Senior Scientist

Attachments:

Contractor Checklist

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

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

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #: 00120
Facility Name: Robert's Energy
County: Aiken
Field Personnel: T. Abbott, A. Looper, P. Wylie

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-1	Y	5/1/15	13:09	15-29	***	22.49	***	***	Odor
MW-2R	Y	5/1/15	11:52	15-30	***	23.28	***	***	No odor
MW-3	Y	5/1/15	12:26	17-27	***	22.87	***	***	No odor
MW-4	Y	5/1/15	12:01	17-27	***	21.97	***	***	No odor
MW-5R	Y	5/1/15	12:32	10.5-20.5	***	13.33	***	***	No odor
MW-6R	Y	5/1/15	9:21	7-17	***	11.71	***	***	Slight odor
MW-7RR	Y	5/1/15	10:20	14-25	***	17.68	***	***	No odor
MW-9R	Y	5/1/15	10:31	10-20	***	13.01[1]	***	***	No odor
MW-10	Y	5/1/15	12:45	15-30	***	21.83	***	***	No odor
MW-11	Y	5/1/15	12:11	15-30	***	21.73	***	***	No odor
MW-12	Y	5/1/15	11:57	15-30	***	18.74	***	***	No odor
MW-13	Y	5/1/15	10:10	15-30	***	19.01	***	***	No odor
								0.0	**TOTAL GALLONS PURGED**

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #: 00120
Facility Name: Robert's Energy
County: Aiken
Field Personnel: T. Abbott, A. Looper, P. Wylie

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-14R	Y	5/1/15	11:37	12.5-22.5	***	16.21	***	***	Odor
MW-15R	Y	5/1/15	10:38	4-14	***	5.95	***	***	Odor; Duplicated
MW-17R	Y	5/1/15	10:49	2-12	***	2.34	***	***	No odor
MW-18R	Y	5/1/15	10:51	2-12	***	5.39	***	***	No odor
MW-19	Y	5/1/15	9:49	5-15	***	6.49	***	***	No odor
MW-20	Y	5/1/15	9:48	5-15	***	7.61	***	***	No odor
MW-22R	Y	5/1/15	9:34	5-15	***	8.46	***	***	No odor
MW-24	Y	5/1/15	11:04	5-15	***	6.14	***	***	No odor
DW-1	Y	5/1/15	13:02	55-60	***	20.36	***	20.0	No odor
DW-2R	Y	5/1/15	9:42	55-60	***	7.05	***	21.0	No odor
DW-3R	Y	5/1/15	11:43	55-60	***	17.61	***	15.0	No odor
DW-4	Y	5/1/15	11:35	52-57	***	1.24	***	35.0	No odor
								91.0	**TOTAL GALLONS PURGED**

Site Activity Summary

Midlands Environmental Consultants, Inc.

UST Permit #: 00120
Facility Name: Robert's Energy
County: Aiken
Field Personnel: T. Abbott, A. Looper, P. Wylie

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
PW-1	Y	5/1/15	13:37	36-46	***	23.16	***	19.0	No odor
RW-1	Y	5/1/15	12:53	15-30	***	21.51	***	***	Odor
W-2	Y	5/1/15	13:02	15-30	***	23.92	***	***	Odor
RW-3	Y	5/1/15	13:06	15-30	***	22.49	***	***	Odor
RW-4	Y	5/1/15	13:14	15-30	***	22.40	***	***	Odor
SW-1	Y	5/1/15	10:08	***	***	***	***	***	No odor
SW-2	Y	5/1/15	10:15	***	***	***	***	***	No odor
MW-5R DUP	Y	5/1/15	12:33	***	***	***	***	***	Duplicate sample
MW-15R DUP	Y	5/1/15	10:39	***	***	***	***	***	Duplicate sample
Field Blank	Y	5/1/15	13:40	***	***	***	***	***	Field Blank
Trip Blank	Y	5/1/15	13:41	***	***	***	***	***	Trip Blank
								19.0	**TOTAL GALLONS PURGED**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.49			feet
Total Well Depth (TWD)	29			feet
Length of the water column (LWC=TWD-DGW)			6.51	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.06	gallons
5 casing volume (5 X CV)=		5	5.31	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:09							
pH (s.u.)	6.78							
Specific Conductivity (μmhos/cm)	76.9							
Water Temperature (°C)	0.3							
Dissolved Oxygen	2.21							
Turbidity (NTU)	38.92							

Remarks: Sample Time: 13:09 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-2R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	23.28			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			6.72	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.10	gallons
5 casing volume (5 X CV)=		5	5.48	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:52							
pH (s.u.)	5.92							
Specific Conductivity (µmhos/cm)	176.2							
Water Temperature (°C)	19.5							
Dissolved Oxygen	2.74							
Turbidity (NTU)	21.63							

Remarks: Sample Time: 13:09 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.87			feet
Total Well Depth (TWD)	27			feet
Length of the water column (LWC=TWD-DGW)			4.13	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.67	gallons
5 casing volume (5 X CV)=		5	3.37	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:26							
pH (s.u.)	5.42							
Specific Conductivity (μmhos/cm)	66.2							
Water Temperature (°C)	21.3							
Dissolved Oxygen	1.89							
Turbidity (NTU)	22.68							

Remarks: Sample Time: 12:26 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.97			feet
Total Well Depth (TWD)	27			feet
Length of the water column (LWC=TWD-DGW)			5.03	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.82	gallons
5 casing volume (5 X CV)=		5	4.10	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:01							
pH (s.u.)	6.21							
Specific Conductivity (µmhos/cm)	57.3							
Water Temperature (°C)	19.1							
Dissolved Oxygen	1.78							
Turbidity (NTU)	29.63							

Remarks: Sample Time: 12:26 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-5R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	13.33			feet
Total Well Depth (TWD)	20.5			feet
Length of the water column (LWC=TWD-DGW)			7.17	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.17	gallons
5 casing volume (5 X CV)=		5	5.84	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:32							
pH (s.u.)	6.23							
Specific Conductivity (μmhos/cm)	60.9							
Water Temperature (°C)	20.3							
Dissolved Oxygen	2.98							
Turbidity (NTU)	23.26							

Remarks: Sample Time: 12:32 **No purge**
Duplicated

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-6R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	11.71			feet
Total Well Depth (TWD)	17			feet
Length of the water column (LWC=TWD-DGW)			5.29	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.86	gallons
5 casing volume (5 X CV)=		5	4.31	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:21							
pH (s.u.)	5.96							
Specific Conductivity (μmhos/cm)	51.7							
Water Temperature (°C)	19.0							
Dissolved Oxygen	2.91							
Turbidity (NTU)	26.79							

Remarks: Sample Time: 9:21 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-7RR

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	17.68			feet
Total Well Depth (TWD)	24			feet
Length of the water column (LWC=TWD-DGW)			6.32	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.03	gallons
5 casing volume (5 X CV)=		5	5.15	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:20							
pH (s.u.)	6.22							
Specific Conductivity (μmhos/cm)	74.7							
Water Temperature (°C)	20.0							
Dissolved Oxygen	2.68							
Turbidity (NTU)	21.43							

Remarks: Sample Time: 10:20 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-9R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	13.01			feet
Total Well Depth (TWD)	20			feet
Length of the water column (LWC=TWD-DGW)			6.99	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.14	gallons
5 casing volume (5 X CV)=		5	5.70	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:31							
pH (s.u.)	6.36							
Specific Conductivity (μmhos/cm)	110.8							
Water Temperature (°C)	19.7							
Dissolved Oxygen	1.82							
Turbidity (NTU)	22.63							

Remarks: Sample Time: 10:31 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-10

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.83			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			8.17	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.33	gallons
5 casing volume (5 X CV)=		5	6.66	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:45							
pH (s.u.)	7.16							
Specific Conductivity (μmhos/cm)	67.3							
Water Temperature (°C)	20.8							
Dissolved Oxygen	3.21							
Turbidity (NTU)	26.78							

Remarks: Sample Time: 12:45 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-11

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.73			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			8.27	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.35	gallons
5 casing volume (5 X CV)=		5	6.74	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:11							
pH (s.u.)	6.11							
Specific Conductivity (μmhos/cm)	61.7							
Water Temperature (°C)	19.8							
Dissolved Oxygen	1.89							
Turbidity (NTU)	22.63							

Remarks: Sample Time: 12:11 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-12

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	18.74			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			11.259	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.84	gallons
5 casing volume (5 X CV)=		5	9.18	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:57							
pH (s.u.)	6.17							
Specific Conductivity (µmhos/cm)	124.3							
Water Temperature (°C)	19.1							
Dissolved Oxygen	2.68							
Turbidity (NTU)	21.22							

Remarks: Sample Time: 11:57 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-13

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	19.01			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			10.99	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.79	gallons
5 casing volume (5 X CV)=		5	8.96	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:10							
pH (s.u.)	6.09							
Specific Conductivity (μmhos/cm)	106.3							
Water Temperature (°C)	19.8							
Dissolved Oxygen	1.76							
Turbidity (NTU)	28.96							

Remarks: Sample Time: 10:10 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-14R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	16.21			feet
Total Well Depth (TWD)	22.5			feet
Length of the water column (LWC=TWD-DGW)			6.29	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.03	gallons
5 casing volume (5 X CV)=		5	5.13	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:37							
pH (s.u.)	6.71							
Specific Conductivity (µmhos/cm)	56.5							
Water Temperature (°C)	20.6							
Dissolved Oxygen	1.78							
Turbidity (NTU)	26.79							

Remarks: Sample Time: 11:37 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-15R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	5.95			feet
Total Well Depth (TWD)	14			feet
Length of the water column (LWC=TWD-DGW)			8.05	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.31	gallons
5 casing volume (5 X CV)=		5	6.56	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:38							
pH (s.u.)	6.31							
Specific Conductivity (µmhos/cm)	162.9							
Water Temperature (°C)	19.4							
Dissolved Oxygen	1.88							
Turbidity (NTU)	20.19							

Remarks: Sample Time: 10:38 **No purge**
Duplicated

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-17R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	2.34			feet
Total Well Depth (TWD)	12			feet
Length of the water column (LWC=TWD-DGW)			9.66	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.57	gallons
5 casing volume (5 X CV)=		5	7.87	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:49							
pH (s.u.)	5.92							
Specific Conductivity (μmhos/cm)	50.3							
Water Temperature (°C)	18.5							
Dissolved Oxygen	2.63							
Turbidity (NTU)	24.91							

Remarks: Sample Time: 10:49 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-18R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	5.39			feet
Total Well Depth (TWD)	12			feet
Length of the water column (LWC=TWD-DGW)			6.61	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.08	gallons
5 casing volume (5 X CV)=		5	5.39	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:51							
pH (s.u.)	6.13							
Specific Conductivity (μmhos/cm)	88.5							
Water Temperature (°C)	18.6							
Dissolved Oxygen	2.38							
Turbidity (NTU)	24.38							

Remarks: Sample Time: 10:51 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-19

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	6.49			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			8.51	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.39	gallons
5 casing volume (5 X CV)=		5	6.94	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:49							
pH (s.u.)	6.12							
Specific Conductivity (µmhos/cm)	45.2							
Water Temperature (°C)	17.5							
Dissolved Oxygen	1.72							
Turbidity (NTU)	27.45							

Remarks: Sample Time: 9:49 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-20

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	7.61			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			7.39	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.20	gallons
5 casing volume (5 X CV)=		5	6.02	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:48							
pH (s.u.)	6.27							
Specific Conductivity (μmhos/cm)	51.2							
Water Temperature (°C)	2.7							
Dissolved Oxygen	25.69							
Turbidity (NTU)	27.45							

Remarks: Sample Time: 9:48 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-22R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	8.46			feet
Total Well Depth (TWD)	15			feet
Length of the water column (LWC=TWD-DGW)			6.54	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.07	gallons
5 casing volume (5 X CV)=		5	5.33	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:34							
pH (s.u.)	5.68							
Specific Conductivity (μmhos/cm)	90.2							
Water Temperature (°C)	18.6							
Dissolved Oxygen	2.76							
Turbidity (NTU)	22.94							

Remarks: Sample Time: 9:34 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** MW-24

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	6.14			feet
Total Well Depth (TWD)	13			feet
Length of the water column (LWC=TWD-DGW)			6.86	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.12	gallons
5 casing volume (5 X CV)=		5	5.59	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:04							
pH (s.u.)	5.72							
Specific Conductivity (µmhos/cm)	47.7							
Water Temperature (°C)	19.5							
Dissolved Oxygen	2.63							
Turbidity (NTU)	19.68							

Remarks: Sample Time: 11:04 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	20.36			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			39.64	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.46	gallons
5 casing volume (5 X CV)=		5	32.31	gallons

Total Volume of Water Purged Before Sampling 20 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:41	12:48	12:55	13:02				
pH (s.u.)	5.73	5.69	5.78	5.76				
Specific Conductivity (µmhos/cm)	57.1	69.2	6.3	72.8				
Water Temperature (°C)	20.9	20.8	20.9	20.6				
Dissolved Oxygen	1.62	1.73	1.86	1.82				
Turbidity (NTU)	20.28	36.37	41.91	57.62				

Remarks: Sample Time: 13:02 **Dry at 20.0 gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-2R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	7.05			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			52.95	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	8.63	gallons
5 casing volume (5 X CV)=		5	43.15	gallons

Total Volume of Water Purged Before Sampling 21 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	9:25	9:34	9:42					
pH (s.u.)	5.81	5.76	5.71					
Specific Conductivity (µmhos/cm)	67.3	71.2	71.6					
Water Temperature (°C)	18.6	18.9	18.3					
Dissolved Oxygen	2.33	2.42	2.47					
Turbidity (NTU)	21.16	38.92	45.28					

Remarks: Sample Time: 9:42 **Dry at 21.0 gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-3R

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	17.61			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			42.39	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.91	gallons
5 casing volume (5 X CV)=		5	34.55	gallons

Total Volume of Water Purged Before Sampling 15 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:29	11:36	11:43					
pH (s.u.)	7.42	7.31	7.24					
Specific Conductivity (µmhos/cm)	221.9	228.7	232.6					
Water Temperature (°C)	21.1	21.0	21.1					
Dissolved Oxygen	21.68	2.76	2.89					
Turbidity (NTU)	21.16	36.21	48.32					

Remarks: Sample Time: 11:43 **Dry at 15.0 gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** DW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	1.24			feet
Total Well Depth (TWD)	57			feet
Length of the water column (LWC=TWD-DGW)			55.76	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	9.09	gallons
5 casing volume (5 X CV)=		5	45.44	gallons

Total Volume of Water Purged Before Sampling 35 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:09	11:18	11:26	11:35				
pH (s.u.)	6.78	6.71	6.75	6.82				
Specific Conductivity (µmhos/cm)	54.3	68.9	72.1	85.6				
Water Temperature (°C)	19.6	19.5	19.2	19.1				
Dissolved Oxygen	2.30	2.42	2.31	2.26				
Turbidity (NTU)	22.76	34.21	46.78	53.62				

Remarks: Sample Time: 11:35 **Dry at 35.0 gallons**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	23.16			feet
Total Well Depth (TWD)	46			feet
Length of the water column (LWC=TWD-DGW)			22.84	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.72	gallons
5 casing volume (5 X CV)=		5	18.61	gallons

Total Volume of Water Purged Before Sampling 19 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:17	13:21	13:25	13:29	13:33	13:37		
pH (s.u.)	5.72	5.69	5.62	5.55	5.49	5.53		
Specific Conductivity (μmhos/cm)	58.9	68.9	66.2	55.4	51.7	49.8		
Water Temperature (°C)	21.0	21.1	21.1	20.9	20.8	21.2		
Dissolved Oxygen	2.69	2.78	2.73	2.82	2.88	2.89		
Turbidity (NTU)	31.28	45.76	56.21	68.97	74.36	88.22		

Remarks: Sample Time: 13:37

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	21.51			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			8.49	feet
1 casing volume (CV=LWC X C)= _____ X		0.652	5.54	gallons
5 casing volume (5 X CV)=		5	27.68	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:53							
pH (s.u.)	6.23							
Specific Conductivity (µmhos/cm)	68.6							
Water Temperature (°C)	21.1							
Dissolved Oxygen	2.76							
Turbidity (NTU)	22.68							

Remarks: Sample Time: 12:53 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	23.92			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			6.08	feet
1 casing volume (CV=LWC X C)= _____ X		0.652	3.96	gallons
5 casing volume (5 X CV)=		5	19.82	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:02							
pH (s.u.)	6.29							
Specific Conductivity (µmhos/cm)	51.1							
Water Temperature (°C)	21.3							
Dissolved Oxygen	2.63							
Turbidity (NTU)	21.28							

Remarks: Sample Time: 13:02 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-3

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.49			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			7.51	feet
1 casing volume (CV=LWC X C)= _____ X		0.652	4.90	gallons
5 casing volume (5 X CV)=		5	24.48	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:06							
pH (s.u.)	6.89							
Specific Conductivity (µmhos/cm)	72.9							
Water Temperature (°C)	20.6							
Dissolved Oxygen	2.16							
Turbidity (NTU)	23.48							

Remarks: Sample Time: 13:06 **No purge**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 5/1/2015

Field Personnel: T. Abbott, P. Wylie, A. Looper

General Weather Conditions: Rain

Ambient Air Temperature: 22.0 °C

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Roberts Energy

Site ID#: 00120 **Monitoring Well #** RW-4

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	22.40			feet
Total Well Depth (TWD)	30			feet
Length of the water column (LWC=TWD-DGW)			7.6	feet
1 casing volume (CV=LWC X C)= _____ X		0.652	4.96	gallons
5 casing volume (5 X CV)=		5	24.78	gallons

Total Volume of Water Purged Before Sampling 0 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:14							
pH (s.u.)	6.27							
Specific Conductivity (μmhos/cm)	62.9							
Water Temperature (°C)	20.8							
Dissolved Oxygen	2.98							
Turbidity (NTU)	26.34							

Remarks: Sample Time: 13:14 **No purge**

Midlands
Environmental
Consultants, Inc.

May 4, 2015

Re: Treatment of Purge Water
Robert's Energy
North Augusta, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 15-5185

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.
2. No free-product was detected in any of the purge water drums.
3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.
4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.
5. Record of usage is maintained by Contractor.
6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.
7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 231 Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 110.0 gallons were treated on May 1, 2015 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Todd D. Elder
Staff Hydrogeologist

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www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 3

1906530

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC	Report To: J. Bryant	Attention:
Address: 2600 Bull St	Copy To:	Company Name:
Columbia SC 29201		Address:
Email To: bryantjc@dhec.sc.gov	Purchase Order No.: 4600328425	Pace Quote Reference:
Phone: 803 898 0606 Fax:	Project Name: Roberts Energy	Pace Project Manager: T. Carter
Requested Due Date/TAT:	Project Number: 00120/50191	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Aken

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTX+NM	1,2 DCA	Oxy	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW1	WT	G			5/1/15	1309		6				6						X	X	X	X		odor
2	MW2R						1152																	no odor
3	MW3						1226																	no odor
4	MW4						1201																	no odor
5	MW5R						1232																	no odor
6	MW6R						921																	slight odor
7	MW7RR						1020																	no odor
8	MW9R						1031																	no odor
9	MW10						1245																	odor
10	MW11						1311																	no odor
11	MW12						1157																	no odor
12	MW13	WT	G			5/1/15	1010		6				6						X	X	X	X		no odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Adam Looper	5/1/15	1411				

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Adam Looper

SIGNATURE of SAMPLER: Adam Looper

DATE Signed (MM/DD/YY): 5/1/15

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

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

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

1906531

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC	Report To: J. Bryant	Attention:
Address: 2600 Bull St Columbia SC 89201	Copy To:	Company Name:
		Address:
Email To: bryant.jc@dhec.sc.gov	Purchase Order No: 4600328425	Pace Quote Reference:
Phone: 803 898 0606 Fax:	Project Name: Roberts Energy	Pace Project Manager: T Carter
Requested Due Date/TAT:	Project Number: 00120/50191	Pace Profile #:

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC Aken

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX N/N	1,2 DCA	8 oxy	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW14R	WT	G			5/1/15	1137		6				6						X	X	X	X		odor
2	MW15R						1038																	odor
3	MW17R						1049																	no odor
4	MW18R						1051																	
5	MW19						949																	
6	MW20						948																	
7	MW22R						934																	
8	MW24						1104																	
9	DW1						1302																	
10	DW2R						942																	
11	DW3R						1143																	
12	DW4	WT	G			5/1/15	1135		6				6						X	X	X	X		no odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Adam Looper	5/1/15	1410				

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Adam Looper

SIGNATURE of SAMPLER: Adam Looper

DATE Signed (MM/DD/YY): 5/1/15

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

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

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

1906532

Section A Required Client Information:
Company: SCDHEC
Address: 2600 Bull St
Columbia SC 29201
Email To: brantjcrobert@scdhec.gov
Phone: 803 898 0606 Fax:
Requested Due Date/TAT:

Section B Required Project Information:
Report To: J. Bryant
Copy To:
Purchase Order No.: 4600328425
Project Name: Roberts Energy
Project Number: 00120/50191

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: T. Carter
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC York

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

Requested Analysis Filtered (Y/N): BTEXNM, 1,2 DCA, Toxy, EDB

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEXNM	1,2 DCA	Toxy	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	RW1					5/1/15	1337		6				6					X	X	X	X		no odor
2	RW1						1303																odor
3	RW2						1302																
4	RW3						1306																
5	RW4						1314																odor
6	MW5 R Dup						1233																no odor
7	MW15 R Dup						1039																odor
8	Field Blank						1340																
9	Trip Blank					5/1/15	1341																
10	SW1					5/1/15	1008																no odor
11	SW2					5/1/15	1015																no odor
12									6				6					X	X	X	X		

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	Adam Loope	5/1/15	1911				

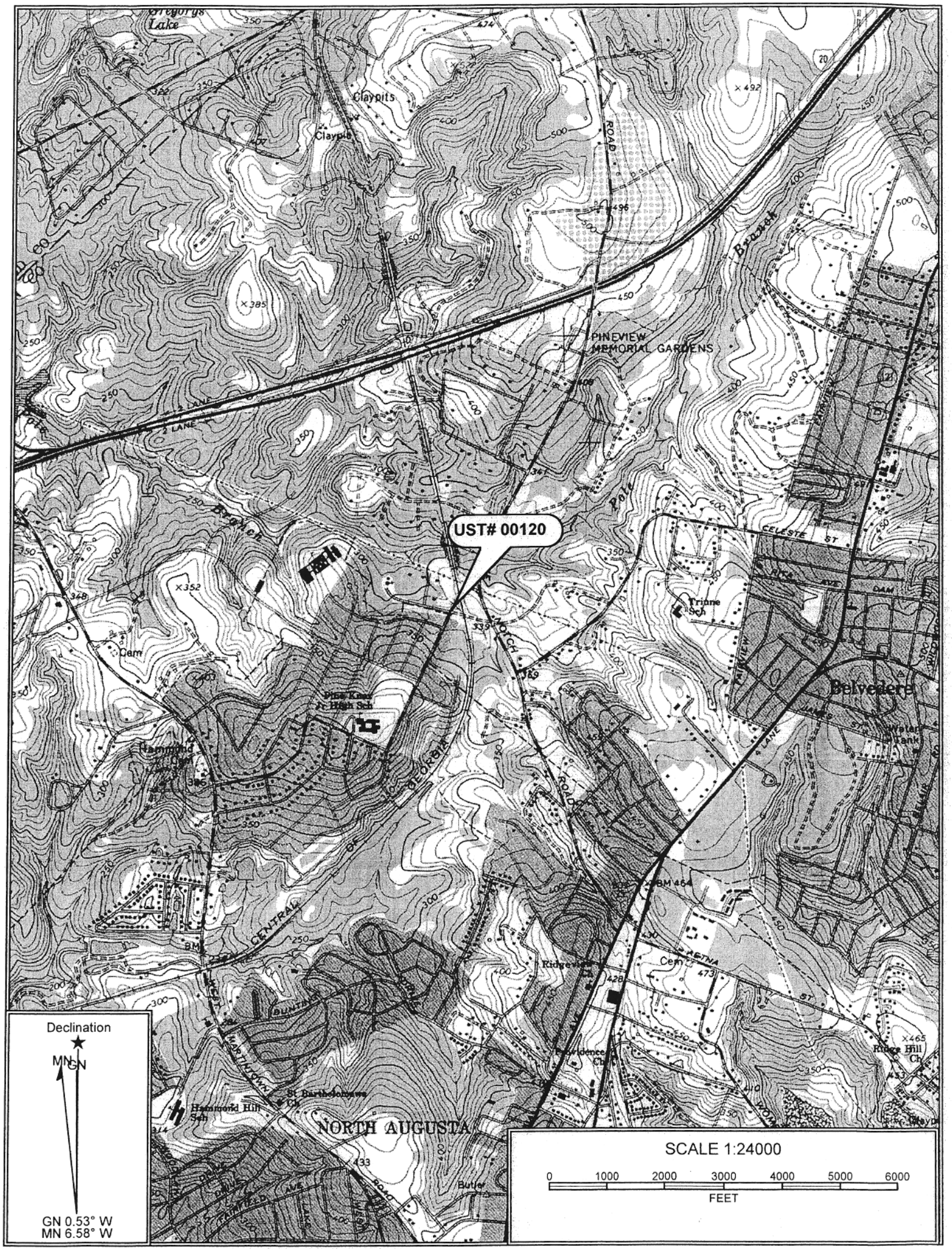
2

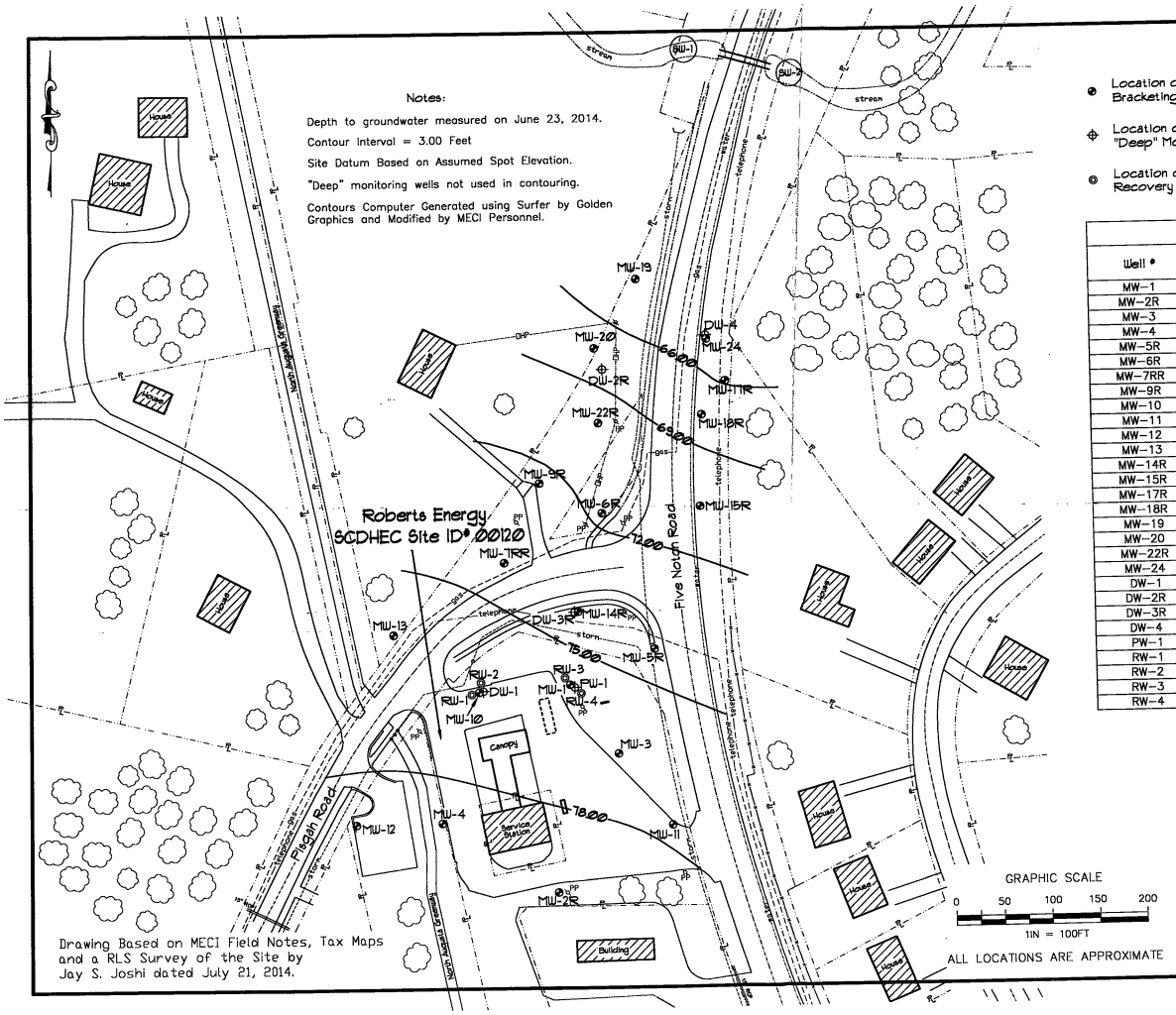
SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Adam Loope
SIGNATURE of SAMPLER: Adam Loope
DATE Signed (MM/DD/YY): 5/1/15

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

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

F-ALL-Q-020rev.07, 15-May-2007


UST# 00120
Claypits
PINEVIEW MEMORIAL GARDENS
Belvedere
NORTH AUGUSTA
Hammond Hill Sch
Pine Knox Jr High Sch
Trinne Sch
Ridgeview Ch
Providence Ch
St Bartholomews Ch
Ridge Hill Ch
Cem
Water Tank
Declination
MN
GN
GN 0.53° W
MN 6.58° W
SCALE 1:24000
0
1000
2000
3000
4000
5000
6000
FEET



Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- SW-2 Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks

Potentiometric Data

Well #	Screened Interval (ft)	Depth to Water (ft)	Well Head Elevation	Groundwater Elevation
MW-1	15-29	22.13	97.91	75.78
MW-2R	15-30	22.64	101.78	79.14
MW-3	17-27	22.43	99.17	76.74
MW-4	17-27	21.33	99.81	78.48
MW-5R	10.5-20.5	13.21	87.40	74.19
MW-6R	7-17	11.68	83.26	71.58
MW-7RR	14-24	17.40	91.67	74.27
MW-9R	10-20	12.86	85.41	72.55
MW-10	15-30	21.39	97.88	76.49
MW-11	15-30	21.19	98.99	77.80
MW-12	15-30	18.21	96.75	78.54
MW-13	15-30	18.59	94.88	76.29
MW-14R	12.5-22.5	14.98	89.02	74.04
MW-15R	4-14	6.25	77.29	71.04
MW-17R	5-15	2.78	68.58	65.80
MW-18R	2-12	5.54	73.27	67.73
MW-19	5-15	7.39	70.99	63.60
MW-20	5-15	7.76	75.23	67.47
MW-22R	5-15	8.46	79.27	70.81
MW-24	3-13	5.56	70.83	65.27
DW-1	55-60	21.29	97.40	76.11
DW-2R	55-60	7.37	75.69	68.32
DW-3R	55-60	18.22	89.50	71.28
DW-4	52-57	2.11	70.93	68.82
PW-1	36-46	22.81	98.24	75.43
RW-1	15-30	21.05	97.98	76.93
RW-2	15-30	21.49	97.87	76.38
RW-3	15-30	22.12	97.91	75.79
RW-4	15-30	22.09	97.97	75.88

Potentiometric Data Site Map
(Groundwater Contour)

Robert's Energy I
2031 Plagah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771
DATE July 25, 2014
FIGURE 5

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

May 11, 2015

Mr. John Bryant
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

UST
MAY 18 2015
DIVISION

RE: Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Dear Mr. Bryant:
Enclosed are the analytical results for sample(s) received by the laboratory on May 04, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Trey Carter
trey.carter@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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Huntersville, NC 28078
(704)875-9092

SAMPLE SUMMARY

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92248100001	MW1	Water	05/01/15 13:09	05/04/15 13:40
92248100002	MW2R	Water	05/01/15 11:52	05/04/15 13:40
92248100003	MW3	Water	05/01/15 12:26	05/04/15 13:40
92248100004	MW4	Water	05/01/15 12:01	05/04/15 13:40
92248100005	MW5R	Water	05/01/15 12:32	05/04/15 13:40
92248100006	MW6R	Water	05/01/15 09:21	05/04/15 13:40
92248100007	MW7RR	Water	05/01/15 10:20	05/04/15 13:40
92248100008	MW9R	Water	05/01/15 10:31	05/04/15 13:40
92248100009	MW10	Water	05/01/15 12:45	05/04/15 13:40
92248100010	MW11	Water	05/01/15 12:11	05/04/15 13:40
92248100011	MW12	Water	05/01/15 11:57	05/04/15 13:40
92248100012	MW13	Water	05/01/15 10:10	05/04/15 13:40
92248100013	MW14R	Water	05/01/15 11:37	05/04/15 13:40
92248100014	MW15R	Water	05/01/15 10:38	05/04/15 13:40
92248100015	MW17R	Water	05/01/15 10:49	05/04/15 13:40
92248100016	MW18R	Water	05/01/15 10:51	05/04/15 13:40
92248100017	MW19	Water	05/01/15 09:49	05/04/15 13:40
92248100018	MW20	Water	05/01/15 09:48	05/04/15 13:40
92248100019	MW22R	Water	05/01/15 09:34	05/04/15 13:40
92248100020	MW24	Water	05/01/15 11:04	05/04/15 13:40
92248100021	DW1	Water	05/01/15 13:02	05/04/15 13:40
92248100022	DW2R	Water	05/01/15 09:42	05/04/15 13:40
92248100023	DW3R	Water	05/01/15 11:43	05/04/15 13:40
92248100024	DW4	Water	05/01/15 11:35	05/04/15 13:40
92248100025	PW1	Water	05/01/15 13:37	05/04/15 13:40
92248100026	RW1	Water	05/01/15 12:55	05/04/15 13:40
92248100027	RW2	Water	05/01/15 13:02	05/04/15 13:40
92248100028	RW3	Water	05/01/15 13:06	05/04/15 13:40
92248100029	RW4	Water	05/01/15 13:14	05/04/15 13:40
92248100030	MW5R DUP	Water	05/01/15 12:33	05/04/15 13:40
92248100031	MW15R DUP	Water	05/01/15 10:39	05/04/15 13:40
92248100032	FIELD BLANK	Water	05/01/15 13:40	05/04/15 13:40
92248100033	SW-1	Water	05/01/15 10:08	05/04/15 13:40
92248100034	SW-2	Water	05/01/15 10:15	05/04/15 13:40
92248100035	TRIP BLANK	Water	05/01/15 13:41	05/04/15 13:40

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SAMPLE ANALYTE COUNT

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92248100001	MW1	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100002	MW2R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100003	MW3	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100004	MW4	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100005	MW5R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100006	MW6R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100007	MW7RR	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100008	MW9R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100009	MW10	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100010	MW11	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100011	MW12	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100012	MW13	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100013	MW14R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100014	MW15R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100015	MW17R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100016	MW18R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100017	MW19	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100018	MW20	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100019	MW22R	EPA 8011	JMC	2	PASI-C

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(704)875-9092

SAMPLE ANALYTE COUNT

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	CCL	20	PASI-C
92248100020	MW24	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100021	DW1	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100022	DW2R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100023	DW3R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100024	DW4	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100025	PW1	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100026	RW1	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100027	RW2	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100028	RW3	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100029	RW4	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100030	MW5R DUP	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100031	MW15R DUP	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100032	FIELD BLANK	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100033	SW-1	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100034	SW-2	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92248100035	TRIP BLANK	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C

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(704)875-9092

SUMMARY OF DETECTION

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92248100001	**MW1**					
EPA 8011	1,2-Dibromoethane (EDB)	0.095	ug/L	0.019	05/10/15 21:51	
EPA 8260	tert-Amyl Alcohol	8960	ug/L	500	05/09/15 16:41	
EPA 8260	tert-Amylmethyl ether	103	ug/L	50.0	05/09/15 16:41	
EPA 8260	Benzene	976	ug/L	25.0	05/09/15 16:41	
EPA 8260	tert-Butyl Alcohol	1120	ug/L	500	05/09/15 16:41	
EPA 8260	Ethylbenzene	530	ug/L	25.0	05/09/15 16:41	
EPA 8260	Methyl-tert-butyl ether	1450	ug/L	1000	05/10/15 20:17	
EPA 8260	Naphthalene	482	ug/L	25.0	05/09/15 16:41	
EPA 8260	Toluene	23800	ug/L	1000	05/10/15 20:17	
EPA 8260	Xylene (Total)	3870	ug/L	2000	05/10/15 20:17	
EPA 8260	m&p-Xylene	1790	ug/L	50.0	05/09/15 16:41	
EPA 8260	o-Xylene	2080	ug/L	1000	05/10/15 20:17	
92248100006	**MW6R**					
EPA 8260	Benzene	4.5J	ug/L	5.0	05/09/15 17:49	
EPA 8260	Ethylbenzene	19.2	ug/L	5.0	05/09/15 17:49	
EPA 8260	Methyl-tert-butyl ether	2.6J	ug/L	5.0	05/09/15 17:49	
EPA 8260	Naphthalene	6.7	ug/L	5.0	05/09/15 17:49	
EPA 8260	Toluene	84.2	ug/L	5.0	05/09/15 17:49	
EPA 8260	Xylene (Total)	76.2	ug/L	10.0	05/09/15 17:49	
EPA 8260	m&p-Xylene	49.3	ug/L	10.0	05/09/15 17:49	
EPA 8260	o-Xylene	27.0	ug/L	5.0	05/09/15 17:49	
92248100009	**MW10**					
EPA 8011	1,2-Dibromoethane (EDB)	0.25	ug/L	0.019	05/09/15 21:28	C3
EPA 8260	tert-Amyl Alcohol	2250	ug/L	1000	05/09/15 16:58	
EPA 8260	Benzene	2260	ug/L	1250	05/10/15 20:34	
EPA 8260	Ethylbenzene	235	ug/L	50.0	05/09/15 16:58	
EPA 8260	Methyl-tert-butyl ether	93.2	ug/L	50.0	05/09/15 16:58	
EPA 8260	Naphthalene	120	ug/L	50.0	05/09/15 16:58	
EPA 8260	Toluene	30800	ug/L	1250	05/10/15 20:34	
EPA 8260	Xylene (Total)	2860	ug/L	100	05/09/15 16:58	
EPA 8260	m&p-Xylene	1800	ug/L	100	05/09/15 16:58	
EPA 8260	o-Xylene	1060	ug/L	50.0	05/09/15 16:58	
92248100013	**MW14R**					
EPA 8011	1,2-Dibromoethane (EDB)	0.66	ug/L	0.020	05/09/15 22:51	
EPA 8260	Benzene	1630	ug/L	1000	05/09/15 19:47	
EPA 8260	Ethylbenzene	899J	ug/L	1000	05/09/15 19:47	
EPA 8260	Methyl-tert-butyl ether	1020	ug/L	1000	05/09/15 19:47	
EPA 8260	Toluene	37100	ug/L	1000	05/09/15 19:47	
EPA 8260	Xylene (Total)	5650	ug/L	2000	05/09/15 19:47	
EPA 8260	m&p-Xylene	3820	ug/L	2000	05/09/15 19:47	
EPA 8260	o-Xylene	1820	ug/L	1000	05/09/15 19:47	
92248100026	**RW1**					
EPA 8260	Benzene	268J	ug/L	625	05/11/15 02:30	
EPA 8260	Ethylbenzene	608J	ug/L	625	05/11/15 02:30	
EPA 8260	Naphthalene	268J	ug/L	625	05/11/15 02:30	

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9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

SUMMARY OF DETECTION

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92248100026	**RW1**					
EPA 8260	Toluene	12800	ug/L	625	05/11/15 02:30	
EPA 8260	Xylene (Total)	4010	ug/L	1250	05/11/15 02:30	
EPA 8260	m&p-Xylene	2630	ug/L	1250	05/11/15 02:30	
EPA 8260	o-Xylene	1380	ug/L	625	05/11/15 02:30	
92248100027	**RW2**					
EPA 8011	1,2-Dibromoethane (EDB)	0.050	ug/L	0.019	05/10/15 22:50	
EPA 8260	Benzene	877J	ug/L	1250	05/11/15 02:47	
EPA 8260	Ethylbenzene	1280	ug/L	1250	05/11/15 02:47	
EPA 8260	Toluene	51700	ug/L	2500	05/11/15 11:26	
EPA 8260	Xylene (Total)	7690	ug/L	2500	05/11/15 02:47	
EPA 8260	m&p-Xylene	5150	ug/L	2500	05/11/15 02:47	
EPA 8260	o-Xylene	2540	ug/L	1250	05/11/15 02:47	
92248100028	**RW3**					
EPA 8011	1,2-Dibromoethane (EDB)	0.54	ug/L	0.019	05/10/15 07:11	
EPA 8260	Benzene	2670	ug/L	1250	05/11/15 03:04	
EPA 8260	Ethylbenzene	1690	ug/L	1250	05/11/15 03:04	
EPA 8260	Methyl-tert-butyl ether	1290	ug/L	1250	05/11/15 03:04	
EPA 8260	Toluene	59200	ug/L	2500	05/11/15 11:43	
EPA 8260	Xylene (Total)	8530	ug/L	2500	05/11/15 03:04	
EPA 8260	m&p-Xylene	5910	ug/L	2500	05/11/15 03:04	
EPA 8260	o-Xylene	2620	ug/L	1250	05/11/15 03:04	
92248100029	**RW4**					
EPA 8260	tert-Amyl Alcohol	4270	ug/L	2500	05/11/15 03:21	
EPA 8260	Benzene	211	ug/L	125	05/11/15 03:21	
EPA 8260	Ethylbenzene	151	ug/L	125	05/11/15 03:21	
EPA 8260	Methyl-tert-butyl ether	179	ug/L	125	05/11/15 03:21	
EPA 8260	Naphthalene	51.4J	ug/L	125	05/11/15 03:21	
EPA 8260	Toluene	2470	ug/L	125	05/11/15 03:21	
EPA 8260	Xylene (Total)	1020	ug/L	250	05/11/15 03:21	
EPA 8260	m&p-Xylene	699	ug/L	250	05/11/15 03:21	
EPA 8260	o-Xylene	324	ug/L	125	05/11/15 03:21	
92248100033	**SW-1**					
EPA 8260	tert-Amyl Alcohol	187	ug/L	100	05/11/15 00:48	
EPA 8260	Benzene	5.8	ug/L	5.0	05/11/15 00:48	
EPA 8260	tert-Butyl Alcohol	127	ug/L	100	05/11/15 00:48	
EPA 8260	Ethylbenzene	4.4J	ug/L	5.0	05/11/15 00:48	
EPA 8260	Methyl-tert-butyl ether	46.3	ug/L	5.0	05/11/15 00:48	
EPA 8260	Naphthalene	5.1	ug/L	5.0	05/11/15 00:48	
EPA 8260	Toluene	63.8	ug/L	5.0	05/11/15 00:48	
EPA 8260	Xylene (Total)	33.9	ug/L	10.0	05/11/15 00:48	
EPA 8260	m&p-Xylene	23.2	ug/L	10.0	05/11/15 00:48	
EPA 8260	o-Xylene	10.7	ug/L	5.0	05/11/15 00:48	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW1 **Lab ID: 92248100001** Collected: 05/01/15 13:09 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.095**	ug/L	0.019	0.019	1	05/10/15 18:51	05/10/15 21:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/10/15 18:51	05/10/15 21:51	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**8960**	ug/L	500	384	5		05/09/15 16:41	75-85-4	
tert-Amylmethyl ether	**103**	ug/L	50.0	17.0	5		05/09/15 16:41	994-05-8	
Benzene	**976**	ug/L	25.0	8.5	5		05/09/15 16:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		05/09/15 16:41	624-95-3	
tert-Butyl Alcohol	**1120**	ug/L	500	288	5		05/09/15 16:41	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		05/09/15 16:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	25.0	9.0	5		05/09/15 16:41	107-06-2	
Diisopropyl ether	ND	ug/L	25.0	8.5	5		05/09/15 16:41	108-20-3	
Ethanol	ND	ug/L	1000	689	5		05/09/15 16:41	64-17-5	L3
Ethylbenzene	**530**	ug/L	25.0	8.0	5		05/09/15 16:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		05/09/15 16:41	637-92-3	
Methyl-tert-butyl ether	**1450**	ug/L	1000	340	200		05/10/15 20:17	1634-04-4	
Naphthalene	**482**	ug/L	25.0	10.0	5		05/09/15 16:41	91-20-3	
Toluene	**23800**	ug/L	1000	320	200		05/10/15 20:17	108-88-3	
Xylene (Total)	**3870**	ug/L	2000	540	200		05/10/15 20:17	1330-20-7	
m&p-Xylene	**1790**	ug/L	50.0	15.5	5		05/09/15 16:41	179601-23-1	
o-Xylene	**2080**	ug/L	1000	320	200		05/10/15 20:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		5		05/09/15 16:41	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		5		05/09/15 16:41	17060-07-0	
Toluene-d8 (S)	97	%	70-130		5		05/09/15 16:41	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW2R **Lab ID: 92248100002** Collected: 05/01/15 11:52 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:22	05/09/15 19:01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	83	%	60-140		1	05/09/15 16:22	05/09/15 19:01	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 14:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 14:09	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 14:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 14:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 14:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 14:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 14:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 14:09	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 14:09	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 14:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 14:09	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 14:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 14:09	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 14:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 14:09	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 14:09	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 14:09	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		05/09/15 14:09	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/09/15 14:09	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/09/15 14:09	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW3 **Lab ID: 92248100003** Collected: 05/01/15 12:26 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 16:22	05/09/15 19:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	05/09/15 16:22	05/09/15 19:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 14:26	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 14:26	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 14:26	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 14:26	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 14:26	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 14:26	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 14:26	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 14:26	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 14:26	64-17-5	L3,M0
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 14:26	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 14:26	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 14:26	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 14:26	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 14:26	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 14:26	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 14:26	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 14:26	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/09/15 14:26	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/09/15 14:26	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 14:26	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW4 **Lab ID: 92248100004** Collected: 05/01/15 12:01 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 16:22	05/09/15 19:43	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	05/09/15 16:22	05/09/15 19:43	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 14:43	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 14:43	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 14:43	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 14:43	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 14:43	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 14:43	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 14:43	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 14:43	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 14:43	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 14:43	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 14:43	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 14:43	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 14:43	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 14:43	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 14:43	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 14:43	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 14:43	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		05/09/15 14:43	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/09/15 14:43	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/09/15 14:43	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW5R **Lab ID: 92248100005** Collected: 05/01/15 12:32 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:22	05/09/15 20:04	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/09/15 16:22	05/09/15 20:04	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 15:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 15:17	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 15:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 15:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 15:17	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 15:17	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 15:17	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 15:17	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 15:17	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 15:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 15:17	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 15:17	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 15:17	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 15:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 15:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 15:17	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 15:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		05/09/15 15:17	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/09/15 15:17	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 15:17	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW6R **Lab ID: 92248100006** Collected: 05/01/15 09:21 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:22	05/09/15 20:25	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	05/09/15 16:22	05/09/15 20:25	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 17:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 17:49	994-05-8	
Benzene	**4.5J**	ug/L	5.0	1.7	1		05/09/15 17:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 17:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 17:49	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 17:49	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 17:49	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 17:49	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 17:49	64-17-5	L3
Ethylbenzene	**19.2**	ug/L	5.0	1.6	1		05/09/15 17:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 17:49	637-92-3	
Methyl-tert-butyl ether	**2.6J**	ug/L	5.0	1.7	1		05/09/15 17:49	1634-04-4	
Naphthalene	**6.7**	ug/L	5.0	2.0	1		05/09/15 17:49	91-20-3	
Toluene	**84.2**	ug/L	5.0	1.6	1		05/09/15 17:49	108-88-3	
Xylene (Total)	**76.2**	ug/L	10.0	2.7	1		05/09/15 17:49	1330-20-7	
m&p-Xylene	**49.3**	ug/L	10.0	3.1	1		05/09/15 17:49	179601-23-1	
o-Xylene	**27.0**	ug/L	5.0	1.6	1		05/09/15 17:49	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		05/09/15 17:49	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		05/09/15 17:49	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		05/09/15 17:49	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW7RR **Lab ID: 92248100007** Collected: 05/01/15 10:20 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:22	05/09/15 20:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	05/09/15 16:22	05/09/15 20:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 15:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 15:33	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 15:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 15:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 15:33	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 15:33	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 15:33	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 15:33	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 15:33	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 15:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 15:33	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 15:33	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 15:33	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 15:33	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 15:33	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 15:33	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 15:33	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/09/15 15:33	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/09/15 15:33	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		05/09/15 15:33	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW9R **Lab ID: 92248100008** Collected: 05/01/15 10:31 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 16:22	05/09/15 21:07	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	05/09/15 16:22	05/09/15 21:07	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 15:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 15:50	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 15:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 15:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 15:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 15:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 15:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 15:50	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 15:50	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 15:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 15:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 15:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 15:50	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 15:50	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 15:50	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 15:50	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 15:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/09/15 15:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/09/15 15:50	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 15:50	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW10 **Lab ID: 92248100009** Collected: 05/01/15 12:45 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.25**	ug/L	0.019	0.019	1	05/09/15 16:22	05/09/15 21:28	106-93-4	C3
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	05/09/15 16:22	05/09/15 21:28	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2250**	ug/L	1000	768	10		05/09/15 16:58	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		05/09/15 16:58	994-05-8	
Benzene	**2260**	ug/L	1250	425	250		05/10/15 20:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		05/09/15 16:58	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		05/09/15 16:58	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		05/09/15 16:58	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		05/09/15 16:58	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	17.0	10		05/09/15 16:58	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		05/09/15 16:58	64-17-5	L3
Ethylbenzene	**235**	ug/L	50.0	16.0	10		05/09/15 16:58	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		05/09/15 16:58	637-92-3	
Methyl-tert-butyl ether	**93.2**	ug/L	50.0	17.0	10		05/09/15 16:58	1634-04-4	
Naphthalene	**120**	ug/L	50.0	20.0	10		05/09/15 16:58	91-20-3	
Toluene	**30800**	ug/L	1250	400	250		05/10/15 20:34	108-88-3	
Xylene (Total)	**2860**	ug/L	100	27.0	10		05/09/15 16:58	1330-20-7	
m&p-Xylene	**1800**	ug/L	100	31.0	10		05/09/15 16:58	179601-23-1	
o-Xylene	**1060**	ug/L	50.0	16.0	10		05/09/15 16:58	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	95	%	70-130		10		05/09/15 16:58	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		10		05/09/15 16:58	17060-07-0	
Toluene-d8 (S)	98	%	70-130		10		05/09/15 16:58	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW11 **Lab ID: 92248100010** Collected: 05/01/15 12:11 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:22	05/09/15 21:49	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	05/09/15 16:22	05/09/15 21:49	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 16:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 16:07	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 16:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 16:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 16:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 16:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 16:07	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 16:07	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 16:07	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 16:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 16:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 16:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 16:07	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 16:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 16:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 16:07	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 16:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/09/15 16:07	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/09/15 16:07	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 16:07	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW12 **Lab ID: 92248100011** Collected: 05/01/15 11:57 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 16:22	05/09/15 22:10	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	05/09/15 16:22	05/09/15 22:10	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 16:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 16:24	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 16:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 16:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 16:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 16:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 16:24	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 16:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 16:24	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 16:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 16:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 16:24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 16:24	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 16:24	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 16:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 16:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 16:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/09/15 16:24	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/09/15 16:24	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 16:24	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW13 **Lab ID: 92248100012** Collected: 05/01/15 10:10 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 16:23	05/09/15 22:31	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	05/09/15 16:23	05/09/15 22:31	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 18:06	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 18:06	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 18:06	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 18:06	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 18:06	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 18:06	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 18:06	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:06	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 18:06	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 18:06	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 18:06	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:06	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 18:06	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 18:06	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 18:06	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 18:06	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 18:06	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		05/09/15 18:06	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/09/15 18:06	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 18:06	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW14R **Lab ID: 92248100013** Collected: 05/01/15 11:37 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.66**	ug/L	0.020	0.020	1	05/09/15 16:23	05/09/15 22:51	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	05/09/15 16:23	05/09/15 22:51	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	20000	15400	200		05/09/15 19:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2000	680	200		05/09/15 19:47	994-05-8	
Benzene	**1630**	ug/L	1000	340	200		05/09/15 19:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	20000	6420	200		05/09/15 19:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	20000	11500	200		05/09/15 19:47	75-65-0	
tert-Butyl Formate	ND	ug/L	10000	1460	200		05/09/15 19:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	1000	360	200		05/09/15 19:47	107-06-2	
Diisopropyl ether	ND	ug/L	1000	340	200		05/09/15 19:47	108-20-3	
Ethanol	ND	ug/L	40000	27600	200		05/09/15 19:47	64-17-5	L3
Ethylbenzene	**899J**	ug/L	1000	320	200		05/09/15 19:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2000	720	200		05/09/15 19:47	637-92-3	
Methyl-tert-butyl ether	**1020**	ug/L	1000	340	200		05/09/15 19:47	1634-04-4	
Naphthalene	ND	ug/L	1000	400	200		05/09/15 19:47	91-20-3	
Toluene	**37100**	ug/L	1000	320	200		05/09/15 19:47	108-88-3	
Xylene (Total)	**5650**	ug/L	2000	540	200		05/09/15 19:47	1330-20-7	
m&p-Xylene	**3820**	ug/L	2000	620	200		05/09/15 19:47	179601-23-1	
o-Xylene	**1820**	ug/L	1000	320	200		05/09/15 19:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		200		05/09/15 19:47	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		200		05/09/15 19:47	17060-07-0	
Toluene-d8 (S)	102	%	70-130		200		05/09/15 19:47	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW15R **Lab ID: 92248100014** Collected: 05/01/15 10:38 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 16:23	05/09/15 23:12	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	05/09/15 16:23	05/09/15 23:12	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/10/15 14:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/10/15 14:39	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/10/15 14:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/10/15 14:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/10/15 14:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/10/15 14:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/10/15 14:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/10/15 14:39	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/10/15 14:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/10/15 14:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/10/15 14:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/10/15 14:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/10/15 14:39	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/10/15 14:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/10/15 14:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/10/15 14:39	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/10/15 14:39	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/10/15 14:39	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/10/15 14:39	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/10/15 14:39	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW17R **Lab ID: 92248100015** Collected: 05/01/15 10:49 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:23	05/09/15 23:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	05/09/15 16:23	05/09/15 23:33	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 18:23	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 18:23	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 18:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 18:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 18:23	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 18:23	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 18:23	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:23	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 18:23	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 18:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 18:23	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:23	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 18:23	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 18:23	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 18:23	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 18:23	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 18:23	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		05/09/15 18:23	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		05/09/15 18:23	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		05/09/15 18:23	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW18R **Lab ID: 92248100016** Collected: 05/01/15 10:51 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 16:23	05/09/15 23:54	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	102	%	60-140		1	05/09/15 16:23	05/09/15 23:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 18:40	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 18:40	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 18:40	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 18:40	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 18:40	75-65-0	M1
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 18:40	762-75-4	M1
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 18:40	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:40	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 18:40	64-17-5	L3,M0
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 18:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 18:40	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:40	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 18:40	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 18:40	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 18:40	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 18:40	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 18:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		05/09/15 18:40	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/09/15 18:40	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 18:40	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW19 **Lab ID: 92248100017** Collected: 05/01/15 09:49 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:23	05/10/15 00:15	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	05/09/15 16:23	05/10/15 00:15	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 21:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 21:12	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 21:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 21:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 21:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 21:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 21:12	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 21:12	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 21:12	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 21:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 21:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 21:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 21:12	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 21:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 21:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 21:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 21:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/09/15 21:12	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/09/15 21:12	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 21:12	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW20 **Lab ID: 92248100018** Collected: 05/01/15 09:48 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 16:23	05/10/15 01:18	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	05/09/15 16:23	05/10/15 01:18	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 18:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 18:56	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 18:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 18:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 18:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 18:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 18:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:56	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 18:56	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 18:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 18:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 18:56	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 18:56	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 18:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 18:56	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 18:56	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 18:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/09/15 18:56	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/09/15 18:56	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 18:56	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW22R **Lab ID: 92248100019** Collected: 05/01/15 09:34 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/10/15 18:51	05/10/15 22:11	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	05/10/15 18:51	05/10/15 22:11	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 19:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 19:30	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 19:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 19:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 19:30	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 19:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 19:30	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 19:30	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 19:30	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 19:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 19:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 19:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 19:30	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 19:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 19:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 19:30	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 19:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/09/15 19:30	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/09/15 19:30	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		05/09/15 19:30	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW24 **Lab ID: 92248100020** Collected: 05/01/15 11:04 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/10/15 18:51	05/10/15 22:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	05/10/15 18:51	05/10/15 22:30	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/10/15 14:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/10/15 14:55	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/10/15 14:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/10/15 14:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/10/15 14:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/10/15 14:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/10/15 14:55	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/10/15 14:55	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/10/15 14:55	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/10/15 14:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/10/15 14:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/10/15 14:55	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/10/15 14:55	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/10/15 14:55	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/10/15 14:55	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/10/15 14:55	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/10/15 14:55	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/10/15 14:55	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		05/10/15 14:55	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/10/15 14:55	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: DW1 **Lab ID: 92248100021** Collected: 05/01/15 13:02 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 18:43	05/10/15 04:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	62	%	60-140		1	05/09/15 18:43	05/10/15 04:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/10/15 15:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/10/15 15:12	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/10/15 15:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/10/15 15:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/10/15 15:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/10/15 15:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/10/15 15:12	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/10/15 15:12	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/10/15 15:12	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/10/15 15:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/10/15 15:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/10/15 15:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/10/15 15:12	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/10/15 15:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/10/15 15:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/10/15 15:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/10/15 15:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/10/15 15:12	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/10/15 15:12	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/10/15 15:12	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: DW2R **Lab ID: 92248100022** Collected: 05/01/15 09:42 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 18:43	05/10/15 05:07	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	05/09/15 18:43	05/10/15 05:07	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 21:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 21:29	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 21:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 21:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 21:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 21:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 21:29	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 21:29	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 21:29	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 21:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 21:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 21:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 21:29	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 21:29	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 21:29	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 21:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 21:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/09/15 21:29	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		05/09/15 21:29	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/09/15 21:29	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: DW3R **Lab ID: 92248100023** Collected: 05/01/15 11:43 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 05:28	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/09/15 18:44	05/10/15 05:28	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/10/15 15:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/10/15 15:29	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/10/15 15:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/10/15 15:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/10/15 15:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/10/15 15:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/10/15 15:29	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/10/15 15:29	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/10/15 15:29	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/10/15 15:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/10/15 15:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/10/15 15:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/10/15 15:29	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/10/15 15:29	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/10/15 15:29	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/10/15 15:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/10/15 15:29	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		05/10/15 15:29	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/10/15 15:29	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/10/15 15:29	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: DW4 **Lab ID: 92248100024** Collected: 05/01/15 11:35 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 18:44	05/10/15 05:48	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	100	%	60-140		1	05/09/15 18:44	05/10/15 05:48	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/09/15 21:46	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/09/15 21:46	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/09/15 21:46	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/09/15 21:46	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/09/15 21:46	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/09/15 21:46	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/09/15 21:46	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/09/15 21:46	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/09/15 21:46	64-17-5	L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/09/15 21:46	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/09/15 21:46	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/09/15 21:46	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/09/15 21:46	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/09/15 21:46	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/09/15 21:46	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/09/15 21:46	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/09/15 21:46	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/09/15 21:46	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/09/15 21:46	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/09/15 21:46	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: PW1 **Lab ID: 92248100025** Collected: 05/01/15 13:37 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 06:09	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	05/09/15 18:44	05/10/15 06:09	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/11/15 04:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/11/15 04:12	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/11/15 04:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/11/15 04:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/11/15 04:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/11/15 04:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/11/15 04:12	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/11/15 04:12	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/11/15 04:12	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/11/15 04:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/11/15 04:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/11/15 04:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/11/15 04:12	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/11/15 04:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/11/15 04:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/11/15 04:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/11/15 04:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		05/11/15 04:12	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		05/11/15 04:12	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/11/15 04:12	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: RW1 **Lab ID: 92248100026** Collected: 05/01/15 12:55 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 06:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	135	%	60-140		1	05/09/15 18:44	05/10/15 06:30	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	12500	9600	125		05/11/15 02:30	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1250	425	125		05/11/15 02:30	994-05-8	
Benzene	**268J**	ug/L	625	212	125		05/11/15 02:30	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	12500	4010	125		05/11/15 02:30	624-95-3	
tert-Butyl Alcohol	ND	ug/L	12500	7210	125		05/11/15 02:30	75-65-0	
tert-Butyl Formate	ND	ug/L	6250	912	125		05/11/15 02:30	762-75-4	
1,2-Dichloroethane	ND	ug/L	625	225	125		05/11/15 02:30	107-06-2	
Diisopropyl ether	ND	ug/L	625	212	125		05/11/15 02:30	108-20-3	
Ethanol	ND	ug/L	25000	17200	125		05/11/15 02:30	64-17-5	
Ethylbenzene	**608J**	ug/L	625	200	125		05/11/15 02:30	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1250	450	125		05/11/15 02:30	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	625	212	125		05/11/15 02:30	1634-04-4	
Naphthalene	**268J**	ug/L	625	250	125		05/11/15 02:30	91-20-3	
Toluene	**12800**	ug/L	625	200	125		05/11/15 02:30	108-88-3	
Xylene (Total)	**4010**	ug/L	1250	338	125		05/11/15 02:30	1330-20-7	
m&p-Xylene	**2630**	ug/L	1250	388	125		05/11/15 02:30	179601-23-1	
o-Xylene	**1380**	ug/L	625	200	125		05/11/15 02:30	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		125		05/11/15 02:30	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		125		05/11/15 02:30	17060-07-0	
Toluene-d8 (S)	103	%	70-130		125		05/11/15 02:30	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: RW2 **Lab ID: 92248100027** Collected: 05/01/15 13:02 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.050**	ug/L	0.019	0.019	1	05/10/15 18:51	05/10/15 22:50	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	108	%	60-140		1	05/10/15 18:51	05/10/15 22:50	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	25000	19200	250		05/11/15 02:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	850	250		05/11/15 02:47	994-05-8	
Benzene	**877J**	ug/L	1250	425	250		05/11/15 02:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	8020	250		05/11/15 02:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	14400	250		05/11/15 02:47	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	1820	250		05/11/15 02:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	1250	450	250		05/11/15 02:47	107-06-2	
Diisopropyl ether	ND	ug/L	1250	425	250		05/11/15 02:47	108-20-3	
Ethanol	ND	ug/L	50000	34400	250		05/11/15 02:47	64-17-5	
Ethylbenzene	**1280**	ug/L	1250	400	250		05/11/15 02:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	900	250		05/11/15 02:47	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1250	425	250		05/11/15 02:47	1634-04-4	
Naphthalene	ND	ug/L	1250	500	250		05/11/15 02:47	91-20-3	
Toluene	**51700**	ug/L	2500	800	500		05/11/15 11:26	108-88-3	
Xylene (Total)	**7690**	ug/L	2500	675	250		05/11/15 02:47	1330-20-7	
m&p-Xylene	**5150**	ug/L	2500	775	250		05/11/15 02:47	179601-23-1	
o-Xylene	**2540**	ug/L	1250	400	250		05/11/15 02:47	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		250		05/11/15 02:47	460-00-4	
1,2-Dichloroethane-d4 (S)	98	%	70-130		250		05/11/15 02:47	17060-07-0	
Toluene-d8 (S)	101	%	70-130		250		05/11/15 02:47	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: RW3 **Lab ID: 92248100028** Collected: 05/01/15 13:06 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.54**	ug/L	0.019	0.019	1	05/09/15 18:44	05/10/15 07:11	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	118	%	60-140		1	05/09/15 18:44	05/10/15 07:11	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	25000	19200	250		05/11/15 03:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	850	250		05/11/15 03:04	994-05-8	
Benzene	**2670**	ug/L	1250	425	250		05/11/15 03:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	8020	250		05/11/15 03:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	14400	250		05/11/15 03:04	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	1820	250		05/11/15 03:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	1250	450	250		05/11/15 03:04	107-06-2	
Diisopropyl ether	ND	ug/L	1250	425	250		05/11/15 03:04	108-20-3	
Ethanol	ND	ug/L	50000	34400	250		05/11/15 03:04	64-17-5	
Ethylbenzene	**1690**	ug/L	1250	400	250		05/11/15 03:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	900	250		05/11/15 03:04	637-92-3	
Methyl-tert-butyl ether	**1290**	ug/L	1250	425	250		05/11/15 03:04	1634-04-4	
Naphthalene	ND	ug/L	1250	500	250		05/11/15 03:04	91-20-3	
Toluene	**59200**	ug/L	2500	800	500		05/11/15 11:43	108-88-3	
Xylene (Total)	**8530**	ug/L	2500	675	250		05/11/15 03:04	1330-20-7	
m&p-Xylene	**5910**	ug/L	2500	775	250		05/11/15 03:04	179601-23-1	
o-Xylene	**2620**	ug/L	1250	400	250		05/11/15 03:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		250		05/11/15 03:04	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		250		05/11/15 03:04	17060-07-0	
Toluene-d8 (S)	101	%	70-130		250		05/11/15 03:04	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: RW4 **Lab ID: 92248100029** Collected: 05/01/15 13:14 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 07:32	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	121	%	60-140		1	05/09/15 18:44	05/10/15 07:32	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**4270**	ug/L	2500	1920	25		05/11/15 03:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		05/11/15 03:21	994-05-8	
Benzene	**211**	ug/L	125	42.5	25		05/11/15 03:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		05/11/15 03:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		05/11/15 03:21	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		05/11/15 03:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		05/11/15 03:21	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		05/11/15 03:21	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		05/11/15 03:21	64-17-5	
Ethylbenzene	**151**	ug/L	125	40.0	25		05/11/15 03:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		05/11/15 03:21	637-92-3	
Methyl-tert-butyl ether	**179**	ug/L	125	42.5	25		05/11/15 03:21	1634-04-4	
Naphthalene	**51.4J**	ug/L	125	50.0	25		05/11/15 03:21	91-20-3	
Toluene	**2470**	ug/L	125	40.0	25		05/11/15 03:21	108-88-3	
Xylene (Total)	**1020**	ug/L	250	67.5	25		05/11/15 03:21	1330-20-7	
m&p-Xylene	**699**	ug/L	250	77.5	25		05/11/15 03:21	179601-23-1	
o-Xylene	**324**	ug/L	125	40.0	25		05/11/15 03:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		25		05/11/15 03:21	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		25		05/11/15 03:21	17060-07-0	
Toluene-d8 (S)	102	%	70-130		25		05/11/15 03:21	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW5R DUP **Lab ID: 92248100030** Collected: 05/01/15 12:33 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 07:53	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	98	%	60-140		1	05/09/15 18:44	05/10/15 07:53	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/11/15 01:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/11/15 01:56	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/11/15 01:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/11/15 01:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/11/15 01:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/11/15 01:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/11/15 01:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/11/15 01:56	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/11/15 01:56	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/11/15 01:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/11/15 01:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/11/15 01:56	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/11/15 01:56	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/11/15 01:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/11/15 01:56	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/11/15 01:56	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/11/15 01:56	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		05/11/15 01:56	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/11/15 01:56	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/11/15 01:56	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: MW15R DUP **Lab ID: 92248100031** Collected: 05/01/15 10:39 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	05/09/15 18:44	05/10/15 08:14	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	05/09/15 18:44	05/10/15 08:14	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/11/15 03:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/11/15 03:38	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/11/15 03:38	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/11/15 03:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/11/15 03:38	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/11/15 03:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/11/15 03:38	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/11/15 03:38	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/11/15 03:38	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/11/15 03:38	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/11/15 03:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/11/15 03:38	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/11/15 03:38	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/11/15 03:38	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/11/15 03:38	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/11/15 03:38	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/11/15 03:38	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/11/15 03:38	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/11/15 03:38	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/11/15 03:38	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: FIELD BLANK **Lab ID: 92248100032** Collected: 05/01/15 13:40 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 08:35	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	05/09/15 18:44	05/10/15 08:35	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/11/15 00:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/11/15 00:31	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/11/15 00:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/11/15 00:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/11/15 00:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/11/15 00:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/11/15 00:31	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/11/15 00:31	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/11/15 00:31	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/11/15 00:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/11/15 00:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/11/15 00:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/11/15 00:31	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/11/15 00:31	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/11/15 00:31	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/11/15 00:31	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/11/15 00:31	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		05/11/15 00:31	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		05/11/15 00:31	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/11/15 00:31	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: SW-1 **Lab ID: 92248100033** Collected: 05/01/15 10:08 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 08:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	95	%	60-140		1	05/09/15 18:44	05/10/15 08:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**187**	ug/L	100	76.8	1		05/11/15 00:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/11/15 00:48	994-05-8	
Benzene	**5.8**	ug/L	5.0	1.7	1		05/11/15 00:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/11/15 00:48	624-95-3	
tert-Butyl Alcohol	**127**	ug/L	100	57.7	1		05/11/15 00:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/11/15 00:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/11/15 00:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/11/15 00:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/11/15 00:48	64-17-5	
Ethylbenzene	**4.4J**	ug/L	5.0	1.6	1		05/11/15 00:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/11/15 00:48	637-92-3	
Methyl-tert-butyl ether	**46.3**	ug/L	5.0	1.7	1		05/11/15 00:48	1634-04-4	
Naphthalene	**5.1**	ug/L	5.0	2.0	1		05/11/15 00:48	91-20-3	
Toluene	**63.8**	ug/L	5.0	1.6	1		05/11/15 00:48	108-88-3	
Xylene (Total)	**33.9**	ug/L	10.0	2.7	1		05/11/15 00:48	1330-20-7	
m&p-Xylene	**23.2**	ug/L	10.0	3.1	1		05/11/15 00:48	179601-23-1	
o-Xylene	**10.7**	ug/L	5.0	1.6	1		05/11/15 00:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		05/11/15 00:48	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/11/15 00:48	17060-07-0	
Toluene-d8 (S)	103	%	70-130		1		05/11/15 00:48	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: SW-2 **Lab ID: 92248100034** Collected: 05/01/15 10:15 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 09:16	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	101	%	60-140		1	05/09/15 18:44	05/10/15 09:16	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/11/15 01:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/11/15 01:05	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		05/11/15 01:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/11/15 01:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/11/15 01:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/11/15 01:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/11/15 01:05	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/11/15 01:05	108-20-3	
Ethanol	ND	ug/L	200	138	1		05/11/15 01:05	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/11/15 01:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/11/15 01:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/11/15 01:05	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		05/11/15 01:05	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		05/11/15 01:05	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/11/15 01:05	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/11/15 01:05	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		05/11/15 01:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/11/15 01:05	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/11/15 01:05	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		05/11/15 01:05	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Sample: TRIP BLANK **Lab ID: 92248100035** Collected: 05/01/15 13:41 Received: 05/04/15 13:40 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	05/09/15 18:44	05/10/15 09:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	05/09/15 18:44	05/10/15 09:37	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		05/10/15 00:35	75-85-4	CC
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		05/10/15 00:35	994-05-8	CC
Benzene	ND	ug/L	5.0	1.7	1		05/10/15 00:35	71-43-2	CC
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		05/10/15 00:35	624-95-3	CC
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		05/10/15 00:35	75-65-0	CC
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		05/10/15 00:35	762-75-4	CC
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		05/10/15 00:35	107-06-2	CC
Diisopropyl ether	ND	ug/L	5.0	1.7	1		05/10/15 00:35	108-20-3	CC,L3
Ethanol	ND	ug/L	200	138	1		05/10/15 00:35	64-17-5	CC,L3
Ethylbenzene	ND	ug/L	5.0	1.6	1		05/10/15 00:35	100-41-4	CC
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		05/10/15 00:35	637-92-3	CC
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		05/10/15 00:35	1634-04-4	CC,L3
Naphthalene	ND	ug/L	5.0	2.0	1		05/10/15 00:35	91-20-3	CC
Toluene	ND	ug/L	5.0	1.6	1		05/10/15 00:35	108-88-3	CC
Xylene (Total)	ND	ug/L	10.0	2.7	1		05/10/15 00:35	1330-20-7	CC
m&p-Xylene	ND	ug/L	10.0	3.1	1		05/10/15 00:35	179601-23-1	CC
o-Xylene	ND	ug/L	5.0	1.6	1		05/10/15 00:35	95-47-6	CC
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		05/10/15 00:35	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		05/10/15 00:35	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		05/10/15 00:35	2037-26-5	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: MSV/31548 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92248100001, 92248100002, 92248100003, 92248100004, 92248100005, 92248100006, 92248100007, 92248100008, 92248100009, 92248100010, 92248100011

METHOD BLANK: 1454594 Matrix: Water
Associated Lab Samples: 92248100001, 92248100002, 92248100003, 92248100004, 92248100005, 92248100006, 92248100007, 92248100008, 92248100009, 92248100010, 92248100011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	05/09/15 11:37	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	05/09/15 11:37	
Benzene	ug/L	ND	5.0	05/09/15 11:37	
Diisopropyl ether	ug/L	ND	5.0	05/09/15 11:37	
Ethanol	ug/L	ND	200	05/09/15 11:37	
Ethyl-tert-butyl ether	ug/L	ND	10.0	05/09/15 11:37	
Ethylbenzene	ug/L	ND	5.0	05/09/15 11:37	
m&p-Xylene	ug/L	ND	10.0	05/09/15 11:37	
Methyl-tert-butyl ether	ug/L	ND	5.0	05/09/15 11:37	
Naphthalene	ug/L	ND	5.0	05/09/15 11:37	
o-Xylene	ug/L	ND	5.0	05/09/15 11:37	
tert-Amyl Alcohol	ug/L	ND	100	05/09/15 11:37	
tert-Amylmethyl ether	ug/L	ND	10.0	05/09/15 11:37	
tert-Butyl Alcohol	ug/L	ND	100	05/09/15 11:37	
tert-Butyl Formate	ug/L	ND	50.0	05/09/15 11:37	
Toluene	ug/L	ND	5.0	05/09/15 11:37	
Xylene (Total)	ug/L	ND	10.0	05/09/15 11:37	
1,2-Dichloroethane-d4 (S)	%	100	70-130	05/09/15 11:37	
4-Bromofluorobenzene (S)	%	105	70-130	05/09/15 11:37	
Toluene-d8 (S)	%	106	70-130	05/09/15 11:37	

LABORATORY CONTROL SAMPLE: 1454595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	54.0	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	773	77	70-130	
Benzene	ug/L	50	56.3	113	70-130	
Diisopropyl ether	ug/L	50	57.1	114	70-130	
Ethanol	ug/L	2000	2790	139	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	112	112	70-130	
Ethylbenzene	ug/L	50	53.6	107	70-130	
m&p-Xylene	ug/L	100	106	106	70-130	
Methyl-tert-butyl ether	ug/L	50	57.1	114	70-130	
Naphthalene	ug/L	50	54.3	109	70-130	
o-Xylene	ug/L	50	52.2	104	70-130	
tert-Amyl Alcohol	ug/L	1000	983	98	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	484	97	70-130	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

LABORATORY CONTROL SAMPLE: 1454595

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	398	99	70-130	
Toluene	ug/L	50	53.2	106	70-130	
Xylene (Total)	ug/L	150	158	106	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 1454596

Parameter	Units	92248100003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.6	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	379	95	70-130	
Benzene	ug/L	ND	20	23.2	116	70-130	
Diisopropyl ether	ug/L	ND	20	20.9	104	70-130	
Ethanol	ug/L	ND	800	1180	147	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	41.3	103	70-130	
Ethylbenzene	ug/L	ND	20	21.8	109	70-130	
m&p-Xylene	ug/L	ND	40	44.6	111	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.7	109	70-130	
Naphthalene	ug/L	ND	20	20.0	100	70-130	
o-Xylene	ug/L	ND	20	21.3	107	70-130	
tert-Amyl Alcohol	ug/L	ND	400	417	104	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.4	98	70-130	
tert-Butyl Alcohol	ug/L	ND	200	255	127	70-130	
tert-Butyl Formate	ug/L	ND	160	89.1	56	70-130	P5
Toluene	ug/L	ND	20	21.9	110	70-130	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1454597

Parameter	Units	92248100004 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

SAMPLE DUPLICATE: 1454597

Parameter	Units	92248100004 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	102	102	0		
4-Bromofluorobenzene (S)	%	103	105	2		
Toluene-d8 (S)	%	105	104	1		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: MSV/31550 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92248100012, 92248100013, 92248100015, 92248100016, 92248100017, 92248100018, 92248100019, 92248100022, 92248100024

METHOD BLANK: 1454604 Matrix: Water
Associated Lab Samples: 92248100012, 92248100013, 92248100015, 92248100016, 92248100017, 92248100018, 92248100019, 92248100022, 92248100024

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	05/09/15 11:54	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	05/09/15 11:54	
Benzene	ug/L	ND	5.0	05/09/15 11:54	
Diisopropyl ether	ug/L	ND	5.0	05/09/15 11:54	
Ethanol	ug/L	ND	200	05/09/15 11:54	
Ethyl-tert-butyl ether	ug/L	ND	10.0	05/09/15 11:54	
Ethylbenzene	ug/L	ND	5.0	05/09/15 11:54	
m&p-Xylene	ug/L	ND	10.0	05/09/15 11:54	
Methyl-tert-butyl ether	ug/L	ND	5.0	05/09/15 11:54	
Naphthalene	ug/L	ND	5.0	05/09/15 11:54	
o-Xylene	ug/L	ND	5.0	05/09/15 11:54	
tert-Amyl Alcohol	ug/L	ND	100	05/09/15 11:54	
tert-Amylmethyl ether	ug/L	ND	10.0	05/09/15 11:54	
tert-Butyl Alcohol	ug/L	ND	100	05/09/15 11:54	
tert-Butyl Formate	ug/L	ND	50.0	05/09/15 11:54	
Toluene	ug/L	ND	5.0	05/09/15 11:54	
Xylene (Total)	ug/L	ND	10.0	05/09/15 11:54	
1,2-Dichloroethane-d4 (S)	%	99	70-130	05/09/15 11:54	
4-Bromofluorobenzene (S)	%	104	70-130	05/09/15 11:54	
Toluene-d8 (S)	%	105	70-130	05/09/15 11:54	

LABORATORY CONTROL SAMPLE: 1454605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.8	98	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	805	81	70-130	
Benzene	ug/L	50	50.9	102	70-130	
Diisopropyl ether	ug/L	50	51.5	103	70-130	
Ethanol	ug/L	2000	3020	151	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
Ethylbenzene	ug/L	50	48.5	97	70-130	
m&p-Xylene	ug/L	100	96.4	96	70-130	
Methyl-tert-butyl ether	ug/L	50	51.9	104	70-130	
Naphthalene	ug/L	50	49.5	99	70-130	
o-Xylene	ug/L	50	47.0	94	70-130	
tert-Amyl Alcohol	ug/L	1000	1010	101	70-130	
tert-Amylmethyl ether	ug/L	100	99.0	99	70-130	
tert-Butyl Alcohol	ug/L	500	509	102	70-130	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

LABORATORY CONTROL SAMPLE: 1454605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	363	91	70-130	
Toluene	ug/L	50	48.7	97	70-130	
Xylene (Total)	ug/L	150	143	96	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 1454606

Parameter	Units	92248100016 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.6	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	356	89	70-130	
Benzene	ug/L	ND	20	24.8	117	70-130	
Diisopropyl ether	ug/L	ND	20	21.0	105	70-130	
Ethanol	ug/L	ND	800	1210	151	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	41.3	103	70-130	
Ethylbenzene	ug/L	ND	20	22.6	110	70-130	
m&p-Xylene	ug/L	ND	40	45.7	111	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	22.0	108	70-130	
Naphthalene	ug/L	ND	20	21.4	101	70-130	
o-Xylene	ug/L	ND	20	21.5	106	70-130	
tert-Amyl Alcohol	ug/L	ND	400	411	103	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.9	100	70-130	
tert-Butyl Alcohol	ug/L	ND	200	270	135	70-130	M1
tert-Butyl Formate	ug/L	ND	160	58.2	36	70-130	P5
Toluene	ug/L	ND	20	22.3	110	70-130	
1,2-Dichloroethane-d4 (S)	%				103	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1454607

Parameter	Units	92248100018 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

SAMPLE DUPLICATE: 1454607

Parameter	Units	92248100018 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	101	102	1		
4-Bromofluorobenzene (S)	%	105	106	1		
Toluene-d8 (S)	%	104	106	2		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: MSV/31552 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92248100025, 92248100026, 92248100027, 92248100028, 92248100029, 92248100030, 92248100031, 92248100032, 92248100033, 92248100034

METHOD BLANK: 1454622 Matrix: Water
Associated Lab Samples: 92248100025, 92248100026, 92248100027, 92248100028, 92248100029, 92248100030, 92248100031, 92248100032, 92248100033, 92248100034

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	05/10/15 22:50	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	05/10/15 22:50	
Benzene	ug/L	ND	5.0	05/10/15 22:50	
Diisopropyl ether	ug/L	ND	5.0	05/10/15 22:50	
Ethanol	ug/L	ND	200	05/10/15 22:50	
Ethyl-tert-butyl ether	ug/L	ND	10.0	05/10/15 22:50	
Ethylbenzene	ug/L	ND	5.0	05/10/15 22:50	
m&p-Xylene	ug/L	ND	10.0	05/10/15 22:50	
Methyl-tert-butyl ether	ug/L	ND	5.0	05/10/15 22:50	
Naphthalene	ug/L	ND	5.0	05/10/15 22:50	
o-Xylene	ug/L	ND	5.0	05/10/15 22:50	
tert-Amyl Alcohol	ug/L	ND	100	05/10/15 22:50	
tert-Amylmethyl ether	ug/L	ND	10.0	05/10/15 22:50	
tert-Butyl Alcohol	ug/L	ND	100	05/10/15 22:50	
tert-Butyl Formate	ug/L	ND	50.0	05/10/15 22:50	
Toluene	ug/L	ND	5.0	05/10/15 22:50	
Xylene (Total)	ug/L	ND	10.0	05/10/15 22:50	
1,2-Dichloroethane-d4 (S)	%	100	70-130	05/10/15 22:50	
4-Bromofluorobenzene (S)	%	104	70-130	05/10/15 22:50	
Toluene-d8 (S)	%	104	70-130	05/10/15 22:50	

LABORATORY CONTROL SAMPLE: 1454623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.8	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	956	96	70-130	
Benzene	ug/L	50	53.0	106	70-130	
Diisopropyl ether	ug/L	50	54.4	109	70-130	
Ethanol	ug/L	2000	2320	116	70-130	
Ethyl-tert-butyl ether	ug/L	100	107	107	70-130	
Ethylbenzene	ug/L	50	51.1	102	70-130	
m&p-Xylene	ug/L	100	101	101	70-130	
Methyl-tert-butyl ether	ug/L	50	54.3	109	70-130	
Naphthalene	ug/L	50	51.3	103	70-130	
o-Xylene	ug/L	50	49.9	100	70-130	
tert-Amyl Alcohol	ug/L	1000	1040	104	70-130	
tert-Amylmethyl ether	ug/L	100	104	104	70-130	
tert-Butyl Alcohol	ug/L	500	498	100	70-130	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

LABORATORY CONTROL SAMPLE: 1454623

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	388	97	70-130	
Toluene	ug/L	50	51.1	102	70-130	
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1455192

Parameter	Units	92248101003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.5	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	367	92	70-130	
Benzene	ug/L	ND	20	20.9	104	70-130	
Diisopropyl ether	ug/L	ND	20	19.5	97	70-130	
Ethanol	ug/L	ND	800	869	109	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	38.6	96	70-130	
Ethylbenzene	ug/L	ND	20	20.1	101	70-130	
m&p-Xylene	ug/L	ND	40	40.6	102	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	19.9	99	70-130	
Naphthalene	ug/L	ND	20	18.8	94	70-130	
o-Xylene	ug/L	ND	20	19.5	97	70-130	
tert-Amyl Alcohol	ug/L	ND	400	407	102	70-130	
tert-Amylmethyl ether	ug/L	ND	40	36.8	92	70-130	
tert-Butyl Alcohol	ug/L	ND	200	297	149	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20.0	100	70-130	
1,2-Dichloroethane-d4 (S)	%				102	70-130	
4-Bromofluorobenzene (S)	%				101	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1455193

Parameter	Units	92248100025 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

SAMPLE DUPLICATE: 1455193

Parameter	Units	92248100025 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	103	103	0		
4-Bromofluorobenzene (S)	%	103	104	1		
Toluene-d8 (S)	%	104	105	1		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: MSV/31564 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92248100014, 92248100020, 92248100021, 92248100023

METHOD BLANK: 1455146 Matrix: Water
Associated Lab Samples: 92248100014, 92248100020, 92248100021, 92248100023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	05/10/15 13:14	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	05/10/15 13:14	
Benzene	ug/L	ND	5.0	05/10/15 13:14	
Diisopropyl ether	ug/L	ND	5.0	05/10/15 13:14	
Ethanol	ug/L	ND	200	05/10/15 13:14	
Ethyl-tert-butyl ether	ug/L	ND	10.0	05/10/15 13:14	
Ethylbenzene	ug/L	ND	5.0	05/10/15 13:14	
m&p-Xylene	ug/L	ND	10.0	05/10/15 13:14	
Methyl-tert-butyl ether	ug/L	ND	5.0	05/10/15 13:14	
Naphthalene	ug/L	ND	5.0	05/10/15 13:14	
o-Xylene	ug/L	ND	5.0	05/10/15 13:14	
tert-Amyl Alcohol	ug/L	ND	100	05/10/15 13:14	
tert-Amylmethyl ether	ug/L	ND	10.0	05/10/15 13:14	
tert-Butyl Alcohol	ug/L	ND	100	05/10/15 13:14	
tert-Butyl Formate	ug/L	ND	50.0	05/10/15 13:14	
Toluene	ug/L	ND	5.0	05/10/15 13:14	
Xylene (Total)	ug/L	ND	10.0	05/10/15 13:14	
1,2-Dichloroethane-d4 (S)	%	100	70-130	05/10/15 13:14	
4-Bromofluorobenzene (S)	%	103	70-130	05/10/15 13:14	
Toluene-d8 (S)	%	103	70-130	05/10/15 13:14	

LABORATORY CONTROL SAMPLE: 1455147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	46.2	92	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	964	96	70-130	
Benzene	ug/L	50	48.8	98	70-130	
Diisopropyl ether	ug/L	50	50.6	101	70-130	
Ethanol	ug/L	2000	2110	105	70-130	
Ethyl-tert-butyl ether	ug/L	100	101	101	70-130	
Ethylbenzene	ug/L	50	48.2	96	70-130	
m&p-Xylene	ug/L	100	95.9	96	70-130	
Methyl-tert-butyl ether	ug/L	50	51.3	103	70-130	
Naphthalene	ug/L	50	49.1	98	70-130	
o-Xylene	ug/L	50	46.9	94	70-130	
tert-Amyl Alcohol	ug/L	1000	990	99	70-130	
tert-Amylmethyl ether	ug/L	100	97.3	97	70-130	
tert-Butyl Alcohol	ug/L	500	508	102	70-130	
tert-Butyl Formate	ug/L	400	405	101	70-130	
Toluene	ug/L	50	46.8	94	70-130	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

LABORATORY CONTROL SAMPLE: 1455147

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	143	95	70-130	
1,2-Dichloroethane-d4 (S)	%			97	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE SAMPLE: 1455148

Parameter	Units	92248615020 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	21.1	106	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	319	80	70-130	
Benzene	ug/L	ND	20	23.3	116	70-130	
Diisopropyl ether	ug/L	ND	20	23.3	108	70-130	
Ethanol	ug/L	ND	800	804	101	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	41.7	104	70-130	
Ethylbenzene	ug/L	ND	20	22.5	113	70-130	
m&p-Xylene	ug/L	ND	40	44.9	112	70-130	
Methyl-tert-butyl ether	ug/L	68.9	20	99.6	154	70-130	M1
Naphthalene	ug/L	ND	20	21.3	107	70-130	
o-Xylene	ug/L	ND	20	21.7	108	70-130	
tert-Amyl Alcohol	ug/L	ND	400	356	89	70-130	
tert-Amylmethyl ether	ug/L	ND	40	39.9	100	70-130	
tert-Butyl Alcohol	ug/L	ND	200	249	125	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	22.3	112	70-130	
1,2-Dichloroethane-d4 (S)	%				102	70-130	
4-Bromofluorobenzene (S)	%				100	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1455149

Parameter	Units	92248615021 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	2.6J		30	
m&p-Xylene	ug/L	ND	6.0J		30	
Methyl-tert-butyl ether	ug/L	76.5	77.1	1	30	
Naphthalene	ug/L	33.0	32.2	2	30	
o-Xylene	ug/L	ND	3.0J		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

SAMPLE DUPLICATE: 1455149

Parameter	Units	92248615021 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	103	102	1		
4-Bromofluorobenzene (S)	%	102	102	0		
Toluene-d8 (S)	%	106	105	1		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: MSV/31573 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV SC
Associated Lab Samples: 92248100035

METHOD BLANK: 1455604 | Matrix: Water
Associated Lab Samples: 92248100035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	05/10/15 00:02	CC
3,3-Dimethyl-1-Butanol	ug/L	ND	100	05/10/15 00:02	CC
Benzene	ug/L	ND	5.0	05/10/15 00:02	CC
Diisopropyl ether	ug/L	ND	5.0	05/10/15 00:02	CC
Ethanol	ug/L	ND	200	05/10/15 00:02	CC
Ethyl-tert-butyl ether	ug/L	ND	10.0	05/10/15 00:02	CC
Ethylbenzene	ug/L	ND	5.0	05/10/15 00:02	CC
m&p-Xylene	ug/L	ND	10.0	05/10/15 00:02	CC
Methyl-tert-butyl ether	ug/L	ND	5.0	05/10/15 00:02	CC
Naphthalene	ug/L	ND	5.0	05/10/15 00:02	CC
o-Xylene	ug/L	ND	5.0	05/10/15 00:02	CC
tert-Amyl Alcohol	ug/L	ND	100	05/10/15 00:02	CC
tert-Amylmethyl ether	ug/L	ND	10.0	05/10/15 00:02	CC
tert-Butyl Alcohol	ug/L	ND	100	05/10/15 00:02	CC
tert-Butyl Formate	ug/L	ND	50.0	05/10/15 00:02	CC
Toluene	ug/L	ND	5.0	05/10/15 00:02	CC
Xylene (Total)	ug/L	ND	10.0	05/10/15 00:02	
1,2-Dichloroethane-d4 (S)	%	101	70-130	05/10/15 00:02	
4-Bromofluorobenzene (S)	%	104	70-130	05/10/15 00:02	
Toluene-d8 (S)	%	104	70-130	05/10/15 00:02	

LABORATORY CONTROL SAMPLE: 1455605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	61.7	123	70-130	CC
3,3-Dimethyl-1-Butanol	ug/L	1000	910	91	70-130	CC
Benzene	ug/L	50	63.9	128	70-130	CC
Diisopropyl ether	ug/L	50	66.1	132	70-130	CC,L0
Ethanol	ug/L	2000	3760	188	70-130	CC,L0
Ethyl-tert-butyl ether	ug/L	100	129	129	70-130	CC
Ethylbenzene	ug/L	50	60.1	120	70-130	CC
m&p-Xylene	ug/L	100	119	119	70-130	CC
Methyl-tert-butyl ether	ug/L	50	65.3	131	70-130	CC,L0
Naphthalene	ug/L	50	61.2	122	70-130	CC
o-Xylene	ug/L	50	58.4	117	70-130	CC
tert-Amyl Alcohol	ug/L	1000	1210	121	70-130	CC
tert-Amylmethyl ether	ug/L	100	126	126	70-130	CC
tert-Butyl Alcohol	ug/L	500	572	114	70-130	CC
tert-Butyl Formate	ug/L	400	429	107	70-130	CC
Toluene	ug/L	50	61.1	122	70-130	CC

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

LABORATORY CONTROL SAMPLE: 1455605

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	178	118	70-130	
1,2-Dichloroethane-d4 (S)	%			98	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			99	70-130	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: OEXT/34935 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92248100002, 92248100003, 92248100004, 92248100005, 92248100006, 92248100007, 92248100008, 92248100009, 92248100010, 92248100011, 92248100012, 92248100013, 92248100014, 92248100015, 92248100016, 92248100017, 92248100018

METHOD BLANK: 1455099 Matrix: Water
Associated Lab Samples: 92248100002, 92248100003, 92248100004, 92248100005, 92248100006, 92248100007, 92248100008, 92248100009, 92248100010, 92248100011, 92248100012, 92248100013, 92248100014, 92248100015, 92248100016, 92248100017, 92248100018

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	05/09/15 17:37	
1-Chloro-2-bromopropane (S)	%	90	60-140	05/09/15 17:37	

LABORATORY CONTROL SAMPLE & LCSD: 1455100 1455101

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.22	0.23	76	82	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				88	95	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455102 1455103

Parameter	Units	92248100017 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.20	0.20	70	72	60-140	3	20	
1-Chloro-2-bromopropane (S)	%						87	91	60-140			

SAMPLE DUPLICATE: 1455104

Parameter	Units	92248100018 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	89	87	4		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: OEXT/34939 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92248100021, 92248100022, 92248100023, 92248100024, 92248100025, 92248100026, 92248100028, 92248100029, 92248100030, 92248100031, 92248100032, 92248100033, 92248100034, 92248100035

METHOD BLANK: 1455122 Matrix: Water
Associated Lab Samples: 92248100021, 92248100022, 92248100023, 92248100024, 92248100025, 92248100026, 92248100028, 92248100029, 92248100030, 92248100031, 92248100032, 92248100033, 92248100034, 92248100035

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	05/10/15 03:02	
1-Chloro-2-bromopropane (S)	%	94	60-140	05/10/15 03:02	

LABORATORY CONTROL SAMPLE & LCSD: 1455123 1455124

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.30	0.28	108	98	60-140	9	20	
1-Chloro-2-bromopropane (S)	%				100	93	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455125 1455126

Parameter	Units	92248101001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.29	0.28	102	100	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						101	100	60-140			

SAMPLE DUPLICATE: 1455127

Parameter	Units	92248101002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	94	93	1		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

QC Batch: OEXT/34953 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92248100001, 92248100019, 92248100020, 92248100027

METHOD BLANK: 1455214 Matrix: Water
Associated Lab Samples: 92248100001, 92248100019, 92248100020, 92248100027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	05/10/15 20:52	
1-Chloro-2-bromopropane (S)	%	104	60-140	05/10/15 20:52	

LABORATORY CONTROL SAMPLE & LCSD: 1455215 1455216

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.28	0.29	100	102	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				103	104	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1455218 1455219

Parameter	Units	92247661002 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.29	0.30	102	104	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						102	103	60-140			

SAMPLE DUPLICATE: 1455217

Parameter	Units	92247661001 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	92	93	0		

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QUALIFIERS

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

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TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C3	Relative percent difference between results from each column was greater than 40%. The higher of the two results was reported.
CC	The continuing calibration for this compound is outside of method control limits. The result is estimated.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92248100001	MW1	EPA 8011	OEXT/34953	EPA 8011	GCSV/21247
92248100002	MW2R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100003	MW3	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100004	MW4	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100005	MW5R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100006	MW6R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100007	MW7RR	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100008	MW9R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100009	MW10	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100010	MW11	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100011	MW12	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100012	MW13	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100013	MW14R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100014	MW15R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100015	MW17R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100016	MW18R	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100017	MW19	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100018	MW20	EPA 8011	OEXT/34935	EPA 8011	GCSV/21244
92248100019	MW22R	EPA 8011	OEXT/34953	EPA 8011	GCSV/21247
92248100020	MW24	EPA 8011	OEXT/34953	EPA 8011	GCSV/21247
92248100021	DW1	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100022	DW2R	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100023	DW3R	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100024	DW4	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100025	PW1	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100026	RW1	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100027	RW2	EPA 8011	OEXT/34953	EPA 8011	GCSV/21247
92248100028	RW3	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100029	RW4	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100030	MW5R DUP	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100031	MW15R DUP	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100032	FIELD BLANK	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100033	SW-1	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100034	SW-2	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100035	TRIP BLANK	EPA 8011	OEXT/34939	EPA 8011	GCSV/21245
92248100001	MW1	EPA 8260	MSV/31548		
92248100002	MW2R	EPA 8260	MSV/31548		
92248100003	MW3	EPA 8260	MSV/31548		
92248100004	MW4	EPA 8260	MSV/31548		
92248100005	MW5R	EPA 8260	MSV/31548		
92248100006	MW6R	EPA 8260	MSV/31548		
92248100007	MW7RR	EPA 8260	MSV/31548		
92248100008	MW9R	EPA 8260	MSV/31548		
92248100009	MW10	EPA 8260	MSV/31548		
92248100010	MW11	EPA 8260	MSV/31548		
92248100011	MW12	EPA 8260	MSV/31548		

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ROBERTS ENERGY 00120-50191
Pace Project No.: 92248100

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92248100012	MW13	EPA 8260	MSV/31550		
92248100013	MW14R	EPA 8260	MSV/31550		
92248100014	MW15R	EPA 8260	MSV/31564		
92248100015	MW17R	EPA 8260	MSV/31550		
92248100016	MW18R	EPA 8260	MSV/31550		
92248100017	MW19	EPA 8260	MSV/31550		
92248100018	MW20	EPA 8260	MSV/31550		
92248100019	MW22R	EPA 8260	MSV/31550		
92248100020	MW24	EPA 8260	MSV/31564		
92248100021	DW1	EPA 8260	MSV/31564		
92248100022	DW2R	EPA 8260	MSV/31550		
92248100023	DW3R	EPA 8260	MSV/31564		
92248100024	DW4	EPA 8260	MSV/31550		
92248100025	PW1	EPA 8260	MSV/31552		
92248100026	RW1	EPA 8260	MSV/31552		
92248100027	RW2	EPA 8260	MSV/31552		
92248100028	RW3	EPA 8260	MSV/31552		
92248100029	RW4	EPA 8260	MSV/31552		
92248100030	MW5R DUP	EPA 8260	MSV/31552		
92248100031	MW15R DUP	EPA 8260	MSV/31552		
92248100032	FIELD BLANK	EPA 8260	MSV/31552		
92248100033	SW-1	EPA 8260	MSV/31552		
92248100034	SW-2	EPA 8260	MSV/31552		
92248100035	TRIP BLANK	EPA 8260	MSV/31573		

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DHEC
PROMOTE PROTECT PROSPER

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

UST DOCKETING 47 tech

To: Ashleigh Thrash (SCDHEC Project Manager)
From: Ashleigh Thrash (Contractor Project Manager)
Contractor: SCDHEC UST Contractor Certification Number: UCC-0116

Facility Name: Robert's Energy UST Permit #: 00120
Facility Address: 2031 Pisgah Rd, N. Augusta, SC 29841
Responsible Party: Jackson Petroleum Company Phone: 8036480763
RP Address: PO Box 861, Aiken, SC 29802-0861
Property Owner (if different): George McKie
Property Owner Address: 1025 Martintown Road, N. Augusta, SC 29841
Current Use of Property: Commercial

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier II
- ☑ Groundwater Sampling
- ☐ GAC
- ☐ Tier I
- ☐ Monitoring Well Installation
- ☐ Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

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

Soil:

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

Air:

- ☐ BTEXN

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

____ Soil	____ Water Supply Wells	____ Air	1 Field Blank
____ Monitoring Wells	2 Surface Water	1 Duplicate	1 Trip Blank

Field Screening Methodology

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

# of shallow points proposed: _____ Estimated Footage: _____ feet per point
# of deep points proposed: _____ Estimated Footage: _____ feet per point
Field Screening Methodology: _____

Permanent Monitoring Wells

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

# of shallow wells: _____ Estimated Footage: _____ feet per point
# of deep wells: _____ Estimated Footage: _____ feet per point
# of recovery wells: _____ Estimated Footage: _____ feet per point
Monitoring Well development method (consistent with SOP): _____
Comments, if warranted:

_____
_____
_____

UST Permit #: 00120 Facility Name: Robert's Energy

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 15 Field Work Completion: 16
Report Submittal: _____ # of Copies Provided to Property Owners: _____

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

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: _____ Gallons
Drilling Fluids: _____ Gallons Free-Phase Product: _____ Gallons

Additional Details For This Scope of Work
For example, list wells to be sampled, wells to be abandoned/repaired, well pads/bolts/caps to replace, details of AFVR event, etc.
Sampling two creek locations.

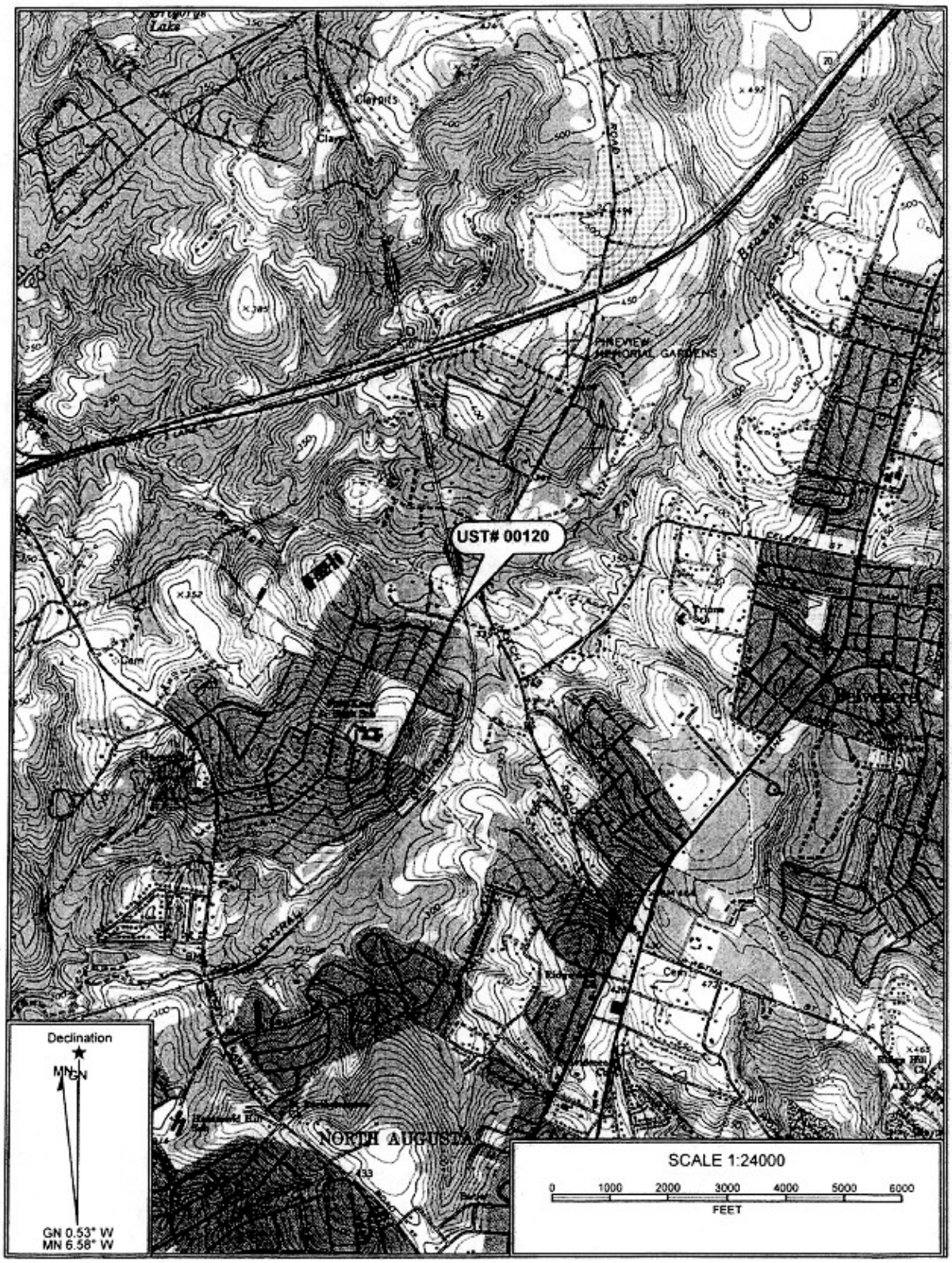
Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
Yes Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below.
Name of Laboratory: _____
SCDHEC Certification Number: _____
Name of Laboratory Director: _____

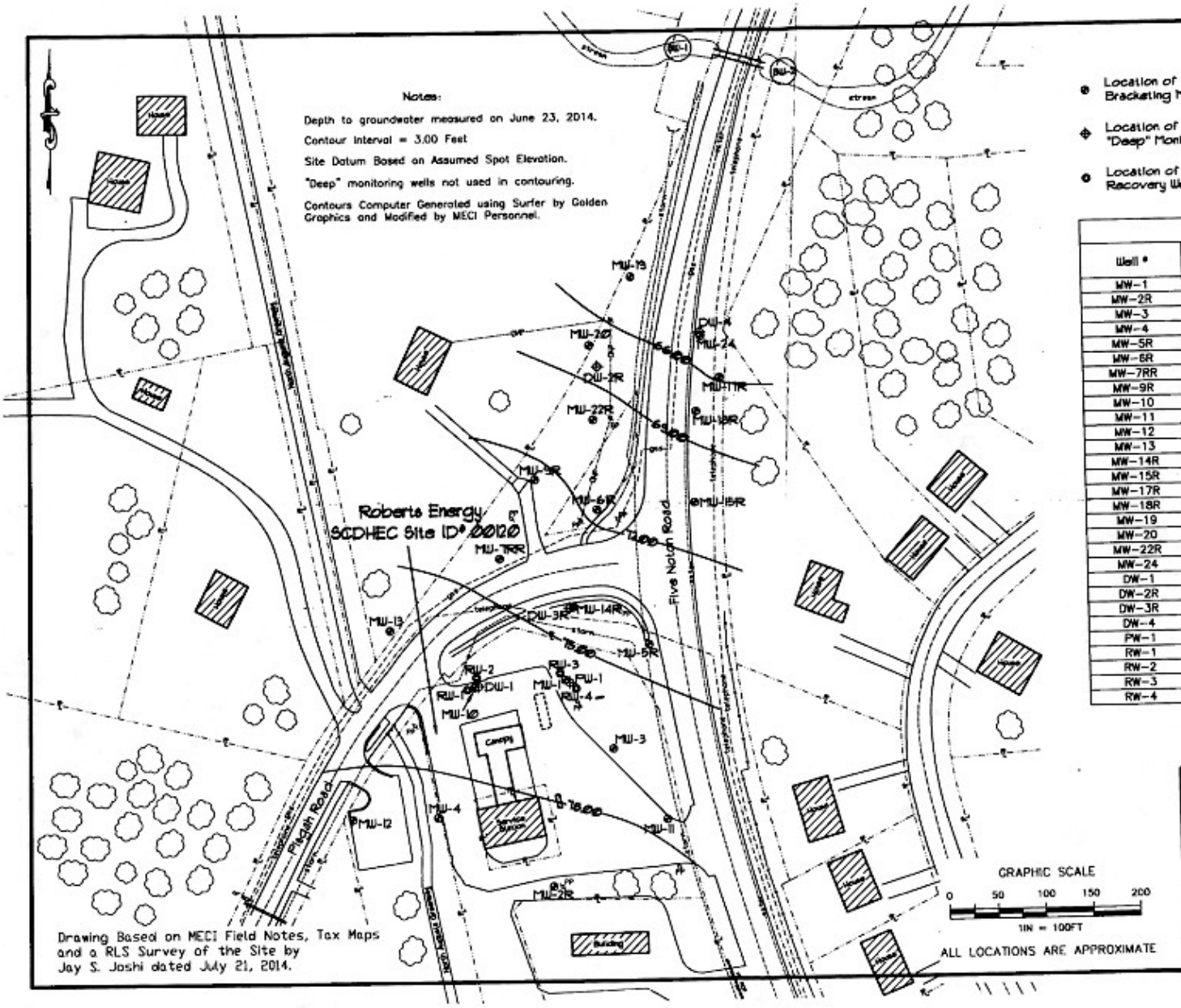
____ Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below.
Name of Well Driller: _____
SCLLR Certification Number: _____

____ Other variations from ACQAP. Please describe below.

Attachments

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


UST# 00120
PINEVIEW MEMORIAL GARDENS
NORTH AUGUSTA
Declination
MN
GN
GN 0.53° W
MN 6.58° W
SCALE 1:24000
0 1000 2000 3000 4000 5000 6000
FEET



Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of 4-inch Recovery Well
- Location of Surface Water Sample Collection
- Estimated Groundwater Flow Direction
- Estimated Location of Existing Underground Storage Tanks

Potentiometric Data

Well #	Screened Interval (ft)	Depth to Water (ft)	Well Head Elevation	Groundwater Elevation
MW-1	15-29	22.13	97.91	75.78
MW-2R	15-30	22.64	101.78	79.14
MW-3	17-27	22.43	99.17	76.74
MW-4	17-27	21.33	99.81	78.48
MW-5R	10.5-20.5	13.21	87.40	74.19
MW-6R	7-17	11.68	83.26	71.58
MW-7RR	14-24	17.40	91.67	74.27
MW-9R	10-20	12.86	85.41	72.55
MW-10	15-30	21.39	97.88	76.49
MW-11	15-30	21.19	98.99	77.80
MW-12	15-30	18.21	96.75	78.54
MW-13	15-30	18.59	94.88	76.29
MW-14R	12.5-22.5	14.98	89.02	74.04
MW-15R	4-14	6.25	77.29	71.04
MW-17R	5-15	2.78	68.58	65.80
MW-18R	2-12	5.54	73.27	67.73
MW-19	5-15	7.39	70.99	63.60
MW-20	5-15	7.76	75.23	67.47
MW-22R	5-15	8.46	79.27	70.81
MW-24	3-13	5.56	70.83	65.27
DW-1	55-60	21.29	97.40	76.11
DW-2R	55-60	7.37	75.69	68.32
DW-3R	55-60	18.22	89.50	71.28
DW-4	52-57	2.11	70.93	68.82
PW-1	36-46	22.81	98.24	75.43
RW-1	15-30	21.05	97.98	76.93
RW-2	15-30	21.49	97.87	76.38
RW-3	15-30	22.12	97.91	75.79
RW-4	15-30	22.09	97.97	75.88

Potentiometric Data Site Map
(Groundwater Contour)

Robert's Energy 1
2031 Plagah Road
North Augusta, South Carolina
SCDHEC Site ID 0010

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771
DATE July 25, 2014
FIGURE 5

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

ASSESSMENT COMPONENT COST AGREEMENT

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

CONTRACT PO NUMBER 4600363417

Facility Name: **Robert's Energy**

UST Permit #: 00120 **Cost Agreement #:** 50340

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
11. Laboratory Analyses-Groundwater				
A. BTEXM		per sample	$17.00	$0.00
A1. BTEXMN + DCA		per sample	$18.00	$0.00
A2. BTEXMN + Oxygenates + DCA	5	per sample	$19.00	$95.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	$13.00	$0.00
D1. PAH's		per sample	$40.00	$0.00
E1. Lead		per sample	$10.00	$0.00
F1. EDB by EPA 8011		per sample	$18.00	$0.00
G1. 8 RCRA Metals		per sample	$44.00	$0.00
H1. TPH (9070)		per sample	$20.00	$0.00
I1. pH		per sample	$5.00	$0.00
K. Nitrate		per sample	$10.00	$0.00
L. Sulfate		per sample	$10.00	$0.00
M. Ferrous Iron		per sample	$9.00	$0.00
N. Methane		per sample	$35.00	$0.00
P. Oxygenates		per sample	$13.00	$0.00
18. Full List 8260		per sample	$45.00	$0.00
18. Full List 8270		per sample	$100.00	$0.00
18. Total Organic Carbon		per sample	$20.00	$0.00
11. **Analyses-Soil**				
Q1. BTEX + Naphth.		per sample	$25.00	$0.00
R1. PAH's		per sample	$45.00	$0.00
S1. 8 RCRA Metals		per sample	$44.00	$0.00
T. TPH (waste oil)		per sample	$25.00	$0.00
U1. TPH-DRO (3550C/8015C)		per sample	$25.00	$0.00
V1. TPH- GRO (5030B/8015C)		per sample	$25.00	$0.00
X1. Total Organic Carbon		per sample	$20.00	$0.00
18 Lead		per sample	$11.00	$0.00
18 TCLP		per sample	$25.00	$0.00
11. **Analyses-Air**				
18. BTEX + Naphthalene		per sample	$70.00	$0.00
18. PAH Air		per sample	$90.00	$0.00
Expedite Rate (11B)	2	each		$0.00
TOTAL				$95.00

D H E C

PROMOTE PROTECT PROSPER

W. Marshall Taylor Jr., Acting Director

Promoting and protecting the health of the public and the environment

TREY CARTER
PACE ANALYTICAL SERVICES
9800 KINCEY AVE STE 100
HUNTERSVILLE NC 28078

MAY 29 2015

UST 48tech DOCKETING

Re: Laboratory Analyses Approval
Bid # IFB-5400007867-05/14/14-EMW; PO#4600363417

Dear Mr. Carter:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #4600363417 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	Analyses-Groundwater	CA #
00120	Robert's Energy	2 – BTEXNM, 1,2 DCA, 8-Oxys	50340

* Analyses requested do not include field, trip or duplicate samples.

If you have any questions or need further assistance, please contact John Bryant at (803) 898-0606 or bryantjc@dhec.sc.gov.

Sincerely,

Ashleigh Thrash

Ashleigh Thrash, Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land & Waste Management

Enc: Approved Cost Agreement

cc: John Bryant, Corrective Action Section (w/enc)
Technical File

Approved Cost Agreement 50340

Facility. 00120 ROBERTS ENERGY 1

THRASHAM

PO Number

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	5.0000	19.00	95.00

Total Amount 95.00

D H E C

Underground Storage Tank Management Division
Field Data Information Sheet – Monitoring Well Gauging

Site Information

Date: 6/5/15	Site ID #: 00120	Site Name: Roberts Energy
County: Aiken	Project Manager: A. Thrash	Field Personnel: A. Thrash / R. Ariail

Well Gauging Information

Well ID:	Time location ~~Total Well Depth (ft.)~~	~~Screened Interval (ft.)~~	~~Depth to Free Product (ft.)~~	~~Depth to Ground water (ft.)~~	~~Free Product Thickness (ft.)~~	~~Confirmed with Bailer?~~	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault?
SW-3	11:10	storm water outfall					No			
SW-1	11:25	stream on side of SW outfall					↓			
SW-1dup	11:27	"					↓			
SW-2	11:36	stream – opp. side of road					↓			
FB	11:45						↓			
TB	11:47									

UST DOCKETING 4/9/15

Notes: Strong odor by storm water outfall

SCANNED

Signature: Ashleigh Thrash

DHEC 0424 (10/2012)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAR 10 2009

BRIAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
P O BOX 854
LEXINGTON SC 29071-0854

Re: Bid # IBF-30519-8/8/06-EMW; PO # 646282
Notice to Proceed

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct Aggressive Fluid Vapor Recovery (AFVR) event at several facilities. The packets contain the necessary approval for work to begin. You may commence with a site reconnaissance before the AFVR. If monitoring wells do not contain measurable free phase product, contact the UST project manager for further instructions. The facilities have been assigned Cost Agreement (CA) numbers as listed below. Please reference the CA numbers and Purchase Order # 646282 on the appropriate invoices submitted for payment against the facilities. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below).**

UST Permit #	Facility	County	Release #	Work Scope	Due Date*	CA #	Approved Amt
11369	Lucky's Corner Mart	Anderson	1	5 AFVR	60days	35550	5,550.00
00120	Four Seasons Food & Fuel 5	Aiken	1	1 AFVR	60days	35551	1,170.00
00487	Former Ford Specialist	Anderson	1	3 AFVR	60days	35503	3,360.00

*From receipt of letter

Midland's Environmental Consultants, Inc. will perform services at the sites on behalf of the site's UST owners; however, payments will be made from the SUPERB Account. The site's UST owners have no obligation for payment for this scope of work. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained.

If for any reason there are changes in these cost agreements, any associated changes to this cost agreement must be pre-approved by this Department in order for Midlands Environmental Consultants to seek future cost compensation. Please contact the site's project manager for technical and/or financial approval. Any item(s) not clearly or completely addressed in the report (disposal manifest for generated groundwater, etc.) WILL NOT be compensated by the SUPERB Account.

UST DOCKET Stech

The Department grants pre-approval for transportation of free phase product and petroleum contaminated groundwater from the referenced site to a permitted treatment facility. The free product and contaminated groundwater must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest from the receiving facility that clearly designates the quantity received must be included as an appendix to the report.

If you have any questions concerning this correspondence or need further assistance, please contact me by phone at (803) 896-6664, by fax at (803) 896-6245 or by email at milenkmp@dhec.sc.gov.

Sincerely,

Maia Milenkova, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc.: Approved Cost Agreements (ACA)
Information Packets

cc: Technical File (w/copy of ACA)

SCDHEC/UST/03/06/09/MPM

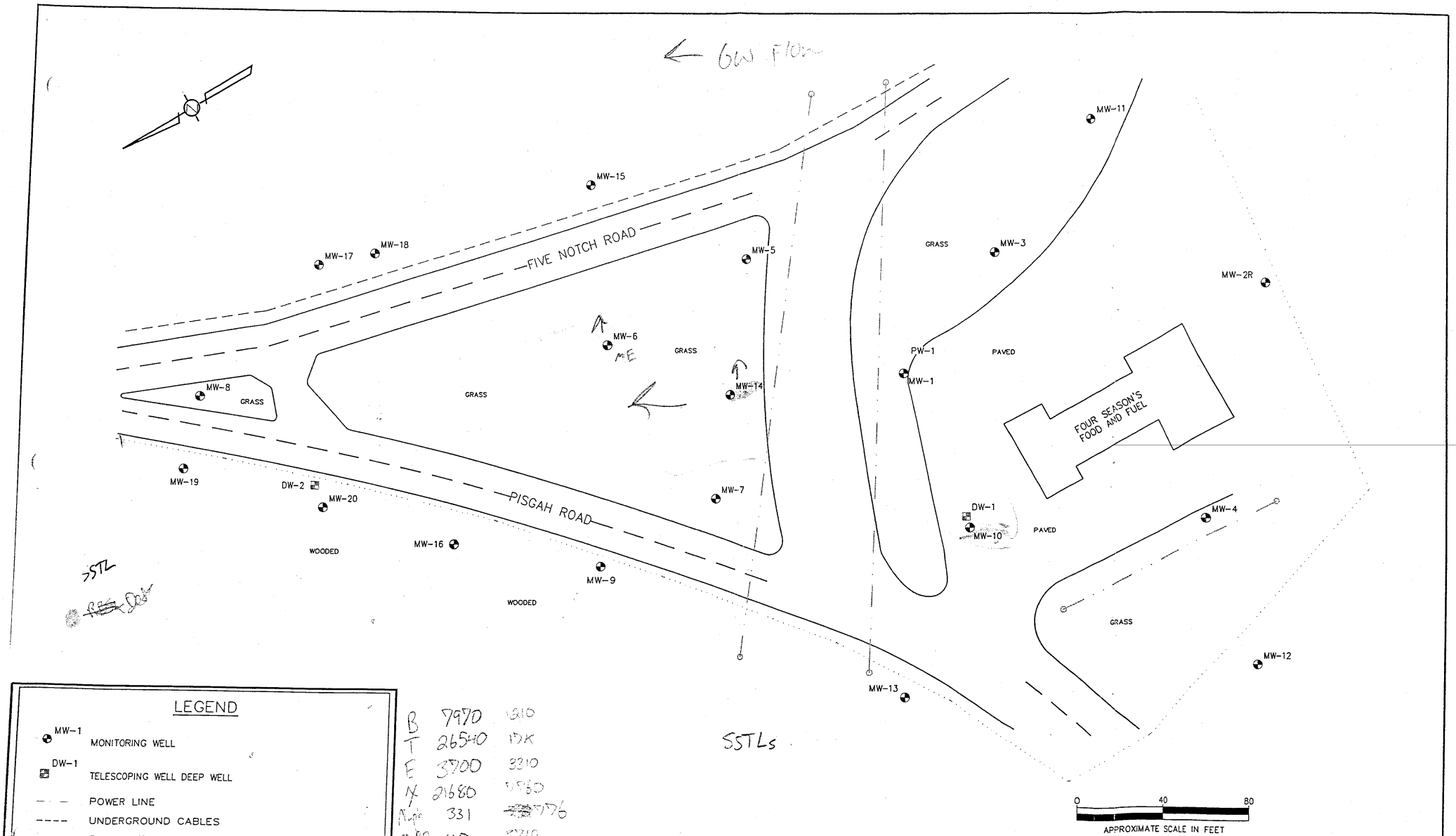
Approved Cost Agreement 35551

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

DOLPHIBM

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		A	EQUIPMENT	1.0000	375.00	375.00
23 EFR						
		A	8 HOUR EVENT	1.0000	600.00	600.00
		C	OFF GAS TREATMENT	8.0000	15.00	120.00
		D	SITE RECONNAISSANCE	1.0000	75.00	75.00
				Total Amount		1,170.00



LEGEND

- MW-1 MONITORING WELL
- DW-1 TELESCOPING WELL DEEP WELL
- POWER LINE
- UNDERGROUND CABLES
- GAS LINE

B	7970	1210
T	26540	17K
E	3700	3310
X	21680	7760
Mph	331	776
MBE	40	3710

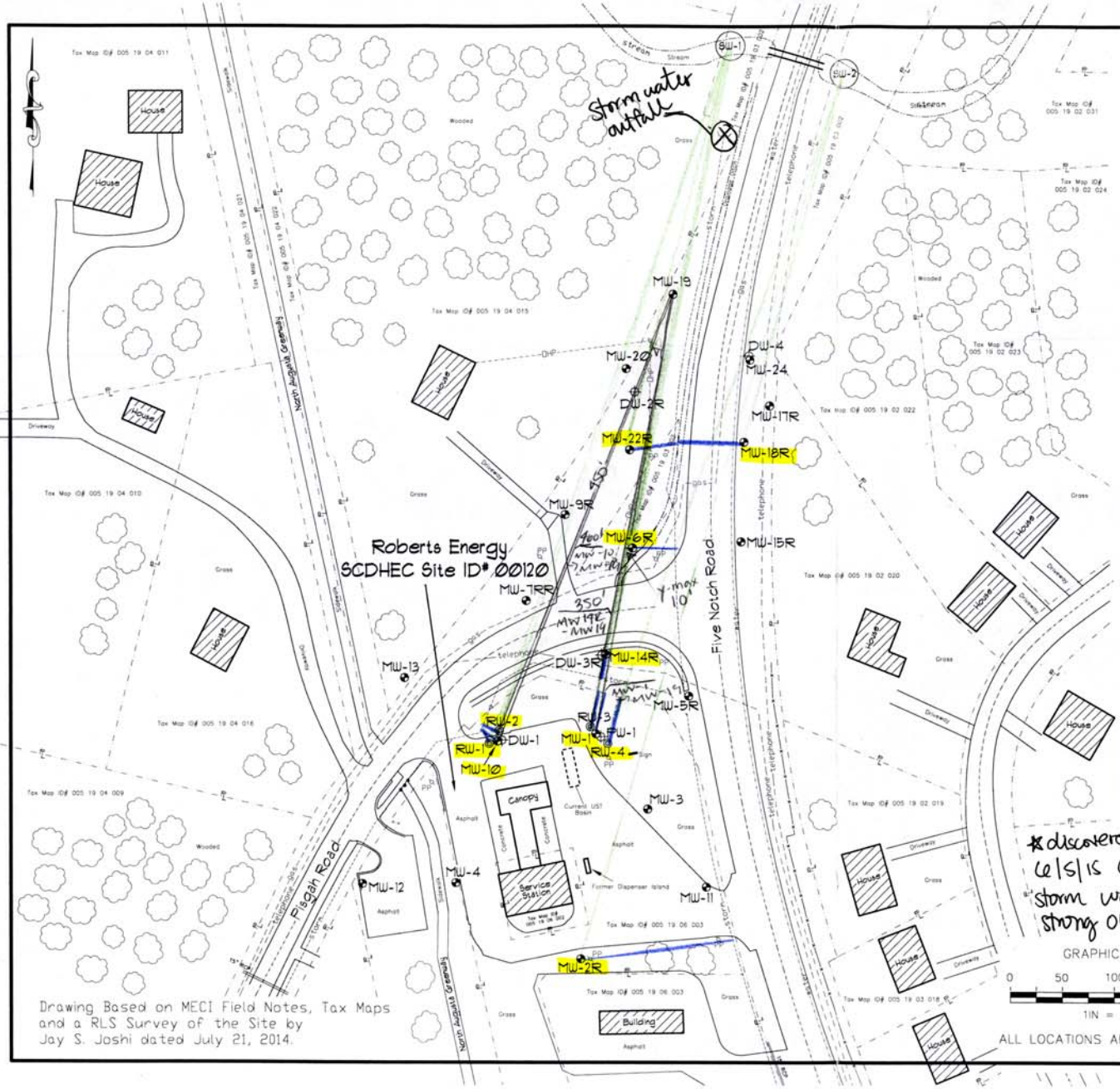
CONSULTECH ENVIRONMENTAL, INC.	DRAWN: CJH	DATE: 11/06/05
Environmental Consulting and Engineering © 1999	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
Delivering innovative solutions to today's environmental concerns	LOCATION: North Agusta, South Carolina	

FIGURE 2
SITE PLAN MAP

Site 00120

Ashley

MODEL 1/30/15



Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated July 21, 2014.

GRAPHIC SCALE
0 50 100 150 200
1IN = 100FT

ALL LOCATIONS ARE APPROXIMATE

Shallow BTEX + N + 1,2DCA + MTBE + EDB + Oxys Model

seepage velocity (from tier II): 10.59 ft/yr
bulk density: 1.6 plume length: ~~[illegible]~~ 450'

Shallow Benzene
Calibration line: RW-3 → MW-6R → MW-19
X max = 430' v_x = 30 ft/yr*
Y max = 10'

Shallow TEX, N, DCA
calibration line: RW-2 → MW-19
X-max = 450' v_x = 40 ft/yr*

Shallow MTBE, EDB
calibration line: MW-19R → MW-19
Xmax = 350' v_x = 30 ft/yr*

Shallow Oxys
calibration line: MW-1 → MW-19
X max = 430' v_x = 20 ft/yr*

* used data from 6/23/14 sampling
* increased v_x in order to calibrate model

well	dist. to receptor (ft) receptor: stormwater line
MW-1	40'
MW-2R	140'
MW-6R	40'
MW-10	15'
MW-19R	20'
MW-18R	70'
MW-22R	40'
RW-1	15'
RW-2	15'
RW-3	35'
RW-4	60'

* discovered on SV on 6/5/15 COCs entering storm water lines. strong odor @ outfall

SCANNED

Site Base Map

Robert's Energy I
2031 Pisgah Road
North Augusta, South Carolina
SCDHEC Site ID 00120

UST 50 km DOCKETING

Midlands Environmental Consultants, Inc.

JOB NO. 14-4771
DATE July 25, 2014
FIGURE 2

UST Permit # 00120
Site Name: Robert's Energy

SSTLs t 1000 yrs

Shallow Benzene

SSTLs in mg/L			RBSLs (mg/L):	0.005							
MW #	x (ft)	y (ft)	z (ft)	Benzene SSTL							
MW-1	40	0	0	0.012							
MW-2R	150	0	0	0.128							
MW-6R	40	0	0	0.012							
MW-10	15	0	0	0.007							
MW-14R	20	0	0	0.008							
MW-18R	70	0	0	0.024							
MW-22R	40	0	0	0.012							
RW-1	15	0	0	0.007							
RW-2	15	0	0	0.007							
RW-3	35	0	0	0.011							
RW-4	60	0	0	0.020							
			λ (yr^{-1}):	0.592							
			R:	1.104							
			Pure Substance Solubility:	1750							
			Effective Solubility:	44.39							

Used 6/23/14 sampling

Domenico Model

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1/23/2015

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	30	ft/yr

Transport Parameters

x_{max}	430	ft
y_{max}	10	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene	25	81
Toluene		133
Ethylbenzene		176
Xylenes		639
Naphthalene		1543
MtBE		11
EDB		28
1,2-DCA		17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.104	27.18
Toluene	1.170	25.64
Ethylbenzene	1.225	24.48
Xylenes	1.818	16.50
Naphthalene	2.975	10.08
MtBE	1.014	29.58
EDB	1.036	28.96
1,2-DCA	1.022	29.34

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

Benzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	25	25
43		9.480
86		3.614
129		1.482
172		0.633
215		0.277
258		0.123
301		0.055
344		0.025
387		0.011
430	0.005	0.005

Temporal Calibration Data

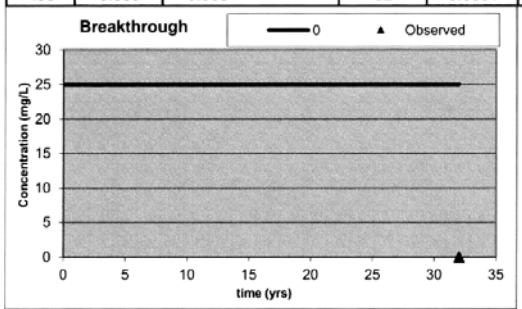
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		25		25
3.2		25.000		25.000
6.4		25.000		25.000
9.6		25.000		25.000
12.8		25.000		25.000
16		25.000		25.000
19.2		25.000		25.000
22.4		25.000		25.000
25.6		25.000		25.000
28.8		25.000		25.000
32	0.0091	25.000		25.000

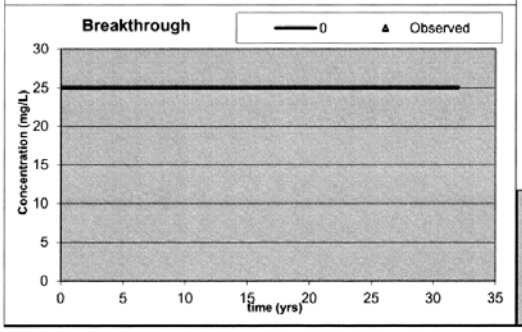
Site ID 00120

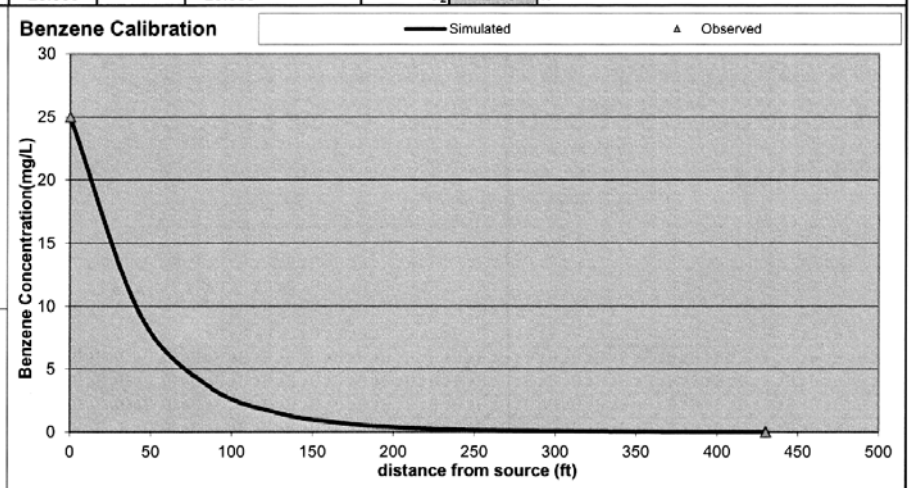
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.17	yrs	λ	0.59231	yr^{-1}
v_x	30	ft/yr			
R	1.104				
v_R	27.182	ft/yr	C_{source}	25	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
10	7.74035906	3.16808211	1.34712397	0.58715968	0.26032946	0.1168578	0.052946	0.024163	0.011092	0.005116
5	9.01642937	3.49680939	1.4474049	0.62112905	0.2726332	0.1215241	0.054776	0.0249	0.011394	0.005241
0	9.47955471	3.61354708	1.48244136	0.63288011	0.27686174	0.1231205	0.0554	0.02515	0.011496	0.005284
5	9.01642937	3.49680939	1.4474049	0.62112905	0.2726332	0.1215241	0.054776	0.0249	0.011394	0.005241
10	7.74035906	3.16808211	1.34712397	0.58715968	0.26032946	0.1168578	0.052946	0.024163	0.011092	0.005116

UST Permit # 00120
Site Name: Robert's Energy

SSTLs t 1000 yrs

Shallow TEXN, 1,2-DCA Model

SSTLs in mg/L			RBSLs (mg/L):		1.000	0.700	10.000		0.025		0.005
MW #	x (ft)	y (ft)	z (ft)		Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL		Naphthalene SSTL		1,2-DCA SSTL
MW-1	40	0	0		2.585	1.307	21.944		0.044		0.010
MW-2R	150	0	0		31.129	6.427	168.324		0.181		0.053
MW-6R	40	0	0		2.585	1.307	21.944		0.044		0.010
MW-10	15	0	0		1.363	0.844	12.816		0.029		0.006
MW-14R	20	0	0		1.546	0.920	14.245		0.032		0.007
MW-18R	70	0	0		5.349	2.118	40.150		0.068		0.016
MW-22R	40	0	0		2.585	1.307	21.944		0.044		0.010
RW-1	15	0	0		1.363	0.844	12.816		0.029		0.006
RW-2	15	0	0		1.363	0.844	12.816		0.029		0.006
RW-3	35	0	0		2.277	1.199	19.729		0.041		0.009
RW-4	60	0	0		4.223	1.814	33.026		0.059		0.014
			λ (yr^{-1}):		0.815	0.385	0.385		0.131		0.513
			R:		1.170	1.225	1.818		2.975		1.022
			Pure Substance Solubility:		526	169	175		31		8520
			Effective Solubility:		26.54	3.7	21.68		6.7		3.7

used 6/23/14 sampling data

Domenico Model

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1/23/2015

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	40	ft/yr

Transport Parameters

x_{max}	450	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene		81
Toluene	63	133
Ethylbenzene	1.5	176
Xylenes	8.8	639
Naphthalene	0.89	1543
MtBE		11
EDB		28
1,2-DCA	2.5	17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.104	36.24
Toluene	1.170	34.18
Ethylbenzene	1.225	32.65
Xylenes	1.818	22.00
Naphthalene	2.975	13.45
MtBE	1.014	39.44
EDB	1.036	38.62
1,2-DCA	1.022	39.12

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

Toluene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	63	63
45		21.500
90		7.445
135		2.782
180		1.082
225		0.432
270		0.175
315		0.072
360		0.030
405		0.012
450	0.005	0.005

Temporal Calibration Data

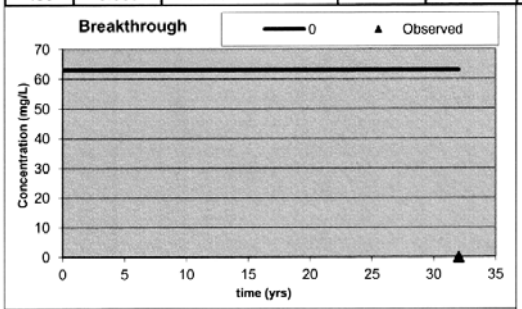
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		63		63
3.2		63.000		63.000
6.4		63.000		63.000
9.6		63.000		63.000
12.8		63.000		63.000
16		63.000		63.000
19.2		63.000		63.000
22.4		63.000		63.000
25.6		63.000		63.000
28.8		63.000		63.000
32	0.005	63.000		63.000

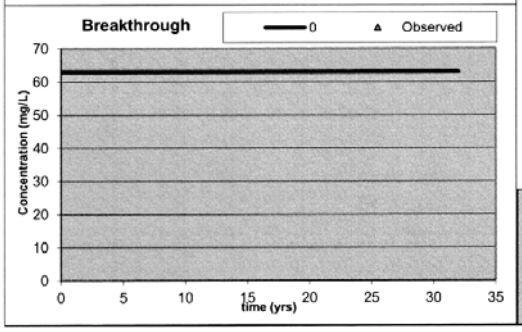
Site ID 00120

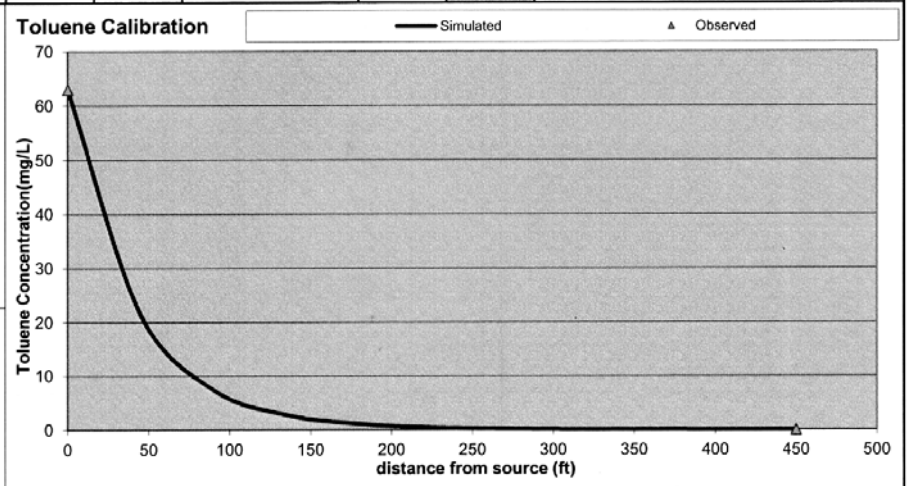
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	0.85	yrs	λ	0.81529	yr^{-1}
v_x	40	ft/yr			
R	1.170				
v_R	34.181	ft/yr	C_{source}	63	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199
0	21.5001326	7.44539409	2.78185962	1.08245607	0.43174052	0.1750789	0.071846	0.029747	0.012402	0.005199

Ethylbenzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	1.5	1.5
45		0.738
90		0.369
135		0.199
180		0.112
225		0.064
270		0.038
315		0.022
360		0.013
405		0.008
450	0.005	0.005

Temporal Calibration Data

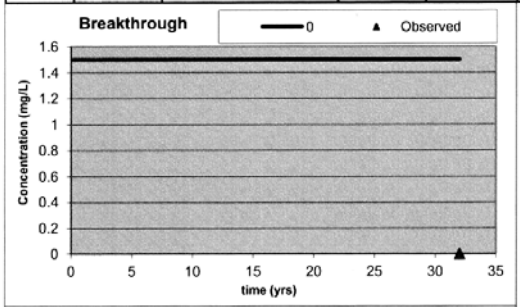
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		1.5		1.5
3.2		1.500		1.500
6.4		1.500		1.500
9.6		1.500		1.500
12.8		1.500		1.500
16		1.500		1.500
19.2		1.500		1.500
22.4		1.500		1.500
25.6		1.500		1.500
28.8		1.500		1.500
32	0.0011	1.500		1.500

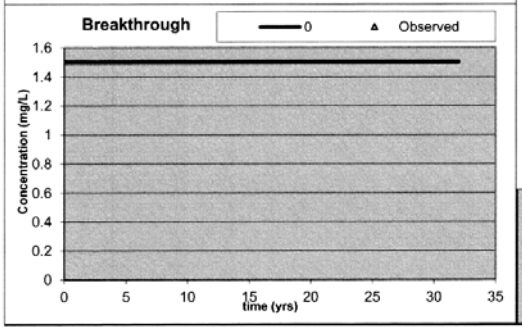
Site ID 00120

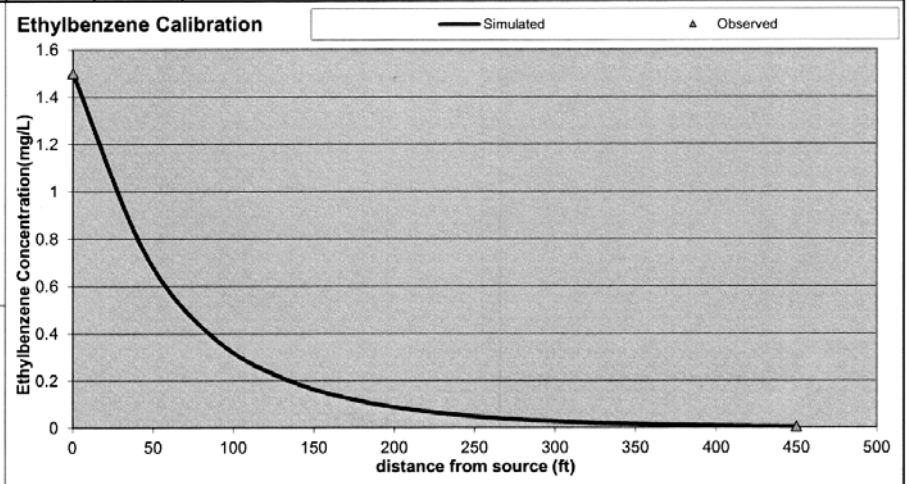
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.8	yrs	λ	0.385	yr^{-1}
v_x	40	ft/yr			
R	1.225				
v_R	32.646	ft/yr	C_{source}	1.5	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824
0	0.73834833	0.36878844	0.19874411	0.11154209	0.06416833	0.0375319	0.022214	0.013266	0.007977	0.004824

Xylenes Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	8.8	8.8
45		3.612
90		1.504
135		0.676
180		0.316
225		0.152
270		0.074
315		0.036
360		0.018
405		0.009
450	0.005	0.005

Temporal Calibration Data

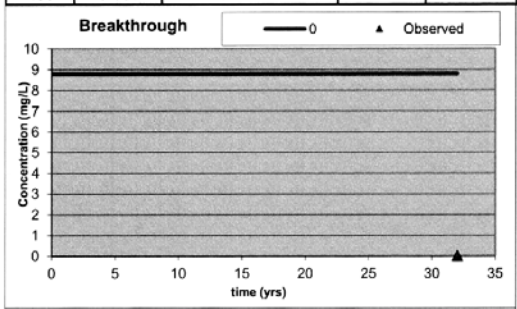
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	0 C_{obs} (mg/L)	0 C_{sim} (mg/L)
0		8.8		8.8
3.2		8.800		8.800
6.4		8.800		8.800
9.6		8.800		8.800
12.8		8.800		8.800
16		8.800		8.800
19.2		8.800		8.800
22.4		8.800		8.800
25.6		8.800		8.800
28.8		8.800		8.800
32	0.0188	8.800		8.800

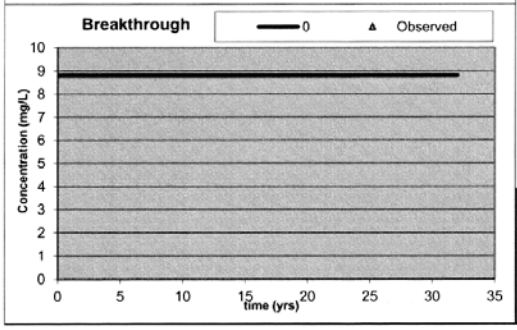
Site ID 00120

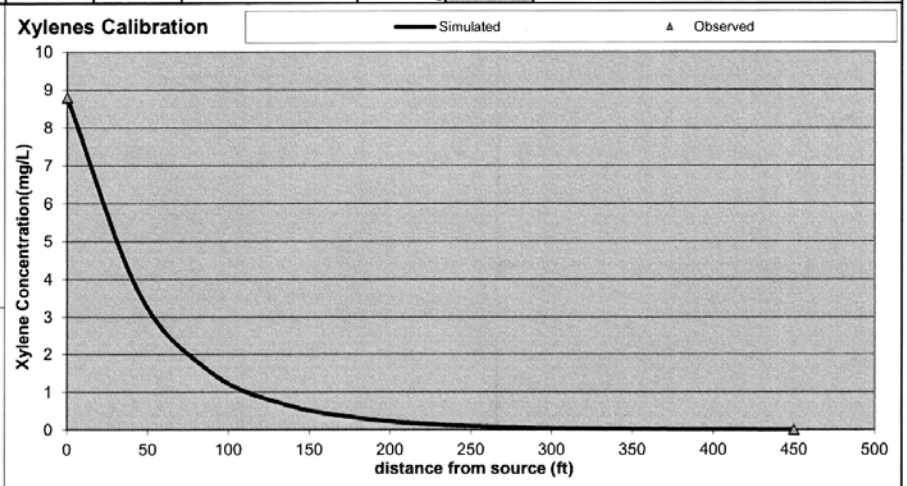
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.8	yrs	λ	0.385	yr^{-1}
v_x	40	ft/yr			
R	1.818				
v_R	22.003	ft/yr	C_{source}	8.8	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593
0	3.61150487	1.50397183	0.67575951	0.31620751	0.15166649	0.0739614	0.036499	0.018173	0.009111	0.004593

Naphthalene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.89	0.89
45		0.470
90		0.252
135		0.146
180		0.088
225		0.054
270		0.034
315		0.021
360		0.013
405		0.008
450	0.005	0.005

Temporal Calibration Data

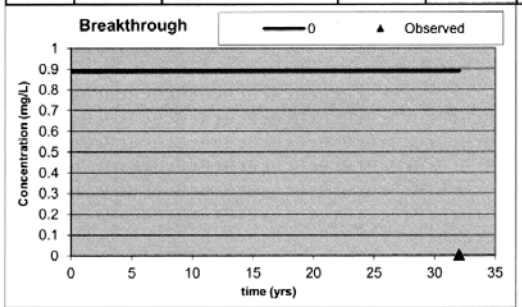
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0	0	
0		0.89		0.89
3.2		0.890		0.890
6.4		0.890		0.890
9.6		0.890		0.890
12.8		0.890		0.890
16		0.890		0.890
19.2		0.890		0.890
22.4		0.890		0.890
25.6		0.890		0.890
28.8		0.890		0.890
32	0.0033	0.890		0.890

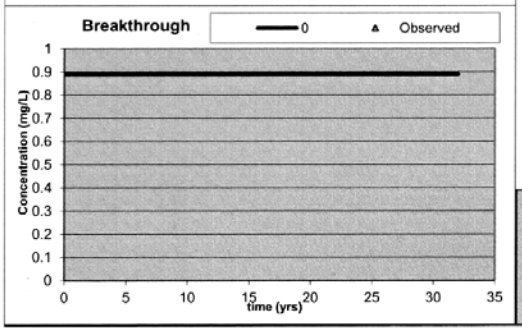
Site ID 00120

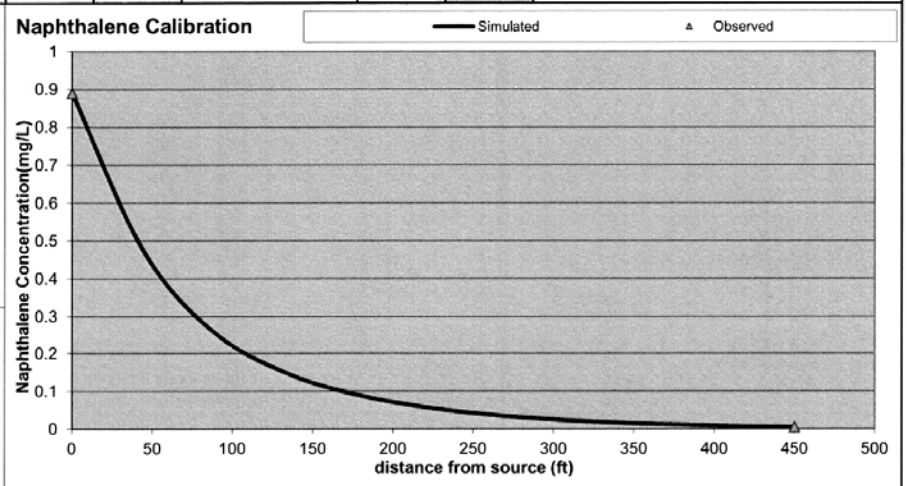
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	5.3	yrs	λ	0.13075	yr^{-1}
v_x	40	ft/yr			
R	2.975				
v_R	13.445	ft/yr	C_{source}	0.89	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682
0	0.47018211	0.25204169	0.14575169	0.08773182	0.05404732	0.0337208	0.021108	0.013113	0.007978	0.004682

1,2-DCA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2.5	2.5
45		1.178
90		0.563
135		0.290
180		0.156
225		0.086
270		0.048
315		0.027
360		0.016
405		0.009
450	0.005	0.005

Temporal Calibration Data

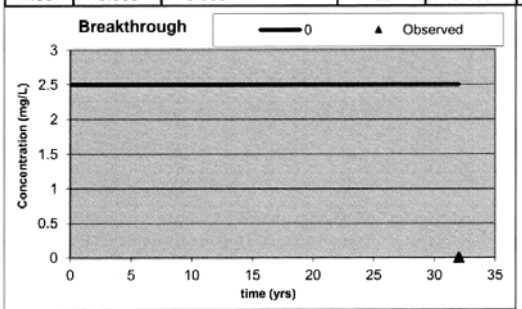
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		2.5		2.5
3.2		2.500		2.500
6.4		2.500		2.500
9.6		2.500		2.500
12.8		2.500		2.500
16		2.500		2.500
19.2		2.500		2.500
22.4		2.500		2.500
25.6		2.500		2.500
28.8		2.500		2.500
32	0.005	2.500		2.500

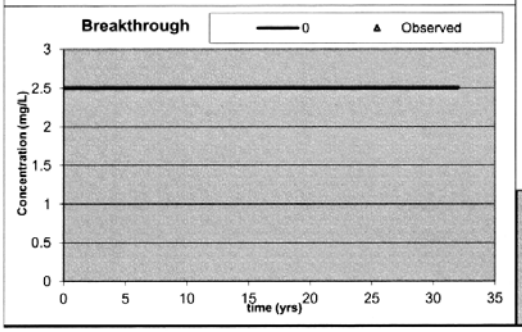
Site ID 00120

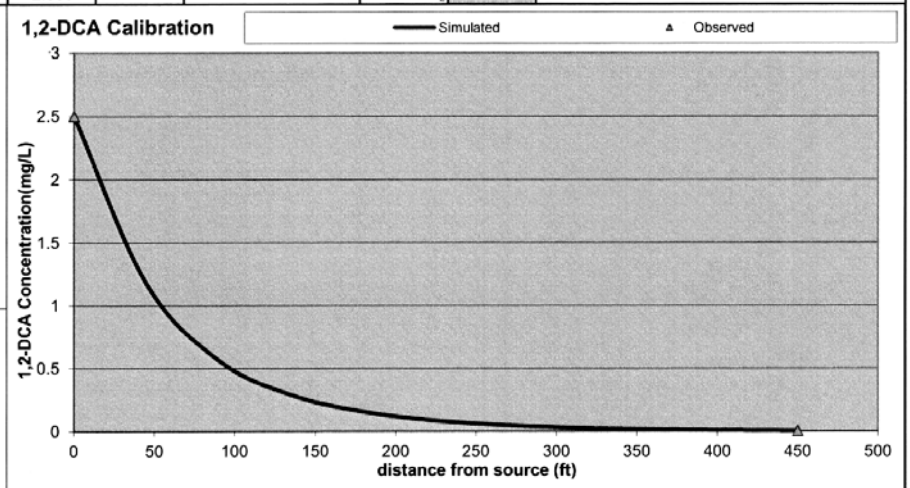
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.35	yrs	λ	0.51333	yr^{-1}
v_x	40	ft/yr			
R	1.022				
v_R	39.124	ft/yr	C_{source}	2.5	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	45	90	135	180	225	270	315	360	405	450
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181
0	1.17768166	0.56293957	0.29033314	0.15594053	0.08585367	0.048057	0.027221	0.015557	0.008953	0.005181

UST Permit # 00120
Site Name: Robert's Energy

SSTLs t 1000 yrs

Shallow MtBE + EDB Model

SSTLs in mg/L		RBSLs (mg/L):						0.040		0.00005	
MW #	x (ft)	y (ft)	z (ft)					MtBE SSTL		EDB SSTL	
MW-1	40	0	0					0.091		0.00011	
MW-2R	150	0	0					0.786		0.00095	
MW-6R	40	0	0					0.091		0.00011	
MW-10	15	0	0					0.052		0.00006	
MW-14R	20	0	0					0.058		0.00007	
MW-18R	70	0	0					0.173		0.00021	
MW-22R	40	0	0					0.091		0.00011	
RW-1	15	0	0					0.052		0.00006	
RW-2	15	0	0					0.052		0.00006	
RW-3	35	0	0					0.082		0.00010	
RW-4	60	0	0					0.141		0.00017	
			λ (yr^{-1}):					0.563		0.541	
			R:					1.014		1.036	
			Pure Substance Solubility:					5110		4321	
			Effective Solubility:					173		1.9	

used 6/23/14 sampling data

Domenico Model

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1.26.15

Groundwater Flow Parameters

K	70	ft/yr
dh/dx	0.1	
θ	0.25	dec. %
v_x	30	ft/yr

Transport Parameters

x_{max}	350	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene		81
Toluene		133
Ethylbenzene		176
Xylenes		639
Naphthalene		1543
MtBE	2.9	11
EDB	0.0091	28
1,2-DCA		17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.104	27.18
Toluene	1.170	25.64
Ethylbenzene	1.225	24.48
Xylenes	1.818	16.50
Naphthalene	2.975	10.08
MtBE	1.014	29.58
EDB	1.036	28.96
1,2-DCA	1.022	29.34

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

MtBE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2.9	2.9
35		1.418
70		0.672
105		0.339
140		0.177
175		0.094
210		0.051
245		0.028
280		0.016
315		0.009
350	0.005	0.005

Temporal Calibration Data

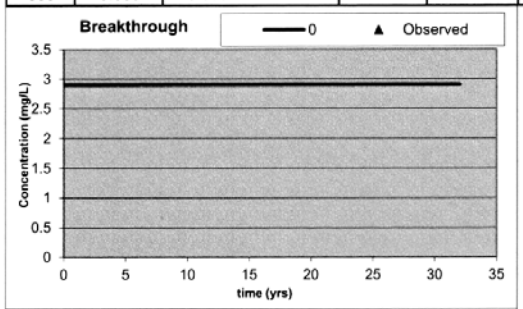
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		2.9		2.9
3.2		2.900		2.900
6.4		2.900		2.900
9.6		2.900		2.900
12.8		2.900		2.900
16		2.900		2.900
19.2		2.900		2.900
22.4		2.900		2.900
25.6		2.900		2.900
28.8		2.900		2.900
32		2.900		2.900

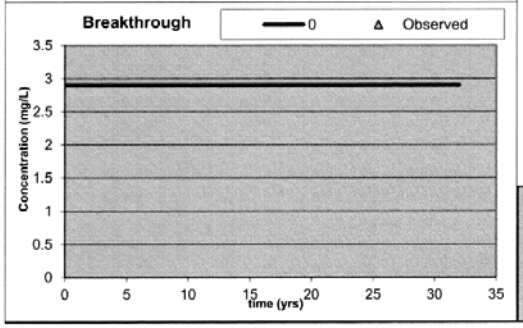
Site ID 00120

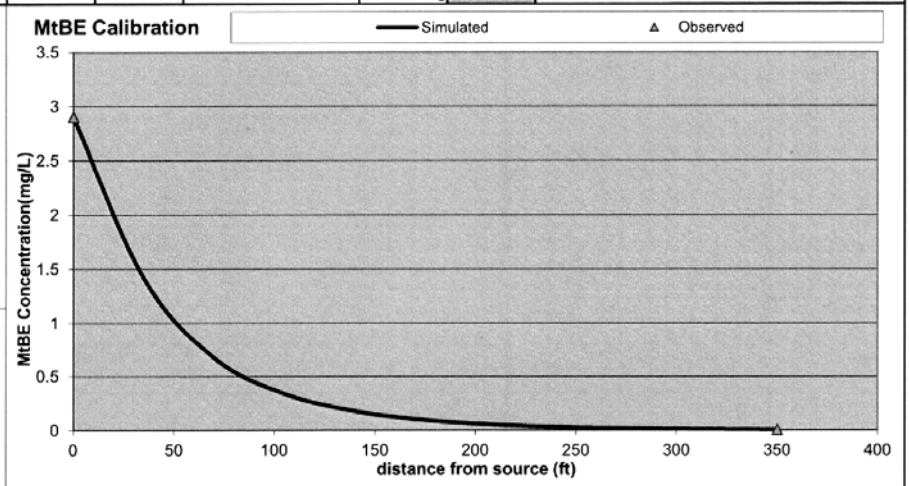
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.23	yrs	λ	0.56341	yr^{-1}
v_x	30	ft/yr			
R	1.014				
v_R	29.583	ft/yr	C_{source}	2.9	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	35	70	105	140	175	210	245	280	315	350
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868
0	1.41770913	0.67191189	0.33853235	0.17683182	0.09449649	0.0512898	0.028154	0.015587	0.008687	0.004868

EDB Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.0091	0.00910
35		0.00448
70		0.00214
105		0.00109
140		0.00057
175		0.00031
210		0.00017
245		0.00009
280		0.00005
315		0.00003
350	0.00002	0.00002

Temporal Calibration Data

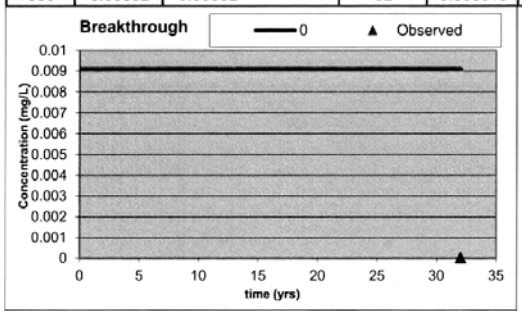
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		0.00910		0.00910
3.2		0.00910		0.00910
6.4		0.00910		0.00910
9.6		0.00910		0.00910
12.8		0.00910		0.00910
16		0.00910		0.00910
19.2		0.00910		0.00910
22.4		0.00910		0.00910
25.6		0.00910		0.00910
28.8		0.00910		0.00910
32	0.000019	0.00910		0.00910

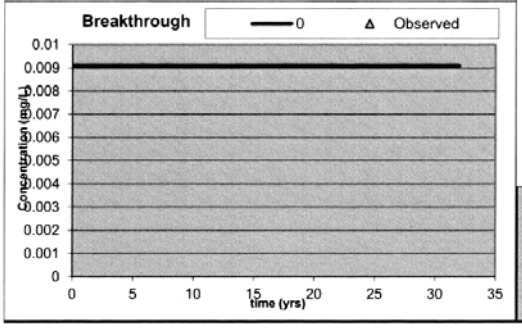
Site ID 00120

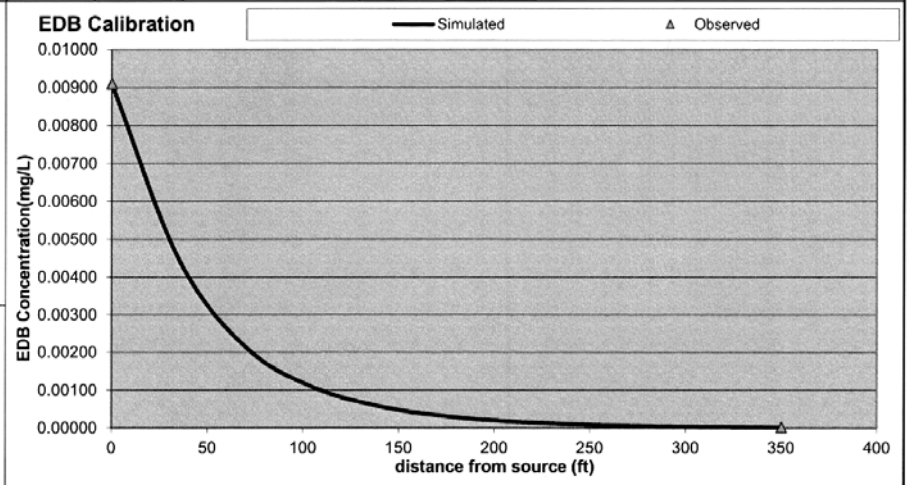
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	1.28	yrs	λ	0.54141	yr^{-1}
v_x	30	ft/yr			
R	1.036				
v_R	28.962	ft/yr	C_{source}	0.0091	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	35	70	105	140	175	210	245	280	315	350
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05
0	0.004485	0.00214298	0.00108852	0.00057323	0.00030883	0.000169	9.35E-05	5.22E-05	2.93E-05	1.66E-05

UST Permit # 00120
Site Name: Robert's Ener

SSTLs t 1000 yrs

Shallow oxys model

SSTLs in mg/L			RBSLs (mg/L):	1.400	0.240	0.150	0.128	10.000	0.047
MW #	x (ft)	y (ft)	z (ft)	tBA SSTL	tAA SSTL	DIPE SSTL	tAME SSTL	Ethanol SSTL	EtBE SSTL
MW-1	40	0	0	2.063	0.409	0.274	0.180	18.289	0.086
MW-2R	150	0	0	5.295	1.559	1.263	0.409	84.988	0.400
MW-6R	40	0	0	2.063	0.409	0.274	0.180	18.289	0.086
MW-10	15	0	0	1.545	0.280	0.179	0.139	11.970	0.056
MW-14R	20	0	0	1.634	0.301	0.195	0.146	13.005	0.061
MW-18R	70	0	0	2.800	0.618	0.436	0.237	29.187	0.137
MW-22R	40	0	0	2.063	0.409	0.274	0.180	18.289	0.086
RW-1	15	0	0	1.545	0.280	0.179	0.139	11.970	0.056
RW-2	15	0	0	1.545	0.280	0.179	0.139	11.970	0.056
RW-3	35	0	0	1.950	0.379	0.252	0.171	16.821	0.079
RW-4	60	0	0	2.545	0.542	0.375	0.217	25.127	0.118
			λ (yr^{-1}):	0.089	0.175	0.220	0.064	0.222	0.222
			R:	1.001	1.001	1.002	1.002	1.001	1.002

used 6/23/14 sampling data

Domenico Model (Oxygenates)

UST # 00120
Site Name: Robert's Energy
Modeler: Ashleigh Thrash
Date: 1.26.15

Groundwater Flow Parameters

K	500	ft/yr
dh/dx	0.01	
θ	0.25	dec. %
v_x	20	ft/yr

Transport Parameters

x_{max}	430	ft
y_{max}	0	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	450	ft
α_x	17.03202	ft
α_y	1.703202	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	32	yrs

Aquifer Characteristics

ρ_d	1.6	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
tBA	2	1
tAA	9.5	1
DIPE	2	1.5
tAME	0.13	1.5
EtBE	20	1.5
Ethanol	200	0.5

Retarded Velocity (ft/yr)

CoC	R	v_R
tBA	1.001	19.97
tAA	1.001	19.97
DIPE	1.002	19.96
tAME	1.002	19.96
EtBE	1.002	19.96
Ethanol	1.001	19.99

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

tBA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2	2
43		1.313
86		0.866
129		0.615
172		0.455
215		0.344
258		0.265
301		0.206
344		0.162
387		0.127
430	0.1	0.100

Temporal Calibration Data

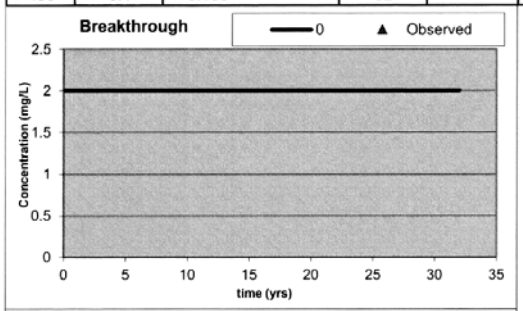
		0		0
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		2		2
3.2		2.000		2.000
6.4		2.000		2.000
9.6		2.000		2.000
12.8		2.000		2.000
16		2.000		2.000
19.2		2.000		2.000
22.4		2.000		2.000
25.6		2.000		2.000
28.8		2.000		2.000
32		2.000		2.000

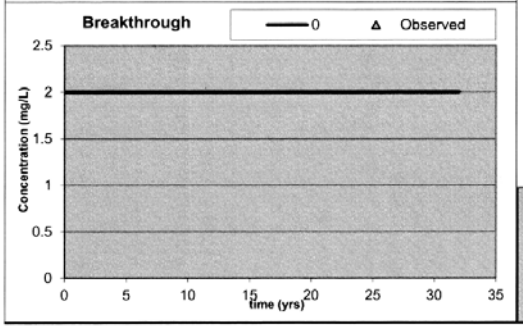
Site ID 00120

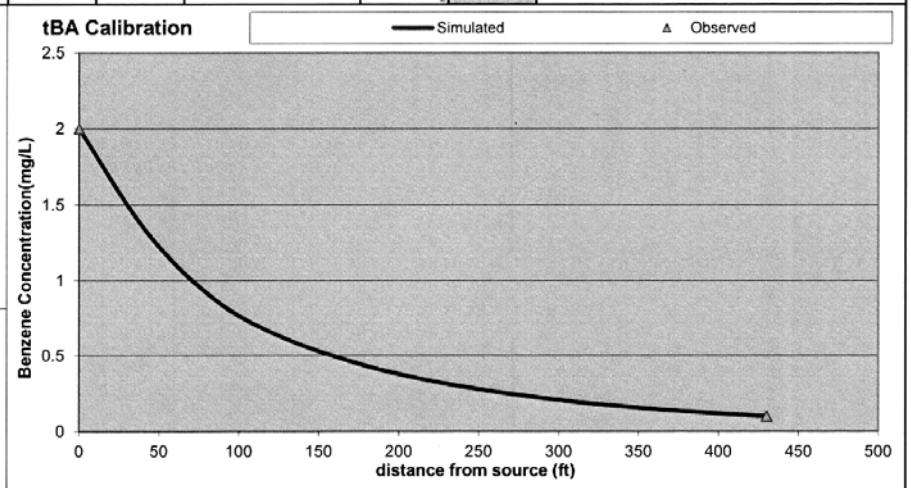
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	7.8	yrs	λ	0.08885	yr^{-1}
v_x	20	ft/yr			
R	1.001				
v_R	19.974	ft/yr	C_{source}	2	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003
0	1.31284084	0.86634452	0.61526458	0.45469137	0.34428763	0.2649275	0.206132	0.161567	0.127129	0.10003

tAA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	9.5	9.5
43		5.341
86		3.018
129		1.836
172		1.162
215		0.754
258		0.497
301		0.331
344		0.223
387		0.151
430	0.1	0.103

Temporal Calibration Data

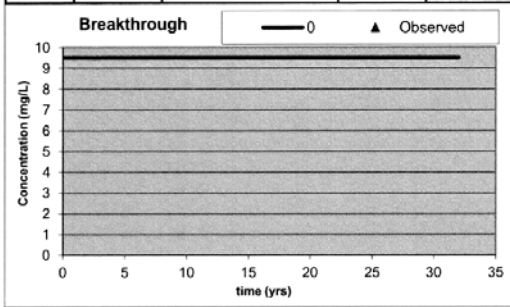
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		9.5		9.5
3.2		9.500		9.500
6.4		9.500		9.500
9.6		9.500		9.500
12.8		9.500		9.500
16		9.500		9.500
19.2		9.500		9.500
22.4		9.500		9.500
25.6		9.500		9.500
28.8		9.500		9.500
32		9.500		9.500

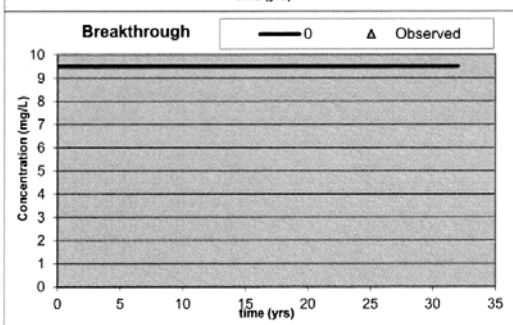
Site ID 00120

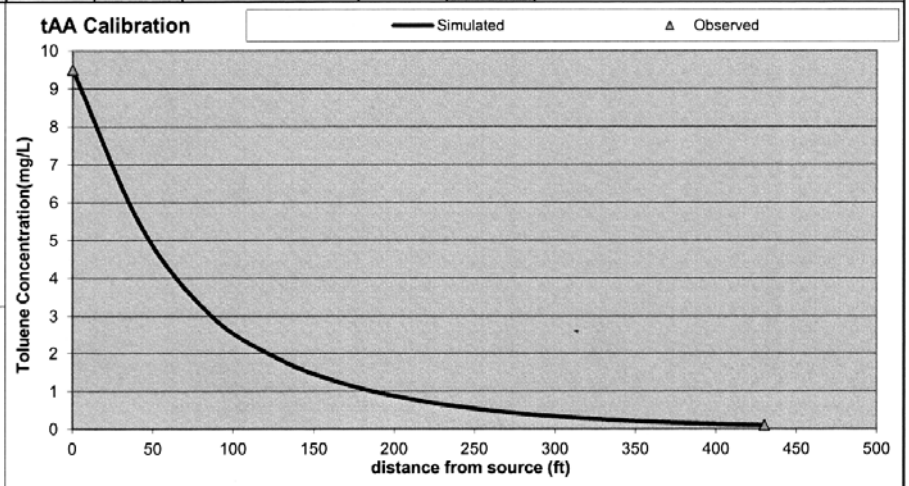
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.95	yrs	λ	0.17544	yr^{-1}
v_x	20	ft/yr			
R	1.001				
v_R	19.974	ft/yr	C_{source}	9.5	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514
0	5.34072541	3.01838493	1.83588934	1.16202793	0.75366384	0.4968721	0.331411	0.22294	0.150889	0.102514

DIPE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2	2
43		1.044
86		0.548
129		0.309
172		0.182
215		0.109
258		0.067
301		0.041
344		0.026
387		0.016
430	0.01	0.010

Temporal Calibration Data

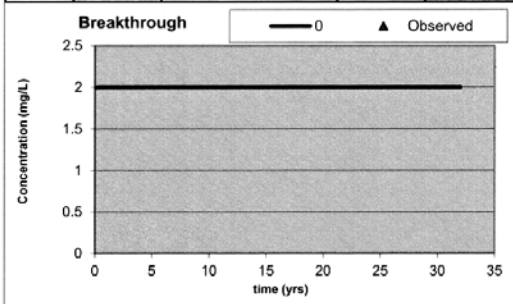
	0		0	
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
0		2		2
3.2		2.000		2.000
6.4		2.000		2.000
9.6		2.000		2.000
12.8		2.000		2.000
16		2.000		2.000
19.2		2.000		2.000
22.4		2.000		2.000
25.6		2.000		2.000
28.8		2.000		2.000
32		2.000		2.000

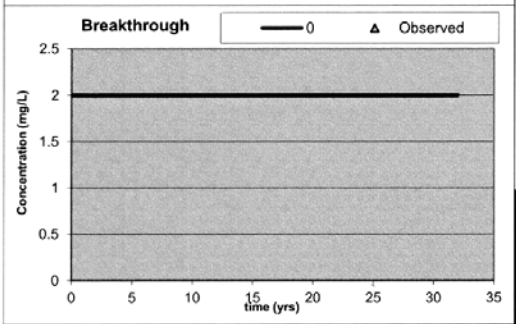
Site ID 00120

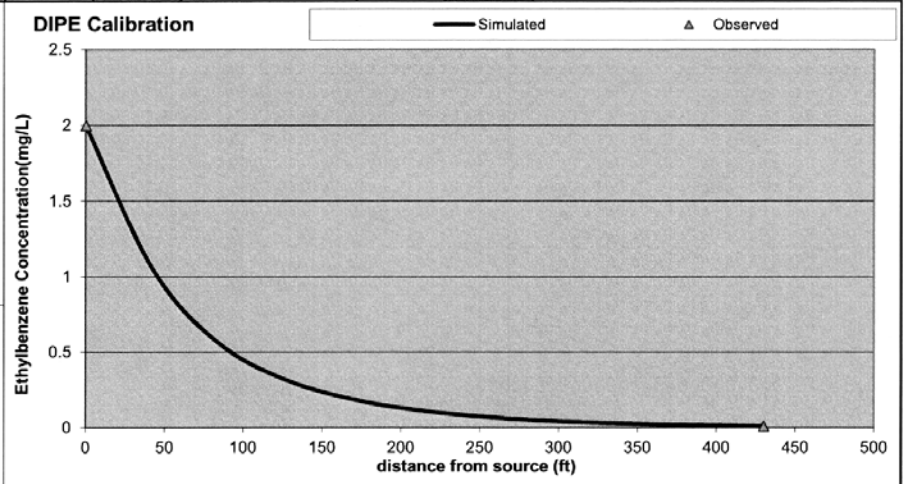
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.15	yrs	λ	0.22	yr^{-1}
v_x	20	ft/yr			
R	1.002				
v_R	19.962	ft/yr	C_{source}	2	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287
0	1.04377197	0.54761972	0.30920777	0.18168589	0.10939244	0.0669533	0.041462	0.0259	0.016285	0.010287

tAME Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.13	0.13
43		0.090
86		0.062
129		0.046
172		0.036
215		0.028
258		0.023
301		0.019
344		0.015
387		0.013
430	0.01	0.010

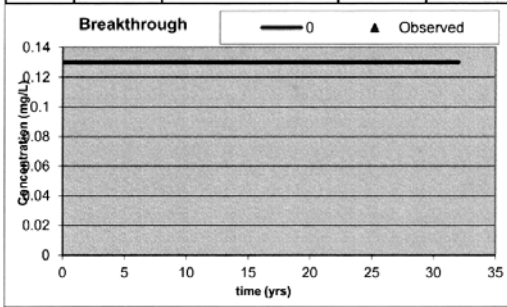
Temporal Calibration Data

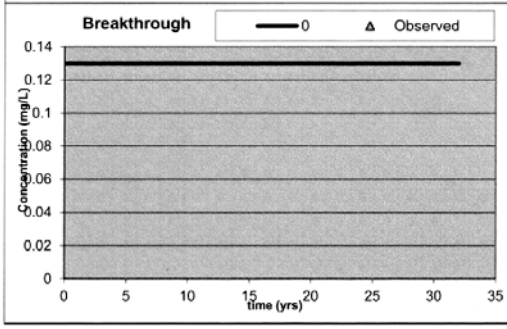
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		0.13		0.13
3.2		0.130		0.130
6.4		0.130		0.130
9.6		0.130		0.130
12.8		0.130		0.130
16		0.130		0.130
19.2		0.130		0.130
22.4		0.130		0.130
25.6		0.130		0.130
28.8		0.130		0.130
32		0.130		0.130

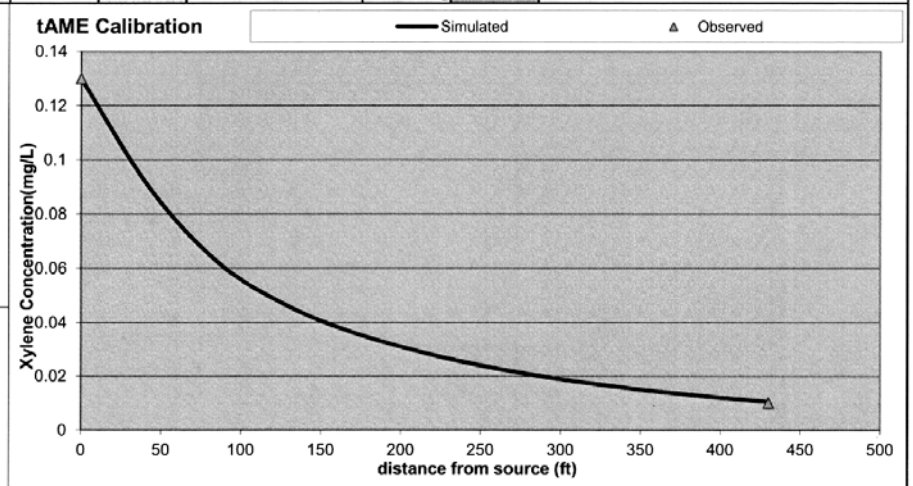
Site ID 00120
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	10.9	yrs	λ	0.06358	yr^{-1}
v_x	20	ft/yr			
R	1.002				
v_R	19.962	ft/yr	C_{source}	0.13	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439
0	0.08956525	0.06203415	0.04623914	0.03586394	0.02849836	0.023009	0.018776	0.015423	0.012702	0.010439

Ethanol Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	200	200
43		104.091
86		54.462
129		30.667
172		17.970
215		10.790
258		6.586
301		4.067
344		2.534
387		1.589
430	1	1.001

Temporal Calibration Data

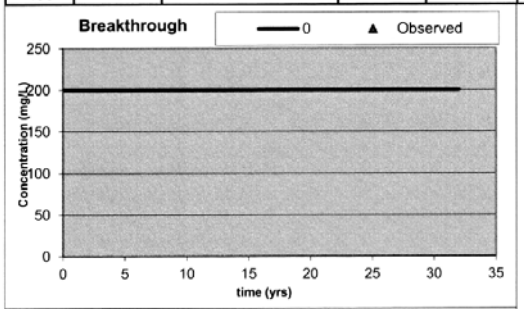
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		200		200
3.2		200.000		200.000
6.4		200.000		200.000
9.6		200.000		200.000
12.8		200.000		200.000
16		200.000		200.000
19.2		200.000		200.000
22.4		200.000		200.000
25.6		200.000		200.000
28.8		200.000		200.000
32		200.000		200.000

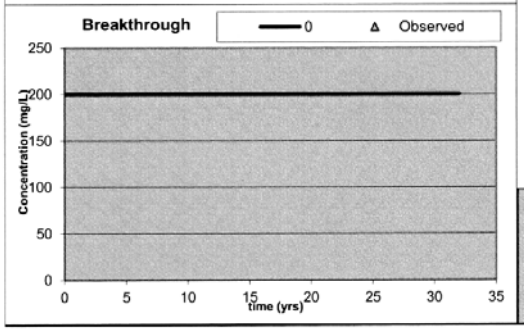
Site ID 00120

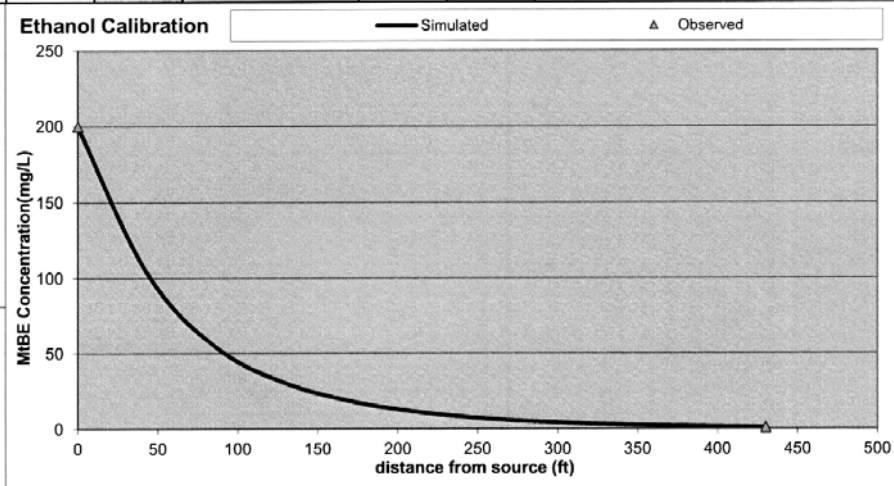
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.122	yrs	λ	0.22197	yr^{-1}
v_x	20	ft/yr			
R	1.001				
v_R	19.987	ft/yr	C_{source}	200	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906
0	104.090739	54.461802	30.6668946	17.9699608	10.7899609	6.5858423	4.06718	2.533719	1.588771	1.000906

EtBE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	20	20
43		10.408
86		5.445
129		3.066
172		1.796
215		1.078
258		0.658
301		0.406
344		0.253
387		0.159
430	0.1	0.100

Temporal Calibration Data

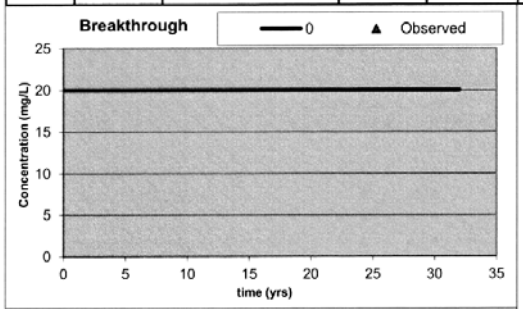
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
		0		0
0		20		20
3.2		20.000		20.000
6.4		20.000		20.000
9.6		20.000		20.000
12.8		20.000		20.000
16		20.000		20.000
19.2		20.000		20.000
22.4		20.000		20.000
25.6		20.000		20.000
28.8		20.000		20.000
32		20.000		20.000

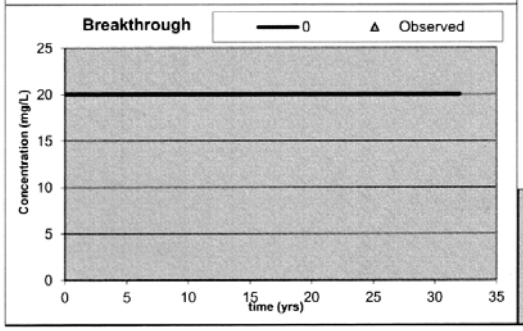
Site ID 00120

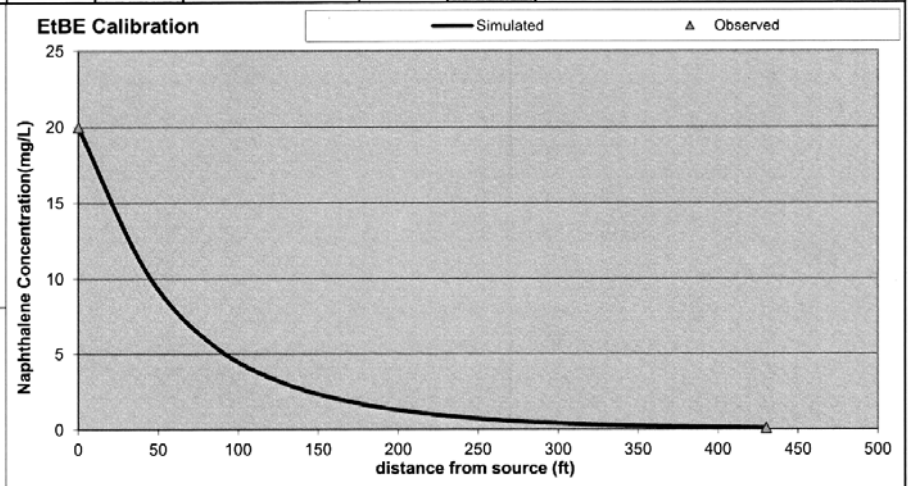
Site Name Robert's Energy

Model Calibration Parameters

$t_{1/2}$	3.125	yrs	λ	0.22176	yr^{-1}
v_x	20	ft/yr			
R	1.002				
v_R	19.962	ft/yr	C_{source}	20	mg/L
L_p	450	ft			
α_x	17.03202	ft	t_{sim}	32	yrs
α_y	1.703202	ft			
α_z	1E-99	ft			







Source	43	86	129	172	215	258	301	344	387	430
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972
0	10.4078815	5.44493252	3.06563566	1.79617274	1.07837804	0.6581313	0.406391	0.253138	0.158711	0.099972

Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

UST 51-tech DOCKETING

June 18, 2015

UST Ashleigh JUN 2 8 2015 DIVISION

Mr. John Bryant
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Dear Mr. Bryant:
Enclosed are the analytical results for sample(s) received by the laboratory on June 06, 2015. The results relate only to the samples included in this report. Results reported herein conform to the most current TNI standards and the laboratory's Quality Assurance Manual, where applicable, unless otherwise noted in the body of the report.

Analyses were performed at the Pace Analytical Services location indicated on the sample analyte page for analysis unless otherwise footnoted.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Trey Carter
trey.carter@pacelabs.com
Project Manager

Enclosures

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CERTIFICATIONS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Charlotte Certification IDs
9800 Kincey Ave. Ste 100, Huntersville, NC 28078
North Carolina Drinking Water Certification #: 37706
North Carolina Field Services Certification #: 5342
North Carolina Wastewater Certification #: 12
South Carolina Certification #: 99006001
Florida/NELAP Certification #: E87627
Kentucky UST Certification #: 84
West Virginia Certification #: 357
Virginia/VELAP Certification #: 460221

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SAMPLE SUMMARY

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92253272001	SW-1	Water	06/05/15 11:25	06/06/15 08:00
92253272002	SW-2	Water	06/05/15 11:36	06/06/15 08:00
92253272003	SW-3	Water	06/05/15 11:10	06/06/15 08:00
92253272004	SW-1 DUP	Water	06/05/15 11:27	06/06/15 08:00
92253272005	FIELD BLANK	Water	06/05/15 11:45	06/06/15 08:00
92253272006	TRIP BLANK	Water	06/05/15 11:47	06/06/15 08:00

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SAMPLE ANALYTE COUNT

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92253272001	SW-1	EPA 8260	GAW	20	PASI-C
92253272002	SW-2	EPA 8260	GAW	20	PASI-C
92253272003	SW-3	EPA 8260	GAW	20	PASI-C
92253272004	SW-1 DUP	EPA 8260	GAW	20	PASI-C
92253272005	FIELD BLANK	EPA 8260	GAW	20	PASI-C
92253272006	TRIP BLANK	EPA 8260	CCL	20	PASI-C

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SUMMARY OF DETECTION

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Lab Sample ID Method	Client Sample ID Parameters	Result	Units	Report Limit	Analyzed	Qualifiers
92253272003	**SW-3**					
EPA 8260	tert-Amyl Alcohol	187	ug/L	100	06/12/15 14:31	
EPA 8260	tert-Amylmethyl ether	0.18J	ug/L	10.0	06/12/15 14:31	
EPA 8260	Benzene	4.5	ug/L	1.0	06/12/15 14:31	
EPA 8260	tert-Butyl Alcohol	155	ug/L	100	06/12/15 14:31	
EPA 8260	Diisopropyl ether	0.28J	ug/L	1.0	06/12/15 14:31	
EPA 8260	Ethylbenzene	3.6	ug/L	1.0	06/12/15 14:31	
EPA 8260	Methyl-tert-butyl ether	42.9	ug/L	1.0	06/12/15 14:31	
EPA 8260	Naphthalene	5.0	ug/L	1.0	06/12/15 14:31	
EPA 8260	Toluene	44.6	ug/L	1.0	06/12/15 14:31	
EPA 8260	Xylene (Total)	24.2	ug/L	2.0	06/12/15 14:31	
EPA 8260	m&p-Xylene	15.2	ug/L	2.0	06/12/15 14:31	
EPA 8260	o-Xylene	9.0	ug/L	1.0	06/12/15 14:31	
92253272004	**SW-1 DUP**					
EPA 8260	Naphthalene	0.30J	ug/L	1.0	06/12/15 14:49	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Sample: SW-1 **Lab ID: 92253272001** Collected: 06/05/15 11:25 Received: 06/06/15 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		06/12/15 13:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		06/12/15 13:54	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		06/12/15 13:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		06/12/15 13:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		06/12/15 13:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		06/12/15 13:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		06/12/15 13:54	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		06/12/15 13:54	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		06/12/15 13:54	64-17-5	L1
Ethylbenzene	ND	ug/L	1.0	0.30	1		06/12/15 13:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		06/12/15 13:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		06/12/15 13:54	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		06/12/15 13:54	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		06/12/15 13:54	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		06/12/15 13:54	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		06/12/15 13:54	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		06/12/15 13:54	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/12/15 13:54	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		06/12/15 13:54	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/12/15 13:54	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Sample: SW-2 **Lab ID: 92253272002** Collected: 06/05/15 11:36 Received: 06/06/15 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		06/12/15 14:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		06/12/15 14:12	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		06/12/15 14:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		06/12/15 14:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		06/12/15 14:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		06/12/15 14:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		06/12/15 14:12	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		06/12/15 14:12	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		06/12/15 14:12	64-17-5	L1
Ethylbenzene	ND	ug/L	1.0	0.30	1		06/12/15 14:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		06/12/15 14:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		06/12/15 14:12	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		06/12/15 14:12	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		06/12/15 14:12	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		06/12/15 14:12	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		06/12/15 14:12	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		06/12/15 14:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/12/15 14:12	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		1		06/12/15 14:12	17060-07-0	
Toluene-d8 (S)	107	%	70-130		1		06/12/15 14:12	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Sample: SW-3 **Lab ID: 92253272003** Collected: 06/05/15 11:10 Received: 06/06/15 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**187**	ug/L	100	50.0	1		06/12/15 14:31	75-85-4	
tert-Amylmethyl ether	**0.18J**	ug/L	10.0	0.10	1		06/12/15 14:31	994-05-8	
Benzene	**4.5**	ug/L	1.0	0.25	1		06/12/15 14:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		06/12/15 14:31	624-95-3	
tert-Butyl Alcohol	**155**	ug/L	100	3.6	1		06/12/15 14:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		06/12/15 14:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		06/12/15 14:31	107-06-2	
Diisopropyl ether	**0.28J**	ug/L	1.0	0.12	1		06/12/15 14:31	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		06/12/15 14:31	64-17-5	L1
Ethylbenzene	**3.6**	ug/L	1.0	0.30	1		06/12/15 14:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		06/12/15 14:31	637-92-3	
Methyl-tert-butyl ether	**42.9**	ug/L	1.0	0.21	1		06/12/15 14:31	1634-04-4	
Naphthalene	**5.0**	ug/L	1.0	0.24	1		06/12/15 14:31	91-20-3	
Toluene	**44.6**	ug/L	1.0	0.26	1		06/12/15 14:31	108-88-3	
Xylene (Total)	**24.2**	ug/L	2.0	0.66	1		06/12/15 14:31	1330-20-7	
m&p-Xylene	**15.2**	ug/L	2.0	0.66	1		06/12/15 14:31	179601-23-1	
o-Xylene	**9.0**	ug/L	1.0	0.23	1		06/12/15 14:31	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		06/12/15 14:31	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		06/12/15 14:31	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		06/12/15 14:31	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Sample: SW-1 DUP **Lab ID: 92253272004** Collected: 06/05/15 11:27 Received: 06/06/15 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		06/12/15 14:49	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		06/12/15 14:49	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		06/12/15 14:49	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		06/12/15 14:49	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		06/12/15 14:49	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		06/12/15 14:49	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		06/12/15 14:49	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		06/12/15 14:49	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		06/12/15 14:49	64-17-5	L1
Ethylbenzene	ND	ug/L	1.0	0.30	1		06/12/15 14:49	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		06/12/15 14:49	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		06/12/15 14:49	1634-04-4	
Naphthalene	**0.30J**	ug/L	1.0	0.24	1		06/12/15 14:49	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		06/12/15 14:49	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		06/12/15 14:49	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		06/12/15 14:49	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		06/12/15 14:49	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		06/12/15 14:49	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		06/12/15 14:49	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		06/12/15 14:49	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Sample: FIELD BLANK **Lab ID: 92253272005** Collected: 06/05/15 11:45 Received: 06/06/15 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		06/16/15 00:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		06/16/15 00:12	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		06/16/15 00:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		06/16/15 00:12	624-95-3	L3
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		06/16/15 00:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		06/16/15 00:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		06/16/15 00:12	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		06/16/15 00:12	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		06/16/15 00:12	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		06/16/15 00:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		06/16/15 00:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		06/16/15 00:12	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		06/16/15 00:12	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		06/16/15 00:12	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		06/16/15 00:12	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		06/16/15 00:12	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		06/16/15 00:12	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		06/16/15 00:12	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		1		06/16/15 00:12	17060-07-0	
Toluene-d8 (S)	95	%	70-130		1		06/16/15 00:12	2037-26-5	

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ANALYTICAL RESULTS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Sample: TRIP BLANK **Lab ID: 92253272006** Collected: 06/05/15 11:47 Received: 06/06/15 08:00 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		06/10/15 02:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		06/10/15 02:37	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		06/10/15 02:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		06/10/15 02:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		06/10/15 02:37	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		06/10/15 02:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		06/10/15 02:37	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		06/10/15 02:37	108-20-3	
Ethanol	ND	ug/L	200	138	1		06/10/15 02:37	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		06/10/15 02:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		06/10/15 02:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		06/10/15 02:37	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		06/10/15 02:37	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		06/10/15 02:37	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		06/10/15 02:37	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		06/10/15 02:37	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		06/10/15 02:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	114	%	70-130		1		06/10/15 02:37	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	70-130		1		06/10/15 02:37	17060-07-0	
Toluene-d8 (S)	105	%	70-130		1		06/10/15 02:37	2037-26-5	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

QC Batch: MSV/32111 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92253272001, 92253272002, 92253272003, 92253272004

METHOD BLANK: 1483599 Matrix: Water
Associated Lab Samples: 92253272001, 92253272002, 92253272003, 92253272004

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	06/12/15 12:41	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	06/12/15 12:41	
Benzene	ug/L	ND	1.0	06/12/15 12:41	
Diisopropyl ether	ug/L	ND	1.0	06/12/15 12:41	
Ethanol	ug/L	ND	200	06/12/15 12:41	
Ethyl-tert-butyl ether	ug/L	ND	10.0	06/12/15 12:41	
Ethylbenzene	ug/L	ND	1.0	06/12/15 12:41	
m&p-Xylene	ug/L	ND	2.0	06/12/15 12:41	
Methyl-tert-butyl ether	ug/L	ND	1.0	06/12/15 12:41	
Naphthalene	ug/L	ND	1.0	06/12/15 12:41	
o-Xylene	ug/L	ND	1.0	06/12/15 12:41	
tert-Amyl Alcohol	ug/L	ND	100	06/12/15 12:41	
tert-Amylmethyl ether	ug/L	ND	10.0	06/12/15 12:41	
tert-Butyl Alcohol	ug/L	ND	100	06/12/15 12:41	
tert-Butyl Formate	ug/L	ND	50.0	06/12/15 12:41	
Toluene	ug/L	ND	1.0	06/12/15 12:41	
Xylene (Total)	ug/L	ND	2.0	06/12/15 12:41	
1,2-Dichloroethane-d4 (S)	%	109	70-130	06/12/15 12:41	
4-Bromofluorobenzene (S)	%	103	70-130	06/12/15 12:41	
Toluene-d8 (S)	%	100	70-130	06/12/15 12:41	

LABORATORY CONTROL SAMPLE: 1483600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.1	112	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1250	125	70-130	
Benzene	ug/L	50	56.6	113	70-130	
Diisopropyl ether	ug/L	50	55.3	111	70-130	
Ethanol	ug/L	2000	2950	148	70-130	L0
Ethyl-tert-butyl ether	ug/L	100	124	124	70-130	
Ethylbenzene	ug/L	50	55.8	112	70-130	
m&p-Xylene	ug/L	100	123	123	70-130	
Methyl-tert-butyl ether	ug/L	50	56.8	114	70-130	
Naphthalene	ug/L	50	57.6	115	70-130	
o-Xylene	ug/L	50	57.3	115	70-130	
tert-Amyl Alcohol	ug/L	1000	1230	123	70-130	
tert-Amylmethyl ether	ug/L	100	114	114	70-130	
tert-Butyl Alcohol	ug/L	500	576	115	70-130	
tert-Butyl Formate	ug/L	400	521	130	70-130	
Toluene	ug/L	50	54.4	109	70-130	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

LABORATORY CONTROL SAMPLE: 1483600

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	180	120	70-130	
1,2-Dichloroethane-d4 (S)	%			99	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1483602

Parameter	Units	92253133004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	19.9	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	462	116	70-130	
Benzene	ug/L	ND	20	25.7	127	70-130	
Diisopropyl ether	ug/L	ND	20	21.6	108	70-130	
Ethanol	ug/L	ND	800	1450	181	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	47.3	118	70-130	
Ethylbenzene	ug/L	ND	20	24.1	116	70-130	
m&p-Xylene	ug/L	ND	40	48.1	120	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.1	106	70-130	
Naphthalene	ug/L	10.2	20	31.3	105	70-130	
o-Xylene	ug/L	ND	20	22.5	112	70-130	
tert-Amyl Alcohol	ug/L	ND	400	428	107	70-130	
tert-Amylmethyl ether	ug/L	ND	40	41.1	103	70-130	
tert-Butyl Alcohol	ug/L	ND	200	284	142	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	M1
Toluene	ug/L	ND	20	23.4	116	70-130	
1,2-Dichloroethane-d4 (S)	%				92	70-130	
4-Bromofluorobenzene (S)	%				96	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1483601

Parameter	Units	92253133003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

SAMPLE DUPLICATE: 1483601

Parameter	Units	92253133003 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	108	105	3		
4-Bromofluorobenzene (S)	%	102	102	1		
Toluene-d8 (S)	%	100	100	1		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

QC Batch: MSV/32140 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92253272005

METHOD BLANK: 1485270 | Matrix: Water
Associated Lab Samples: 92253272005

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	06/15/15 18:14	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	06/15/15 18:14	
Benzene	ug/L	ND	1.0	06/15/15 18:14	
Diisopropyl ether	ug/L	ND	1.0	06/15/15 18:14	
Ethanol	ug/L	ND	200	06/15/15 18:14	
Ethyl-tert-butyl ether	ug/L	ND	10.0	06/15/15 18:14	
Ethylbenzene	ug/L	ND	1.0	06/15/15 18:14	
m&p-Xylene	ug/L	ND	2.0	06/15/15 18:14	
Methyl-tert-butyl ether	ug/L	ND	1.0	06/15/15 18:14	
Naphthalene	ug/L	ND	1.0	06/15/15 18:14	
o-Xylene	ug/L	ND	1.0	06/15/15 18:14	
tert-Amyl Alcohol	ug/L	ND	100	06/15/15 18:14	
tert-Amylmethyl ether	ug/L	ND	10.0	06/15/15 18:14	
tert-Butyl Alcohol	ug/L	ND	100	06/15/15 18:14	
tert-Butyl Formate	ug/L	ND	50.0	06/15/15 18:14	
Toluene	ug/L	ND	1.0	06/15/15 18:14	
Xylene (Total)	ug/L	ND	2.0	06/15/15 18:14	
1,2-Dichloroethane-d4 (S)	%	93	70-130	06/15/15 18:14	
4-Bromofluorobenzene (S)	%	87	70-130	06/15/15 18:14	
Toluene-d8 (S)	%	99	70-130	06/15/15 18:14	

LABORATORY CONTROL SAMPLE: 1485271

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	49.6	99	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1320	132	70-130	L0
Benzene	ug/L	50	54.8	110	70-130	
Diisopropyl ether	ug/L	50	55.3	111	70-130	
Ethanol	ug/L	2000	2380	119	70-130	
Ethyl-tert-butyl ether	ug/L	100	122	122	70-130	
Ethylbenzene	ug/L	50	53.5	107	70-130	
m&p-Xylene	ug/L	100	107	107	70-130	
Methyl-tert-butyl ether	ug/L	50	56.2	112	70-130	
Naphthalene	ug/L	50	55.5	111	70-130	
o-Xylene	ug/L	50	53.0	106	70-130	
tert-Amyl Alcohol	ug/L	1000	1270	127	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	603	121	70-130	
tert-Butyl Formate	ug/L	400	429	107	70-130	
Toluene	ug/L	50	53.3	107	70-130	

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REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

LABORATORY CONTROL SAMPLE: 1485271

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	160	106	70-130	
1,2-Dichloroethane-d4 (S)	%			106	70-130	
4-Bromofluorobenzene (S)	%			95	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1485273

Parameter	Units	92254187004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	1.2	20	20.6	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	392	98	70-130	
Benzene	ug/L	ND	20	24.6	123	70-130	
Diisopropyl ether	ug/L	ND	20	20.9	105	70-130	
Ethanol	ug/L	ND	800	996	125	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	41.9	105	70-130	
Ethylbenzene	ug/L	ND	20	22.3	111	70-130	
m&p-Xylene	ug/L	ND	40	44.5	111	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.3	102	70-130	
Naphthalene	ug/L	ND	20	23.3	116	70-130	
o-Xylene	ug/L	ND	20	21.5	108	70-130	
tert-Amyl Alcohol	ug/L	ND	400	336	83	70-130	
tert-Amylmethyl ether	ug/L	ND	40	36.3	91	70-130	
tert-Butyl Alcohol	ug/L	ND	200	242	121	70-130	
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	M1
Toluene	ug/L	ND	20	22.2	111	70-130	
1,2-Dichloroethane-d4 (S)	%				92	70-130	
4-Bromofluorobenzene (S)	%				94	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1485272

Parameter	Units	92254187003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	20.4	20.5	0	30	
Diisopropyl ether	ug/L	0.15J	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	1.2J	1.2J		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	0.30J	ND		30	
tert-Amyl Alcohol	ug/L	63.4J	56.4J		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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REPORT OF LABORATORY ANALYSIS

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

SAMPLE DUPLICATE: 1485272

Parameter	Units	92254187003 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	27.5J	29.7J		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	91	83	9		
4-Bromofluorobenzene (S)	%	92	88	5		
Toluene-d8 (S)	%	97	96	1		

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

QC Batch: MSV/32052 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV SC
Associated Lab Samples: 92253272006

METHOD BLANK: 1479828 | Matrix: Water
Associated Lab Samples: 92253272006

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	06/10/15 01:30	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	06/10/15 01:30	
Benzene	ug/L	ND	5.0	06/10/15 01:30	
Diisopropyl ether	ug/L	ND	5.0	06/10/15 01:30	
Ethanol	ug/L	ND	200	06/10/15 01:30	
Ethyl-tert-butyl ether	ug/L	ND	10.0	06/10/15 01:30	
Ethylbenzene	ug/L	ND	5.0	06/10/15 01:30	
m&p-Xylene	ug/L	ND	10.0	06/10/15 01:30	
Methyl-tert-butyl ether	ug/L	ND	5.0	06/10/15 01:30	
Naphthalene	ug/L	ND	5.0	06/10/15 01:30	
o-Xylene	ug/L	ND	5.0	06/10/15 01:30	
tert-Amyl Alcohol	ug/L	ND	100	06/10/15 01:30	
tert-Amylmethyl ether	ug/L	ND	10.0	06/10/15 01:30	
tert-Butyl Alcohol	ug/L	ND	100	06/10/15 01:30	
tert-Butyl Formate	ug/L	ND	50.0	06/10/15 01:30	
Toluene	ug/L	ND	5.0	06/10/15 01:30	
Xylene (Total)	ug/L	ND	10.0	06/10/15 01:30	
1,2-Dichloroethane-d4 (S)	%	114	70-130	06/10/15 01:30	
4-Bromofluorobenzene (S)	%	116	70-130	06/10/15 01:30	
Toluene-d8 (S)	%	103	70-130	06/10/15 01:30	

LABORATORY CONTROL SAMPLE: 1479829

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	53.8	108	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1030	103	70-130	
Benzene	ug/L	50	50.9	102	70-130	
Diisopropyl ether	ug/L	50	55.0	110	70-130	
Ethanol	ug/L	2000	2250	112	70-130	
Ethyl-tert-butyl ether	ug/L	100	119	119	70-130	
Ethylbenzene	ug/L	50	50.1	100	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	53.5	107	70-130	
Naphthalene	ug/L	50	46.1	92	70-130	
o-Xylene	ug/L	50	51.2	102	70-130	
tert-Amyl Alcohol	ug/L	1000	1120	112	70-130	
tert-Amylmethyl ether	ug/L	100	103	103	70-130	
tert-Butyl Alcohol	ug/L	500	593	119	70-130	
tert-Butyl Formate	ug/L	400	437	109	70-130	
Toluene	ug/L	50	48.5	97	70-130	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

LABORATORY CONTROL SAMPLE: 1479829

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	153	102	70-130	
1,2-Dichloroethane-d4 (S)	%			105	70-130	
4-Bromofluorobenzene (S)	%			106	70-130	
Toluene-d8 (S)	%			97	70-130	

MATRIX SPIKE SAMPLE: 1480149

Parameter	Units	92252866004 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	22.4	112	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	452	113	70-130	
Benzene	ug/L	ND	20	21.5	107	70-130	
Diisopropyl ether	ug/L	ND	20	21.7	109	70-130	
Ethanol	ug/L	ND	800	1250	156	70-130	M1
Ethyl-tert-butyl ether	ug/L	ND	40	46.4	116	70-130	
Ethylbenzene	ug/L	ND	20	21.0	105	70-130	
m&p-Xylene	ug/L	ND	40	43.8	110	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.8	109	70-130	
Naphthalene	ug/L	ND	20	20.0	100	70-130	
o-Xylene	ug/L	ND	20	21.2	106	70-130	
tert-Amyl Alcohol	ug/L	ND	400	481	120	70-130	
tert-Amylmethyl ether	ug/L	ND	40	38.9	97	70-130	
tert-Butyl Alcohol	ug/L	ND	200	390	195	70-130	M1
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	20.2	101	70-130	
1,2-Dichloroethane-d4 (S)	%				107	70-130	
4-Bromofluorobenzene (S)	%				108	70-130	
Toluene-d8 (S)	%				95	70-130	

SAMPLE DUPLICATE: 1480150

Parameter	Units	92252866005 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	ND	ND		30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	ND	ND		30	
Diisopropyl ether	ug/L	ND	ND		30	
Ethanol	ug/L	ND	ND		30	
Ethyl-tert-butyl ether	ug/L	ND	ND		30	
Ethylbenzene	ug/L	ND	ND		30	
m&p-Xylene	ug/L	ND	ND		30	
Methyl-tert-butyl ether	ug/L	ND	ND		30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	
tert-Amyl Alcohol	ug/L	ND	ND		30	
tert-Amylmethyl ether	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

SAMPLE DUPLICATE: 1480150

Parameter	Units	92252866005 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	ND	ND		30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	ND	ND		30	
1,2-Dichloroethane-d4 (S)	%	124	122	1		
4-Bromofluorobenzene (S)	%	115	114	1		
Toluene-d8 (S)	%	104	103	0		

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QUALIFIERS

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

DEFINITIONS

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

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

PQL - Practical Quantitation Limit.

RL - Reporting Limit.

S - Surrogate

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

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

SG - Silica Gel - Clean-Up

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

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

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

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-C	Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
L1	Analyte recovery in the laboratory control sample (LCS) was above QC limits. Results for this analyte in associated samples may be biased high.
L3	Analyte recovery in the laboratory control sample (LCS) exceeded QC limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
M0	Matrix spike recovery and/or matrix spike duplicate recovery was outside laboratory control limits.
M1	Matrix spike recovery exceeded QC limits. Batch accepted based on laboratory control sample (LCS) recovery.
P5	The EPA or method required sample preservation degrades this compound, therefore acceptable recoveries may not be achieved in sample matrix spikes.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: ROBERTS ENERGY 00120/50340
Pace Project No.: 92253272

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92253272001	SW-1	EPA 8260	MSV/32111		
92253272002	SW-2	EPA 8260	MSV/32111		
92253272003	SW-3	EPA 8260	MSV/32111		
92253272004	SW-1 DUP	EPA 8260	MSV/32111		
92253272005	FIELD BLANK	EPA 8260	MSV/32140		
92253272006	TRIP BLANK	EPA 8260	MSV/32052		

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Pace Analytical*	Document Name: **Sample Condition Upon Receipt (SCUR)**	Document Revised: May 18, 2015 Page 1 of 2*
	Document Number: **F-CHR-CS-003-rev.16**	Issuing Authority: Pace Huntersville Quality Office

Client Name: SCDHEC

* Page 2 of 2 is for Internal Use Only

Courier: ☑ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☐ Pace Other_____

Custody Seal on Cooler/Box Present: ☐ yes ☑ no **Seals Intact:** ☐ yes ☐ no

Packing Material: ☐ Bubble Wrap ☐ Bubble Bags ☐ None ☐ Other_____

Thermometer Used: IR Gun T1401 **Type of Ice:** Wet Blue None ☑ Samples on ice, cooling process has begun

Temp Correction Factor T1401 No Correction

Corrected Cooler Temp.: 3.3 °C **Biological Tissue is Frozen:** Yes No N/A **Date and Initials of person examining contents:** AB 6-8-15

Temp should be above freezing to 6°C

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

Client Notification/ Resolution: Field Data Required? Y / N

Person Contacted: _____ Date/Time: _____

Comments/ Resolution: _____

SCURF Review:	TC	Date:	6/8/15
SRF Review:		Date:	

Place label here

OR

WO#: 92253272

92253272

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

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 1

1902303

Section A Required Client Information:
Company: SCDHEC
Address: 2600 Bull St
Columbia SC 29201
Email To: bryantjc@dhec.sc.gov
Phone: 803 898 0600 Fax: 803 898 0673
Requested Due Date/TAT:

Section B Required Project Information:
Report To: J. Bryant
Copy To:
Purchase Order No.: 4000363417, LA 50340
Project Name: Roberts Energy
Project Number: 00120

Section C Invoice Information:
Attention: Trey Carter
Company Name: PACE
Address:
Pace Quote Reference:
Pace Project Manager: T. Carter
Pace Profile #: 849-1

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER ____
Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED Composite Start Date	Composite Start Time	Composite End/Grab Date	Composite End/Grab Time	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	BTEX, Naph, MTBE	1,2 DCA	8 Oxys	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. (92253272)
1	SW-1	WT	G			6/5/15	11:25		3				X						X	X	X		LDL 001
2	SW-2						11:30																LDL 002
3	SW-3						11:10																LDL 003
4	SW-1 Dup						11:27																LDL 004
5	Field blank						11:45		3														LDL 005
6	trip blank	WT	G			6/5/15	11:47		2				X						X	X	X		006
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
report J values	Ashleigh Thrash	6/5/15		[illegible] / Pace	6-5-15	8:00	
					6-5-15		

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ashleigh Thrash
SIGNATURE of SAMPLER: Ashleigh Thrash DATE Signed (MM/DD/YY):

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

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

F-ALL-Q-020rev.07, 15-May-2007

D H E C

Underground Storage Tank Management Division
Field Data Information Sheet – Monitoring Well Gauging

Site Information

Date: 10/30/15	Site ID #: 00120	Site Name: Roberts Energy
County: Aiken	Project Manager: A. Thrash	Field Personnel: A. Thrash / R. Ariail

Well Gauging Information

Well ID:	Total Well Depth (ft.)	Screened Interval (ft.)	Depth to Free Product (ft.)	from TOC Depth to Ground water (ft.)	Free Product Thickness (ft.)	Confirmed with Bailer?	Photos Taken ?	Well Pad OK?	Bolts in Well Cover?	Water in Well Vault?
DW4				2.08						N
MW24				5.95						N
MW6R				12.12						N
MW1				23.29						N
PW1				23.97						N
MW10				22.80						Y
DW1				21.75						Y

UST DOCKETING 52tech

Notes: _____

Signature: _____

DHEC 0424 (10/2012)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

OCT 13 1997

OFFICE OF GENERAL COUNSEL

CERTIFIED MAIL

JACKSON PETROLEUM CO INC
SHOP-N-FILL #35
PO BOX 861
AIKEN SC 29802-0861

RE: NOTICE of VIOLATION of SC Code 44-2-60(A)
Site ID# 00120, SHOP-N-FILL #35
CORNER OF PISGAH & FIVE NOTCH
NORTH AUGUSTA SC 29841

Dear Sir/Madam:

Section 44-2-60(A) of the State Underground Petroleum Environmental Response Bank Act authorizes the South Carolina Department of Health and Environmental Control (Department) to collect an annual fee from the owner or operator of each regulated underground storage tank system. The Bureau of Underground Storage Tank Management is charged with overseeing this fee collection.

Currently, fees are owed for the underground storage tank systems at the referenced facility. A statement listing invoice amounts, any late payment penalties, and the total due is enclosed. Previous attempts to collect delinquent fees have been unsuccessful. This violates SC Code Ann. §44-2-60(A) of the State Underground Petroleum Environmental Response Bank Act.

Article 5, Chapter 4, Title 12 of 1976 SC Code of Laws authorizes the South Carolina Department of Revenue to collect liabilities owed to other state government entities. Should the Department not receive payment of these fees in full within 21 days of the date on this letter, this account will be turned over to the Department of Revenue for collection.

Payments should be remitted directly to the attention of Kathy Milasnovich at the Bureau of Underground Storage Tank Management (with a copy of this letter). Invoices are enclosed. Please write the UST site ID number on all payments. Your compliance with this request is appreciated. If you have any questions concerning this fee, contact Kathy Milasnovich of the Bureau of Underground Storage Tank Management at (803) 734-5331.

Sincerely,

Kelly Lowry

Kelly Lowry, Staff Attorney
Office of General Counsel

Paid in full

Enclosures: invoices

DOCKETING # 53 Tech

South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

S T A T E M E N T o f A C C O U N T P A S T D U E
BUREAU of UNDERGROUND STORAGE TANKS
10/09/97

CERTIFIED MAIL

N-02-NO-00120 SHOP-N-FILL #35
Attn: JACKSON PETROLEUM CO INC
PO BOX 861

AIKEN, SC 29802-0861

Invoice	BillDT	AmtBill	Balance	Penalty	Due	Age
QI88514-5	07/07/97	300.00	330.00	33.00	363.00	94

TOTAL DUE 363.00

300.00 paid
63.00 owed

Dear JACKSON PETROLEUM CO INC :

According to records of the Underground Storage Tank Program, the Invoice(s) listed above are still outstanding as of this date:

FOR INVOICES ISSUED ON OR AFTER JULY 1, 1997, A 10% PENALTY HAS BEEN APPLIED TO ANY FEES REMAINING UNPAID SIXTY (60) DAYS AFTER THE INITIAL BILLING. AN ADDITIONAL 10% PENALTY HAS BEEN APPLIED TO ANY FEES REMAINING UNPAID NINETY (90) DAYS AFTER THE INITIAL BILLING.

OVERDUE ACCOUNTS WILL BE TURNED OVER TO THE DEPARTMENT OF REVENUE FOR COLLECTION.

If you have any questions concerning these invoices, contact Kathy Milasnovich of the Bureau of Underground Storage Tank Management at (800) 826-5435 (in South Carolina) or (803) 734-4667.

Please write the UST Site ID number on all payments and remit directly to:

Kathy Milasnovich
Bureau of UST Management
SCDHEC
2600 Bull Street
Columbia, SC 29201

PROJECT TRANSFER CHECKLIST

Site Name/Full ID # Shop-N-Fill #35, E-02-NO-00120

Release # 1 For UST # 1-3 Release Report Date 11/7/97

Free Product/Sheen Reported? (Yes) / No Impacted Water Supply Well Reported? Yes / (No)

Receptor(s) within 1000 feet of the UST system? (Well / Surface Water Body / (Wetland) / Utilities)

Emergency Site

Worst Case Analysis / Sample # / Depth	Soil (mg/kg) / #	Water (ug/l) / # EH#1
Benzene		17.0
Toluene		70.2
Ethylbenzene		5.71
Total Xylenes		32.9
Naphthalene		BDL
Benzo(a)anthracene		Not tested
Benzo(b)flouranthene		
Benzo(k)flouranthene		
Chrysene		
Dibenz(a,h)anthracene		
MTBE (water only)		19.4
Other		—

7-16-98 Admin Order has been ~~finalized~~ is in Legal. Owner will not perform site check to confirm or deny they are source of off-site impact.

ADDITIONAL INFORMATION

1. All USTs Registered? (Yes) / No / NA
2. Regulatory PM Anderson
3. All Applicable Annual Fees Paid? Yes / (No) / NA Sent to DOR
4. Financial Responsibility Certification Received? Yes / (No) / NA Type _____
5. Site In Substantial Compliance? (Yes) / No / NA
6. Insurance Statement Received? Yes / (No) / NA Dated _____
7. UST Status (account for all USTs in database)

____ USTs Permanently Closed Date Closed _____

✓ USTs CIU & Passed TT Date Tested _____

____ USTs TOU & Emptied Date Emptied _____

...KETING # 54 Tech

South Carolina
DHEC
Department of Health and Environmental Control

BUREAU OF
UNDERGROUND STORAGE TANK MANAGEMENT
2600 Bull Street
Columbia, SC 29201
Telephone (803) 734-5331

MEMORANDUM

DATE: November 10, 1997

TO: File

FROM: Peter Vincent

SUBJECT: Shop-N-Fill #35

On the above referenced date, the writer made a site visit to the Shop-N-Fill #35 in North Augusta, S.C. An emergency request was made by the City of North Augusta concerning a gasoline odor in soil and ground-water during the installation of a storm-water drainage system.

On-site, there was evidence of gasoline contamination in both the ground-water and soil. A photoionization detecter was used to monitor the amount of volatile organics in the soil. At the location where excavation was stopped due to the odor, the soil registered above 5 ppm. At this location, ground-water was entering the drainage system and making its way to the discharge area, which drains into a stream. Ground-water was also entering the drainage system through the seams of the drainage pipe. At this point, Art Shrader was notified of the problem. He recommended that construction of the system continue and that the seams be sealed with hydrolic cement. N.A. Water and Sewer was told to continue and seal all seams. The writer also informed them that they must seal the entrance of the drainage system with a heavy clay to stop the flow from the excavation pit when they were finished for the day. Other soil samples were taken from excavation pits and run through the PID. A rough delineation of the contamination was established. The location of the pits and other receptors is shown on a site map attached to this memo.

Water samples were taken from two of the excavation pits and from 5 private wells nearby. These samples will be sent to the lab for 24 hour turnaround.

PV

Shop & Fill #35
00120

CITY OF NORTH AUGUSTA

P. O. BOX 6400 NORTH AUGUSTA, S. C. 29861-0400
General Information - 803 / 441-4399 FAX - Administration 441-4203 / Public Safety 441-4252

December 17, 1997

RECEIVED
DEC 29 1997
Bureau of Underground Storage Tank Management

Ms. Joanne Cooper
SC Department of Health Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, SC 29841

Subject: Leaking Underground Fuel Tank - North Augusta, SC
Five Notch Rd. at Pisgah Rd.

Dear Ms. Cooper:

As you are aware, the City of North Augusta contacted your office on Friday, November 7, 1997, to report a suspected leaking underground fuel tank. The leak was discovered by City crews during the installation of storm drainage piping along Five Notch Road. DHEC staff subsequently verified the source of the fuel leak and directed City personnel to stop work and take precautions to seal the storm drainage piping to limit the spread of contamination. At that time, we were instructed to submit our additional costs to your office for reimbursement.

These Costs are itemized as follows:

Equipment:	$1,735
Labor:	$3,109
Materials:	$2,093.24

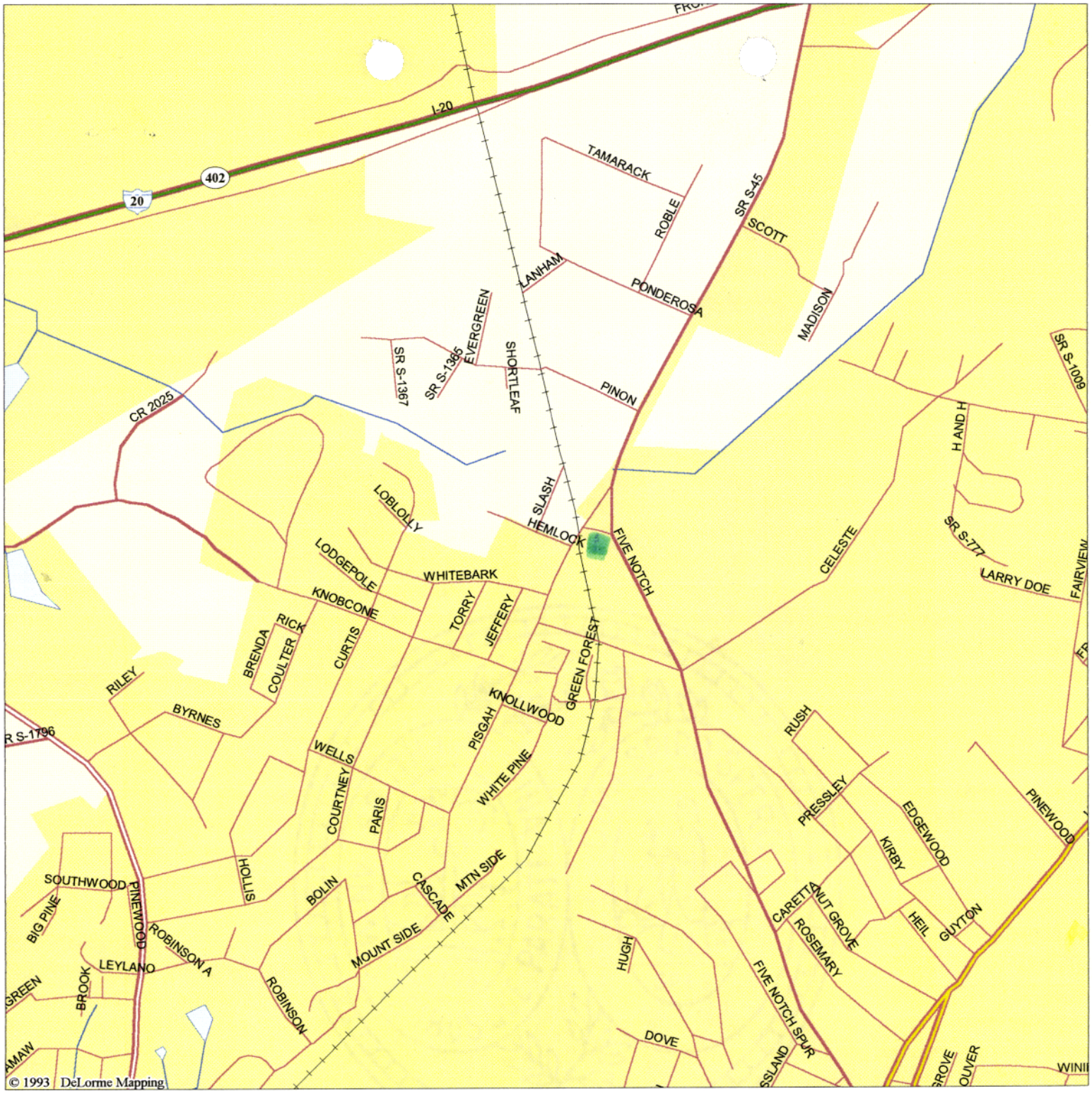
Our total monetary loss resulting from the leaking tank is $6,937.24. Please arrange for reimbursement to the City at the following address:

City of North Augusta
P.O. Box 6400
North Augusta, SC 29861

If you have any questions or need additional information, please call me at 803 441-4223.

Sincerely,

Kevin D. Blayton, PE
Director - Engineering, PW, and PU



LEGEND

- State Route
- Interstate, Turnpike
- County Boundary
- Population Center
- Street, Road
- Hwy Ramp
- Major Street/Road
- River
- Open Water

Scale 1:15,625 (at center)

1000 Feet

500 Meters

Mag 15.00
Fri Nov 21 08:43:26 1997

EH #1 → Above MCL (water)
22' to groundwater

EH #2 → Above MCL (water)
15' to ground water

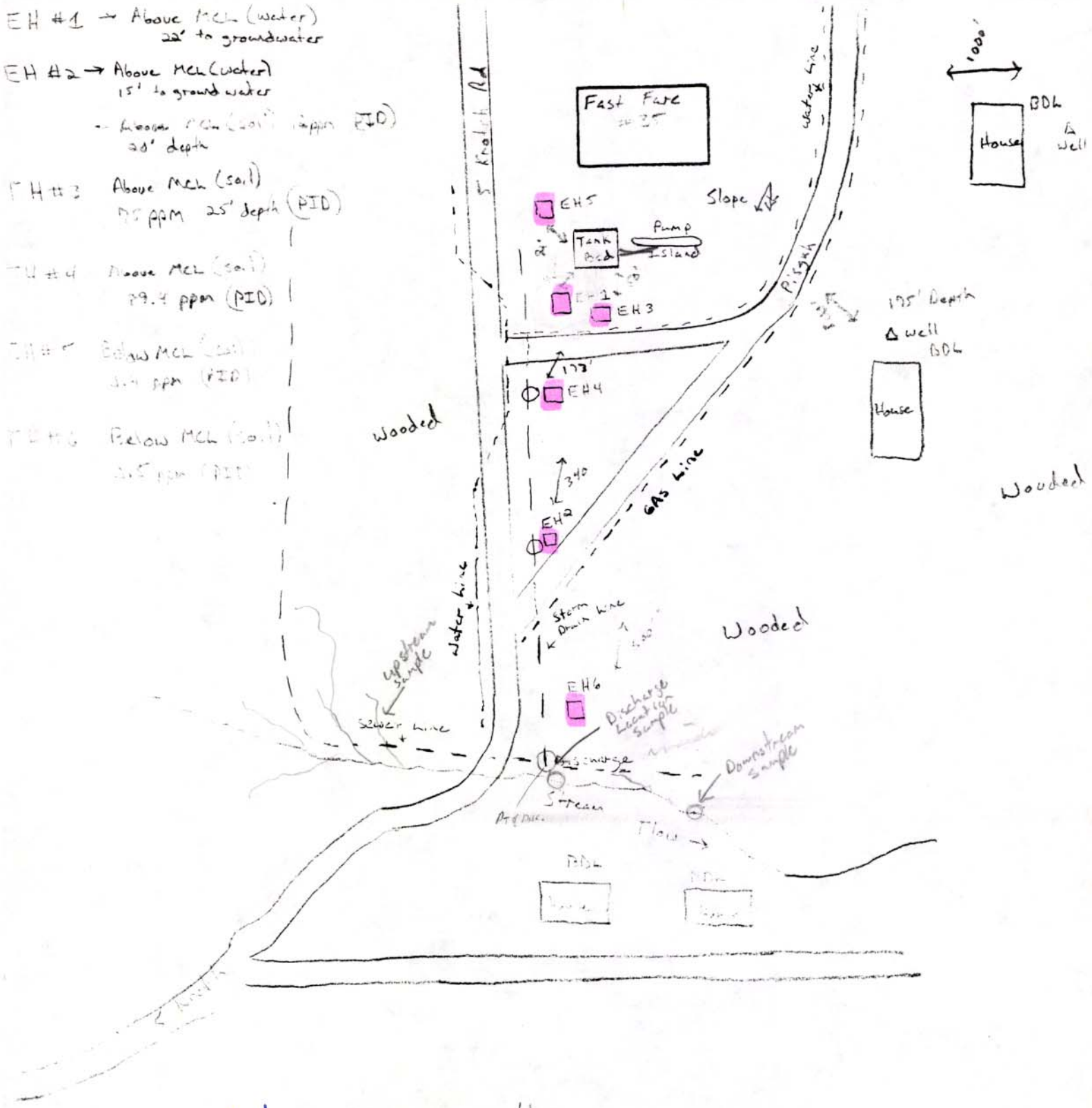
- Above MCL (soil) [illegible] ppm (PID)
20' depth

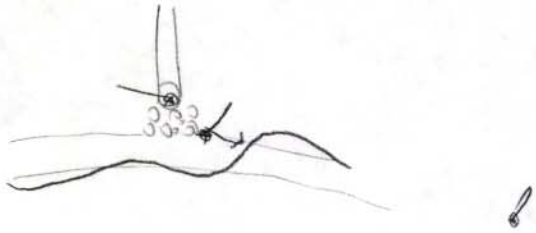
EH #3 Above MCL (soil)
[illegible] ppm 25' depth (PID)

EH #4 Above MCL (soil)
[illegible] ppm (PID)

EH #5 Below MCL (soil)
[illegible] ppm (PID)

EH #6 Below MCL (soil)
[illegible] ppm (PID)





SITE ID : 00120

SITE NAME : SHOP-N-FILL #35

COUNTY : AIKEN

RP : JACKSON PETROLEUM

RP ADDRESS : W.C. JACKSON JR.
PO BOX 861
AIKEN SC 29802-0861

QUALIFIED ? YES (NO)

IF No, Lacking : (Insurance)
Abatement
(Fees) 355.50

SUBSTANCIAL COMPLIANCE ? (YES) NO

TANKS REMOVED ? YES (NO)

If Yes. Date of Removal : _____

If No. Date of TST: _____

Date of Release : 11/7/97 Release # : 1

Report/Date Received : 11/7/97

RANKING : _____

WORK SCOPE : RAPID
CP# 05610
MW#

HYDROLOGIC, INC.

November 14, 1997

REPORTING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

INVOICING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

PROJECT NUMBER: K9721928S

DATE COMPLETED: November 14, 1997
DATE RECEIVED: November 12, 1997

PROJECT DESCRIPTION:

SHOP N SAVE #35--3 water samples were received and analyzed for 8020-BTEX + NAPHTHALENE + MTBE + EDB.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to **contact Jack Hale, Jr. at 1-800-728-2251.** We appreciate your business and look forward to serving you again soon.

Respectfully,

Walter Hogg
Laboratory Director

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

PROGRAM
DOCKETING # 55 Tech

HYDROLOGIC, INC.

COMPANY NAME:	SCDHEC
COMPANY PROJECT NUMBER:	SHOP N SAVE #35
HYDROLOGIC PROJECT NUMBER:	K9721928S
HYDROLOGIC SAMPLE NUMBER:	9721928
LAB CERTIFICATION NUMBER:	70002
SAMPLE IDENTIFICATION:	EH #1
DATE SAMPLED:	11/10/97
DATE EXTRACTED:	N/A
DATE/TIME ANALYZED:	11/13/97

METHOD 8020/MTBE/NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	**71-43-2**	**1.0**	**17.0**
Toluene	**108-88-3**	**1.0**	**70.2**
Ethylbenzene	**100-41-4**	**1.0**	**5.71**
Xylenes (Total)	**1330-20-7**	**1.0**	**32.9**
MTBE		**5.0**	**19.4**
Naphthalene	91-20-3	5.0	BDL
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			95%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: SHOP N SAVE #35

HYDROLOGIC PROJECT NUMBER: K9721928S
HYDROLOGIC SAMPLE NUMBER: 9721930
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: EH #2
DATE SAMPLED: 11/10/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/14/97

METHOD 8020/MTBE/NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	**71-43-2**	**1.0**	**8.15**
Toluene	**108-88-3**	**1.0**	**88.8**
Ethylbenzene	**100-41-4**	**1.0**	**28.9**
Xylenes (Total)	**1330-20-7**	**1.0**	**223**
MTBE		**5.0**	**13.6**
Naphthalene	91-20-3	5.0	BDL
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			98%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: SHOP N SAVE #35

HYDROLOGIC PROJECT NUMBER: K9721928S
HYDROLOGIC SAMPLE NUMBER: 9721931
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: DAVID WARD WELL
DATE SAMPLED: 11/10/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/14/97

METHOD 8020/MTBE/NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	108-88-3	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Xylenes (Total)	1330-20-7	1.0	BDL
MTBE		5.0	BDL
Naphthalene	91-20-3	5.0	BDL
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			96%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

Chain of Custody Record

HYDROLOGIC, INC.

Page 1 *of* 1

❒ Asheville, NC (704) 254-5169 ❒ Norcross, GA (770) 368-0636 ❒ Frankfort KY (502) 223-0251 ❒ Lumberton, NC (910) 738-6190 ❒ Charlotte, NC (704) 392-1164 ❒ Morrisville, NC (919) 380-9699
❒ Brighton, CO (303) 659-0497 ❒ Orlando, FL (407) 851-2560 ✓ Lexington, SC (803) 796-8989 ❒ Richmond, VA (804) 358-3145 ❒ Burlington, NC (910) 570-4661 ❒ Macon, GA (912) 757-0811

Client: SCDHEC	Project No.: Shop N Save #35
Report Address: 2600 Bull St	Invoice Address:
Cola. S.C. 292	
Attn: Kimberly Wilson	Attn:
Phone No.: 734-5331	Sampled By: Scott McInnis Peter Vinnet
Fax No.: 734-3604	P.O. No: 1831
	State Samples Collected SC

TURNAROUND TIME
✓ 24 Hours ✓ 48 Hours
❒ 5 Days ❒ 10 Days Date Needed: 11/14/97

REQUESTED PARAMETERS

BTEX + Waphy + MTBE + EDB

LAB CODE I.D.
A = Asheville, NC
B = Burlington, NC
C = Charlotte, NC
D = Denver, CO
E = Lexington, SC
G = Macon, GA
K = Frankfort, KY
L = Lumberton, NC
M = Morrisville, NC
N = Norcross, GA
O = Orlando, FL
R = Richmond, VA
S = Subcontracted

K9721928 (S)

Sample ID	Date	Time	Comp/Grab	Matrix	Containers	HCl									← Preserv.	REMARKS
EH #1	11/10	1200	✓	GW	2	✓				S7-5020						
EH #2	11/10	1400	✓	GW	2	✓				S7-5021						Turnaround as quick
David Ward Well	11/10	1600	✓	GW	2	✓				S7-5022						as possible

Lab Use Only Custody Seal: ❒Yes ❒No ❒N/A K C-Billing onice Init Lab Temp. necdon Rec. Lab Temp SFE

COMMENTS: Rec - 6 - 40ml (g) HCl Shipped to Hydro/ky via Fed ex# 800574411110

Relinquished By:	Date	Time	Received By:	Date	Time	Lab Use Only:
Peter Vinnet	11/10/97	1700	Brian E. Gootee	11/10/97	1710	
Relinquished By: SJW Barker	11/11/97	15:00	Sara L Estes	11/11/97	1000	
Relinquished By:	Date	Time	Received By:	Date	Time	
Relinquished By:	Date	Time	Received By:	Date	Time	

Facsimile Cover Sheet

HydroLogic, Inc.
1491 Twilight Trail
Frankfort, KY 40601

RECEIVED
NOV 17 1997
Bureau of Underground Storage Tank Management

To: Kimberly Wilson
Company: SCDHEC
Phone:
Fax: 1-803-734-3604

From: Jack Hale, Jr.
HydroLogic-Frankfort
Phone: 800-728-2251
Fax: 502-875-8016

Date: 11-14-97
Pages+Cover: 6

DOCUMENT # 56-Tech

HYDROLOGIC, INC.

November 14, 1997

REPORTING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

INVOICING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

PROJECT NUMBER: K9721928S

DATE COMPLETED: November 14, 1997
DATE RECEIVED: November 12, 1997

PROJECT DESCRIPTION:

SHOP N SAVE #35--3 water samples were received and analyzed for 8020-BTEX + NAPHTHALENE + MTBE + EDB.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to **contact Jack Hale, Jr. at 1-800-728-2251.** We appreciate your business and look forward to serving you again soon.

Respectfully,

Walter Hogg
Laboratory Director

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: SHOP N SAVE #35

HYDROLOGIC PROJECT NUMBER: K9721928S
HYDROLOGIC SAMPLE NUMBER: 9721928
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: EH #1
DATE SAMPLED: 11/10/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/13/97

METHOD 8020/MTBE/NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	**71-43-2**	**1.0**	**17.0**
Toluene	**108-88-3**	**1.0**	**70.2**
Ethylbenzene	**100-41-4**	**1.0**	**5.71**
Xylenes (Total)	**1330-20-7**	**1.0**	**32.9**
MTBE		**5.0**	**19.4**
Naphthalene	91-20-3	5.0	BDL
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			95%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: SHOP N SAVE #35

HYDROLOGIC PROJECT NUMBER: K9721928S
HYDROLOGIC SAMPLE NUMBER: 9721930
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: EH #2
DATE SAMPLED: 11/10/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/14/97

METHOD 8020/MTBE/NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	**71-43-2**	**1.0**	**8.15**
Toluene	**108-88-3**	**1.0**	**88.8**
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MTBE		**5.0**	**13.6**
Naphthalene	91-20-3	5.0	BDL
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			98%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: SHOP N SAVE #35

HYDROLOGIC PROJECT NUMBER: K9721928S
HYDROLOGIC SAMPLE NUMBER: 9721931
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: DAVID WARD WELL
DATE SAMPLED: 11/10/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/14/97

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Naphthalene	91-20-3	5.0	BDL
EDB	106-93-4	1.0	BDL
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COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

Chain of Custody Record

HYDROLOGIC, INC.

Page 1 of __

☐ Asheville, NC (704) 254-5169 ☐ Norcross, GA (770) 368-0636 ☐ Frankfort KY (502) 223-0251 ☐ Lumberton, NC (910) 738-6190 ☐ Charlotte, NC (704) 392-1164 ☐ Morrisville, NC (919) 380-9699
☐ Brighton, CO (303) 659-0497 ☐ Orlando, FL (407) 851-2560 ☑ Lexington, SC (803) 796-8989 ☐ Richmond, VA (804) 358-3145 ☐ Burlington, NC (910) 570-4661 ☐ Macon, GA (912) 757-0811

Client: SCDHEC
Report Address: 2600 Bull St
Cola. S.C 292
Attn: Kimberly Wilson
Phone No.: 734-5331
Fax No.: 734-3604

Project No.: Shop N Save #35
Invoice Address: 00120
Attn:
Sampled By: Scott McFarlin
P.O. No: 1831
State Samples Collected: SC

TURNAROUND TIME
☑ 24 Hours ☑ 48 Hours
☐ 5 Days ☐ 10 Days
Date Needed: 11/14/97

REQUESTED PARAMETERS

BTEX + MtBE + EDB

LAB CODE I.D.
A = Asheville, NC
B = Burlington, NC
C = Charlotte, NC
D = Denver, CO
E = Lexington, SC
G = Macon, GA
K = Frankfort, KY
L = Lumberton, NC
M = Morrisville, NC
N = Norcross, GA
O = Orlando, FL
R = Richmond, VA
S = Subcontracted

K9721928 (S)

Sample ID	Date	Time	Comp/Grab	Matrix	Containers	HCl									← Preserv.	REMARKS
EH #1	11/10	1200	✓	GW	2	✓				S7-5020						
EH #2	11/10	1400	✓	GW	2	✓				S7-5021						Turnaround as quick as possible
David Wood Well	11/10	1600	✓	GW	2	✓				S7-5022						

Lab Use Only: Custody Seal: ☐ Yes ☐ No ☐ N/A K E-Billing onice Init Lab Temp. nodes Rec. Lab Temp.

COMMENTS: Rec. 6-40ml (g) HCl Shipped to Hydro/Ky via Fed Ex# 8005744 11110

Relinquished By:	Date	Time	Received By:	Date	Time	Lab Use Only:
Peter Vn A	11/10/97	1200	Brian E. Hooter	11/10/97	1710	
Relinquished By: SW Baker	11/11/97	15:00	Received By: Sara L Estes	11/11/97	10:00	
Relinquished By:	Date	Time	Received By:	Date	Time	
Relinquished By:	Date	Time	Received By:	Date	Time	

FAX ~~~ FAX ~~~ FAX

HYDROLOGIC LABORATORY
South Carolina Division

Faxed 11/14 - HC stopped to Charlotte

SCDHEC
Company

Kimberly Wilson — 734-3604
To — Fax Number

11/17 ~~11/14/97~~ — ~~5:10~~ 13:45 — 7
Date — Time — Number of Pages (incl. this one)

Subject

RECEIVED
NOV 17 1997
Bureau of Underground Storage Tank Management

Comments:

Results

I tried to fax these on Fri late - I just noticed the confirmation said it did not go thru, your line was busy. Sorry.

Thank You.

From: Shari ☺

HydroLogic Laboratory, Inc.
South Carolina Division
200 Rich Lex Drive
Lexington, SC 29072
Ph: (803) 796-8989
Pager: (803) 954-9458
Fax: (803) 796-1106

UST PROGRAM
DOCKETING # 57 Tech

Bionomics Laboratory

A DIVISION OF HYDROLOGIC, INC.

4310 E. ANDERSON ROAD, ORLANDO, FLORIDA 32812 (407) 851-2560 FAX (407) 856-0886

EPA ICRFL034 • DE DW #FL066 • FL CQAP #870223G • FL DW #83331 • FL ENV #E83012 • GA DW #901
MD DW #193 • NC DW #12708 • NC ENV #327 • SC #96012 • TN DW #02983 • VA DW #00042

HYDROLOGIC INC.
I-85 S BLDG. 2848
CHARLOTTE, NC 28208

Attn: ROBIN KLUTTZ
Invoice Number:

Order #: B7-11-329
Date: 11/14/97 16:50
Work ID: SCDHEC Shop N Save
Date Received: 11/13/97
Date Completed: 11/14/97
Client Code: HYDROLOGIC_C

NOTE: NO EDB FOUND IN THESE SAMPLES.

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	House 1 1000 Pinon Rd
02	House 2 1002 Pinon Rd
03	Spence Residence Well

Certified By
PAMELA L. RIVERS, CHEMIST

Order # B7-11-329
11/14/97 16:50

TEST RESULTS BY SAMPLE

Sample Description: House 1 1000 Pinon Rd Lab No: 01A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 14:45 Category: DRINKING_H2O

PARAMETER	RESULT	PQL	Q
Benzene 108-95-2	BDL	1	U
Toluene 95-[illegible]-8	BDL	1	U
Ethylbenzene 88-[illegible]5	BDL	1	U
Methyl tert-butyl ether (MTBE) 1634-04-4	BDL	1	U
Total Xylenes 105-67-9	BDL	1	U
Naphthalene 91-20-3	BDL	5	U

SURROGATE	%RECOVERY	LIMITS
4-BFB 367-12-4	94	60 - 150

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971A
DIL. FACTOR 1
UNITS µg/L
COLUMN DB624

Sample Description: House 2 1002 Pinon Rd Lab No: 02A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:00 Category: DRINKING_H2O

PARAMETER	RESULT	PQL	Q
Benzene 108-95-2	BDL	1	U
Toluene 95-57-8	BDL	1	U
Ethylbenzene 88-75-5	BDL	1	U
Methyl tert-butyl ether (MTBE) 1634-04-4	BDL	1	U
Total Xylenes	BDL	1	U

Order # B7-11-329 Page 3
11/14/97 16:50

TEST RESULTS BY SAMPLE

Sample Description: Mouse 2 1002 Pine Rd Lab No: 02A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:[illegible] Category: DRINKING_H2O

PARAMETER	RESULT	PQL	Q
Naphthalene 91-20-3	BDL	5	U

SURROGATE	%RECOVERY	LIMITS
4-BFB 367-12-4	94	60 - 160

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B
DIL. FACTOR 1
UNITS [illegible]/L
COLUMN DB624

Sample Description: Spence Residence Well Lab No: 03A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:15 Category: DRINKING_H2O

PARAMETER	RESULT	PQL	Q
Benzene 108-95-2	BDL	1	U
Toluene 95-57-8	BDL	1	U
Ethylbenzene 88-75-5	BDL	1	U
Methyl tert-butyl ether (MTBE) 1634-04-4	BDL	1	U
Total Xylenes 105-67-9	BDL	1	U
Naphthalene 91-20-3	BDL	5	U

SURROGATE	%RECOVERY	LIMITS
4-BFB 367-12-4	92	60 - 160

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B

Order # B7-11-329 Page 4
11/14/97 16:50

TEST RESULTS BY SAMPLE

Sample Description: Spence Residence Well Lab No: 03A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: PC826W
Collected: 11/12/97 15:15 Category: DRINKING_H2O

DIL. FACTOR 1
UNITS ug/L
COLUMN DB624

Order # B7-11-329
11/14/97 16:50

REGULAR TEST RESULTS BY TEST

Chain of Custody Record

HYDROLOGIC, INC.

B711329 Page ___ of ___

☐ Asheville, NC (704) 254-5169 ☐ Norcross, GA (770) 368-0636 ☐ Frankfort KY (502) 223-0251 ☐ Lumberton, NC (910) 738-6190 ☐ Charlotte, NC (704) 392-1164 ☐ Morrisville, NC (919) 380-9699
☐ Brighton, CO (303) 659-0497 ☐ Orlando, FL (407) 851-2560 ☐ Lexington, SC (803) 796-8989 ☐ Richmond, VA (804) 358-3145 ☐ Burlington, NC (910) 570-4661 ☐ Macon, GA (912) 757-0811

Client: SCDHEC
Report Address: 2600 Bull St. Col. S.C. 29201
Attn: Kimberly Wilson
Phone No.: 734-5331
Fax No.: 734-3604

Project No.:
Invoice Address: Shop w Same #35
Attn: Kimberly Wilson
Sampled By: P. Vinot
P.O. No: 1831
State Samples Collected SC

TURNAROUND TIME
☑ 24 Hours ☐ 48 Hours
☐ 5 Days ☐ 10 Days Date Needed: ___

REQUESTED PARAMETERS: Attch report PHEBB + NTDPE; BH 8020; PEP M. Cubic 11/13/97

LAB CODE I.D.
A = Asheville, NC
B = Burlington, NC
C = Charlotte, NC
D = Denver, CO
E = Lexington, SC
G = Macon, GA
K = Frankfort, KY
L = Lumberton, NC
M = Morrisville, NC
N = Norcross, GA
O = Orlando, FL
R = Richmond, VA
S = Subcontracted

Sample ID	Date	Time	Comp/Grab	Matrix	Containers											← Preserv.	REMARKS
House 1 1000 Pinn Rd	11/12/97	1445	✓	DW	2	✓											
House 2 1002 Pinn Rd	11/12/97	1500	✓	DW	2	✓											
Spence Residence Well	11/10/97	1515	✓	DW	2	✓											

COMMENTS: Shipped samples to Hydro/FIA via Fed Ex: 8005744 11006

Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	11/12/97	1600	Brian E. Hooks	11/12/97	1550
Robin Moore	11/12/	1615			
Fed Ex			[signature]	11/13/97	1000

Bionomics Laboratory

A DIVISION OF HYDROLOGIC, INC.

4310 E. ANDERSON ROAD, ORLANDO, FLORIDA 32812 (407) 851-2560 FAX (407) 856-0886
EPA ICRFL034 • DE DW #FL066 • FL CQAP #870223G • FL DW #83331 • FL ENV #E83012 • GA DW #901
MD DW #193 • NC DW #12708 • NC ENV #327 • SC #96012 • TN DW #02983 • VA DW #00042

HYDROLOGIC INC.
I-85 S BLDG. 2848
CHARLOTTE, NC 28208

Attn: ROBIN KLUTTZ
Invoice Number:

Order #: B7-11-329
Date: 11/14/97 16:50
Work ID: SCDHEC Shop N Save
Date Received: 11/13/97
Date Completed: 11/14/97
Client Code: HYDROLOGIC_C

NOTE: NO EDB FOUND IN THESE SAMPLES.

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	House 1 1000 Pinon Rd
02	House 2 1002 Pinon Rd
03	Spence Residence Well

Certified By
PAMELA L. RIVERS, CHEMIST

Order # B7-11-329
11/14/97 16:50

TEST RESULTS BY SAMPLE

Sample Description: House 1 1000 Pinon Rd Lab No: 01A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 14:45 Category: DRINKING_H2O

PARAMETER	RESULT	PQL	Q
Benzene 108-95-2	BDL	1	U
Toluene 95-57-8	BDL	1	U
Ethylbenzene 88-75-5	BDL	1	U
Methyl tert-butyl ether (MTBE) 1634-04-4	BDL	1	U
Total Xylenes 105-67-9	BDL	1	U
Naphthalene 91-20-3	BDL	5	U

SURROGATE	%RECOVERY	LIMITS
4-BFB 367-12-4	94	60 - 150

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B
DIL. FACTOR 1
UNITS µg/L
COLUMN DB624

Sample Description: House 2 1002 Pinon Rd Lab No: 02A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:00 Category: DRINKING_H2O

PARAMETER	RESULT	PQL	Q
Benzene 108-95-2	BDL	1	U
Toluene 95-57-8	BDL	1	U
Ethylbenzene 88-75-5	BDL	1	U
Methyl tert-butyl ether (MTBE) 1634-04-4	BDL	1	U
Total Xylenes	BDL	1	U

Order # B7-11-329
11/14/97 16:50

TEST RESULTS BY SAMPLE

Sample Description: House 2 1002 Pinon Rd Lab No: 02A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:00 Category: DRINKING_H2O

Naphthalene	105-67-9	BDL	5	U
	91-20-3			

SURROGATE	%RECOVERY	LIMITS
4-BFB 367-12-4	94	60 - 150

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B
DIL. FACTOR 1
UNITS µg/L
COLUMN DB624

Sample Description: Spence Residence Well Lab No: 03A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:15 Category: DRINKING_H2O

PARAMETER		RESULT	PQL	Q
Benzene	108-95-2	BDL	1	U
Toluene	95-57-8	BDL	1	U
Ethylbenzene	88-75-5	BDL	1	U
Methyl tert-butyl ether (MTBE)	1634-04-4	BDL	1	U
Total Xylenes	105-67-9	BDL	1	U
Naphthalene	91-20-3	BDL	5	U

SURROGATE	%RECOVERY	LIMITS
4-BFB 367-12-4	93	60 - 150

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B

Order # B7-11-329
11/14/97 16:50

TEST RESULTS BY SAMPLE

Sample Description: Spence Residence Well Lab No: 03A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:15 Category: DRINKING_H2O

DIL. FACTOR 1
UNITS µg/L
COLUMN DB624

Order # B7-11-329
11/14/97 16:50

REGULAR TEST RESULTS BY TEST

Chain of Custody Record

HYDROLOGIC, INC.

B711329 Page ___ of ___

☐ Asheville, NC (704) 254-5169 ☐ Norcross, GA (770) 368-0636 ☐ Frankfort KY (502) 223-0251 ☐ Lumberton, NC (910) 738-6190 ☐ Charlotte, NC (704) 392-1164 ☐ Morrisville, NC (919) 380-9699
☐ Brighton, CO (303) 659-0497 ☐ Orlando, FL (407) 851-2560 ☐ Lexington, SC (803) 796-8989 ☐ Richmond, VA (804) 358-3145 ☐ Burlington, NC (910) 570-4661 ☐ Macon, GA (912) 757-0811

Client: SCDHEC
Project No.:
Report Address: 2600 Bull St. Colo. S.C. 29201
Invoice Address: Shop W Sure #35
Attn: Kimberly Wilson
Attn: Kimberly Wilson
Phone No.: 734-5331
Sampled By: P. Vaut
Fax No.: 734-3604
P.O. No: 1831
State Samples Collected SC

TURNAROUND TIME
☑ 24 Hours ☐ 48 Hours
☐ 5 Days ☐ 10 Days
Date Needed:

REQUESTED PARAMETERS

Sample ID	Date	Time	Comp/Grab	Matrix	Containers	ATTX + depth + RDD + MTDE	BY 8020	PER M. CUBIC 11/13/97								← Preserv.	REMARKS
House 1 1000 Pinon Rd	11/12/97	1445	✓	DW	2	✓											
House 2 1002 Pinon Rd	11/12/97	1500	✓	DW	2	✓											
Spence Residence Well	11/12/97	1515	✓	DW	2	✓											

LAB CODE I.D.
A = Asheville, NC
B = Burlington, NC
C = Charlotte, NC
D = Denver, CO
E = Lexington, SC
G = Macon, GA
K = Frankfort, KY
L = Lumberton, NC
M = Morrisville, NC
N = Norcross, GA
O = Orlando, FL
R = Richmond, VA
S = Subcontracted

COMMENTS: Shipped samples to Hydro/FIA via Fed Ex: 800574411006

Relinquished By:	Date	Time	Received By:	Date	Time
[signature]	11/12/97	1600	Brian E. [signature]	11/12/97	1550
Karen Moore	11/12	1615			
Fed Ex			[signature]	11/13/97	1000

JBC

HYDROLOGIC, INC.

November 24, 1997

REPORTING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

INVOICING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

PROJECT NUMBER: **K9722251S**

DATE COMPLETED: November 24, 1997
DATE RECEIVED: November 21, 1997

PROJECT DESCRIPTION:

00126--3 water samples were received and analyzed for 8020-BTEX +MTBE+EDB+NAPHTHALENE.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to **contact Jack Hale, Jr. at 1-800-728-2251.** We appreciate your business and look forward to serving you again soon.

Respectfully,

Walter Hogg
Laboratory Director

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

DOCKET NO. 58 Tech

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: 00126

HYDROLOGIC PROJECT NUMBER: K9722251S
HYDROLOGIC SAMPLE NUMBER: 9722251
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: UPSTREAM
DATE SAMPLED: 11/20/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/21/97

METHOD 8020 BTEX+MTBE+NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	108-88-3	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Xylenes (Total)	1330-20-7	1.0	BDL
MTBE	1634-04-4	5.0	BDL
Naphthalene	91-20-3	1.0	BDL
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			102%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME:	SCDHEC
COMPANY PROJECT NUMBER:	00126
HYDROLOGIC PROJECT NUMBER:	K9722251S
HYDROLOGIC SAMPLE NUMBER:	9722252
LAB CERTIFICATION NUMBER:	70002
SAMPLE IDENTIFICATION:	DISCHARGE LOCATION
DATE SAMPLED:	11/20/97
DATE EXTRACTED:	N/A
DATE/TIME ANALYZED:	11/21/97

METHOD 8020-BTEX+MTBE+NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	**71-43-2**	**1.0**	**13.7**
Toluene	**108-88-3**	**10.0**	**370**
Ethylbenzene	**100-41-4**	**1.0**	**30.3**
Xylenes (Total)	**1330-20-7**	**1.0**	**235**
MTBE	**1634-04-4**	**5.0**	**52.3**
Naphthalene	**91-20-3**	**1.0**	**11.4**
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			93%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: COMPOUNDS WITH ELEVATED SDL ARE DUE TO A SAMPLE DILUTION.

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: 00126

HYDROLOGIC PROJECT NUMBER: K9722251S
HYDROLOGIC SAMPLE NUMBER: 9722253
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: DOWNSTREAM
DATE SAMPLED: 11/20/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/21/97

METHOD 8020-BTEX+MTBE+NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	**108-88-3**	**1.0**	**10.3**
Ethylbenzene	100-41-4	1.0	BDL
Xylenes (Total)	**1330-20-7**	**1.0**	**7.67**
MTBE	1634-04-4	5.0	BDL
Naphthalene	**91-20-3**	**1.0**	**2.31**
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			99%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

Chain of Custody Record

HYDROLOGIC, INC.

Page____ of ____

❒ Asheville, NC (704) 254-5169 ❒ Norcross, GA (770) 368-0636 ❒ Frankfort KY (502) 223-0251 ❒ Lumberton, NC (910) 738-6190 ❒ Charlotte, NC (704) 392-1164 ❒ Morrisville, NC (919) 380-9699
❒ Brighton, CO (303) 659-0497 ❒ Orlando, FL (407) 851-2560 ☑ Lexington, SC (803) 796-8989 ❒ Richmond, VA (804) 358-3145 ❒ Burlington, NC (910) 570-4661 ❒ Macon, GA (912) 757-0811

Client: SCDHEC	Project No.: 00126
Report Address: 2600 Bull St.	Invoice Address: Fast Fare
Cola. S.C. 29201	#35
Attn: Kimberly Wilson	Attn: —
Phone No.: 734-5331	Sampled By: P. Vincent
Fax No.: 734-3604	P.O. No: 1831
	State Samples Collected SC

TURNAROUND TIME
☑ 24 Hours ❒ 48 Hours
❒ 5 Days ❒ 10 Days Date Needed:

REQUESTED PARAMETERS

BTEX + MTBTE + EDB + Naph

LAB CODE I.D.
A = Asheville, NC
B = Burlington, NC
C = Charlotte, NC
D = Denver, CO
E = Lexington, SC
G = Macon,GA
K = Frankfort, KY
L = Lumberton, NC
M = Morrisville, NC
N = Norcross, GA
O = Orlando, FL
R = Richmond, VA
S = Subcontracted

Sample ID	Date	Time	Comp/Grab	Matrix	Containers	BTEX + MTBTE + EDB + Naph										← Preserv.	REMARKS
Upstream	11/20/97	1230	✓	–	2	✓											
Discharge Location	11/20/97	1330	✓	–	2	✓											
Downstream	11/20/97	1300	✓		2	✓											

Lab Use Only **Custody Seal:** ❒ Yes ❒ No ❒ N/A C-Billing **Init Lab Temp.** **Rec. Lab Temp**

COMMENTS: Shipped to Hydro/Ky via corpexpress byway of Hydro/Ashe

Relinquished By: Peter Vincent	Date 11/20/97 Time 1450	Received By: Brian E. Stoltee	Date 11/20/97 Time 1450	**Lab Use Only:**
Relinquished By:	Date Time	Received By:	Date Time	
Relinquished By:	Date Time	Received By:	Date Time	
Relinquished By:	Date Time	Received By: D. Rullman	Date 11-21 Time 1130	

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Douglas E. Bryant

Board: John H. Burnes, Chairman
Sandra J. Molenaar, Secretary

Richard E. Jabbour, DDS
William M. Hull, Jr., MD
Roger Leaks, Jr.

Promoting Health, Protecting the Environment

UNDERGROUND STORAGE TANK (UST) 72 HOUR RELEASE REPORT

SITE ID NUMBER: (ON ANNUAL INVOICE) N-02-NO-00120

Contact Buzz Jackson

FACILITY NAME: Shop-N-Fill #35

Address: Corner of Pisgah & Five Notch Rds.
N. Augusta, SC
Aiken Co.

Contact: W. C. Jackson, Jr. **Telephone** (803) 648-0763

1) Number of USTs at this site: In Service 3 Out of Service Ø
2) Date of LAST System test. unknown (Attach copy)
3) Are there any drinking water wells on or near the site? Yes No
4) Is the drinking water contaminated? Yes No unknown
5) Date release discovered. 11-7-97
6) How was the release discovered? City of N. Augusta digging new storm drains
7) Type or product(s) discovered degraded gasoline

Describe actions taken to: (attach additional sheets if needed)

8) Discover the cause of the release. unknown at this time
9) Prevent further release. Requested TST, booming stream swamping area with petro sheen (see memo). 2ST performed 11/13/97 - 2 tanks inconclusive. will retesting.
10) Clean up the site. Initial Cleanup - booming "swamping area" to contain release

Follow the directives of Subpart E of the SC UST Control Regulations, notify proper local authorities and neighboring property owners potentially affected by the release. On all correspondence related to a particular site, please reference the **GWPD Site ID Number**. Questions should be addressed to the Ground-Water Protection Division at (803) 734-5331. FAX (803) 734-3604

Reported by (PRINT) City of Augusta (telephone) Telephone (803) 648-0763 Buzz Jackson (O/O)

Signature Julie Sloan Date 11-7-97

SR-12 930811

See database MEMOS

11/19/97 16:21:53
SiteID N-02-NO-00120 SHOP-N-FILL #35 Memo field

CONTACT SHEET GENERATED 5/19/94 MMA
CERT LETTER GENRATED 6-29-94 MMA
4-21-95 SITE SENT TO ENFORCEMENT FOR FEES. DMO
11-10-97 Inspection conducted today as a result of a complaint phoned in by City of N. Augusta. Contamination found down gradient from site. Request for Records left - requested also that owner begin site check proceedings and test tank system. Directions: From I20 Exit 5 take HWY 25 into N Augusta. Go several miles, turn right onto Five Notch Rd and the store will be about a mile on the left.
JKH

HYDROLOGIC, INC.

November 24, 1997

REPORTING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

INVOICING:

SCDHEC
2600 BULL ST.
COLUMBIA, SC 29201

00120

PROJECT NUMBER: K9722251S

DATE COMPLETED: November 24, 1997
DATE RECEIVED: November 21, 1997

PROJECT DESCRIPTION:

00120--3 water samples were received and analyzed for 8020-BTEX +MTBE+EDB+NAPHTHALENE.

Enclosed is the laboratory report for the project described above. If you have any questions or if we can be of further assistance, please feel free to **contact Jack Hale, Jr. at 1-800-728-2251.** We appreciate your business and look forward to serving you again soon.

Respectfully,

Walter Hogg
Laboratory Director

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: 00120

HYDROLOGIC PROJECT NUMBER: K9722251S
HYDROLOGIC SAMPLE NUMBER: 9722251
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: UPSTREAM
DATE SAMPLED: 11/20/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/21/97

METHOD 8020 BTEX+MTBE+NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	108-88-3	1.0	BDL
Ethylbenzene	100-41-4	1.0	BDL
Xylenes (Total)	1330-20-7	1.0	BDL
MTBE	1634-04-4	5.0	BDL
Naphthalene	91-20-3	1.0	BDL
EDB	106-93-4	1.0	BDL
Surrogate Recovery:			
BFB			102%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: _____

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: 00120

HYDROLOGIC PROJECT NUMBER: K9722251S
HYDROLOGIC SAMPLE NUMBER: 9722252
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: DISCHARGE LOCATION
DATE SAMPLED: 11/20/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/21/97

METHOD 8020-BTEX+MTBE+NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	71-43-2	1.0	13.7
Toluene	108-88-3	10.0	370
Ethylbenzene	100-41-4	1.0	30.3
Xylenes (Total)	1330-20-7	1.0	235
MTBE	1634-04-4	5.0	52.3
Naphthalene	91-20-3	1.0	11.4
EDB	106-93-4	1.0	BDL
Surrogate Recovery: BFB			93%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS: COMPOUNDS WITH ELEVATED SDL ARE DUE TO A SAMPLE DILUTION.

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

HYDROLOGIC, INC.

COMPANY NAME: SCDHEC
COMPANY PROJECT NUMBER: 00120

HYDROLOGIC PROJECT NUMBER: K9722251S
HYDROLOGIC SAMPLE NUMBER: 9722253
LAB CERTIFICATION NUMBER: 70002
SAMPLE IDENTIFICATION: DOWNSTREAM
DATE SAMPLED: 11/20/97
DATE EXTRACTED: N/A
DATE/TIME ANALYZED: 11/21/97

METHOD 8020-BTEX+MTBE+NAPHTHALENE

ANALYSIS	CAS NO.	SDL (ug/l)	RESULT (ug/l)
Benzene	71-43-2	1.0	BDL
Toluene	**108-88-3**	**1.0**	**10.3**
Ethylbenzene	100-41-4	1.0	BDL
Xylenes (Total)	**1330-20-7**	**1.0**	**7.67**
MTBE	1634-04-4	5.0	BDL
Naphthalene	**91-20-3**	**1.0**	**2.31**
EDB	106-93-4	1.0	BDL
Surrogate Recovery: BFB			99%

BDL = Below Sample Detection Limit
SDL = Sample Detection Limit

COMMENTS:

1491 TWILIGHT TRAIL FRANKFORT, KY 40601
502-223-0251 FAX: 502-875-8016 / TOLL FREE 800-728-2251

Facsimile Cover Sheet

HydroLogic, Inc.
1491 Twilight Trail
Frankfort, KY 40601

To: Kimberly Wilson
Company: SCDHEC
Phone:
Fax: 1-803-734-3604

From: Jack Hale, Jr.
HydroLogic-Frankfort
Phone: 800-728-2251
Fax: 502-875-8016

Date: 11-25-97
Pages+Cover: 6

Bionomics Laboratory

A DIVISION OF HYDROLOGIC, INC.

4310 E. ANDERSON ROAD, ORLANDO, FLORIDA 32812 (407) 851-2560 FAX (407) 856-0886

EPA ICRFL034 • DE DW #FL066 • FL CQAP #870223G • FL DW #83331 • FL ENV #E83012 • GA DW #901
MD DW #193 • NC DW #12708 • NC ENV #327 • SC #96012 • TN DW #02983 • VA DW #00042

HYDROLOGIC INC.
I-85 S BLDG. 2848
CHARLOTTE, NC 28208

Attn: ROBIN KLUTTZ
Invoice Number:

Order #: B7-11-329
Date: 11/14/97 16:50
Work ID: SCDHEC Shop N Save
Date Received: 11/13/97
Date Completed: 11/14/97
Client Code: HYDROLOGIC_C

NOTE: NO EDB FOUND IN THESE SAMPLES.

SAMPLE IDENTIFICATION

Sample Number	Sample Description
01	House 1 1000 Pinon Rd
02	House 2 1002 Pinon Rd
03	Spence Residence Well

Certified By
PAMELA L. RIVERS, CHEMIST

RECEIVED
NOV 26 1997
Bureau of Underground
Storage Tank Management

59 Tech

TEST RESULTS BY SAMPLE

Sample Description: House 1 1000 Pinon Rd Lab No: 01A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 14:45 Category: DRINKING_H2O

PARAMETER		RESULT	PQL	Q
Benzene	108-95-2	BDL	1	U
Toluene	95-57-8	BDL	1	U
Ethylbenzene	88-75-5	BDL	1	U
Methyl tert-butyl ether (MTBE)	1634-04-4	BDL	1	U
Total Xylenes	105-67-9	BDL	1	U
Naphthalene	91-20-3	BDL	5	U

SURROGATE	%RECOVERY	LIMITS
4-BFB 367-12-4	94	60 - 150

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B
DIL. FACTOR 1
UNITS µg/L
COLUMN DB624

Sample Description: House 2 1002 Pinon Rd Lab No: 02A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:00 Category: DRINKING_H2O

PARAMETER		RESULT	PQL	Q
Benzene	108-95-2	BDL	1	U
Toluene	95-57-8	BDL	1	U
Ethylbenzene	88-75-5	BDL	1	U
Methyl tert-butyl ether (MTBE)	1634-04-4	BDL	1	U
Total Xylenes		BDL	1	U

TEST RESULTS BY SAMPLE

Sample Description: House 2 1002 Pinon Rd Lab No: 02A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:00 Category: DRINKING_H2O

	105-67-9			
Naphthalene		BDL	5	U
	91-20-3			

SURROGATE	%RECOVERY	LIMITS		
4-BFB	94	60	-	150
367-12-4				

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B
DIL. FACTOR 1
UNITS µg/L
COLUMN DB624

Sample Description: Spence Residence Well Lab No: 03A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:15 Category: DRINKING_H2O

PARAMETER		RESULT	PQL	Q
Benzene		BDL	1	U
	108-95-2			
Toluene		BDL	1	U
	95-57-8			
Ethylbenzene		BDL	1	U
	88-75-5			
Methyl tert-butyl ether (MTBE)		BDL	1	U
	1634-04-4			
Total Xylenes		BDL	1	U
	105-67-9			
Naphthalene		BDL	5	U
	91-20-3			

SURROGATE	%RECOVERY	LIMITS		
4-BFB	93	60	-	150
367-12-4				

Notes and Definitions for this Report:

DATE RUN 11/13/97
ANALYST CH
INSTRUMENT 5971B

TEST RESULTS BY SAMPLE

Sample Description: Spence Residence Well Lab No: 03A
Test Description: PURGEABLE AROMATICS - 8260 Method: EPA 8260 Test Code: SC826W
Collected: 11/12/97 15:15 Category: DRINKING_H2O

DIL. FACTOR 1
UNITS µg/L
COLUMN DB624

❒ Asheville, NC (704) 254-5169	❒ Norcross, GA (770) 368-0636	❒ Frankfort KY (502) 223-0251	❒ Lumberton, NC (910) 738-6190	❒ Charlotte, NC (704) 392-1164	❒ Morrisville, NC (919) 380-9699
❒ Brighton, CO (303) 659-0497	❒ Orlando, FL (407) 851-2560	❒ Lexington, SC (803) 796-8989	❒ Richmond, VA (804) 358-3145	❒ Burlington, NC (910) 570-4661	❒ Macon, GA (912) 757-0811

Client: SCDHEC	Project No.:
Report Address: 2600 Bull St. Cola. S.C. 29201	Invoice Address: Shop W Suve #35
Attn: Kimberly Wilson	Attn: Kimberly Wilson
Phone No.: 734-5331	Sampled By: P. Vaut
Fax No.: 734-3604	P.O. No: 1831
	State Samples Collected SC

TURNAROUND TIME

☑ 24 Hours ❒ 48 Hours

❒ 5 Days ❒ 10 Days Date Needed:

REQUESTED PARAMETERS

Sample ID	Date	Time	Comp/Grab	Matrix	Containers	ATTX + Depth + RDB + MTBE	BY 8020	PER M. CUBIC	11/13/97							← Preserv.	REMARKS
House 1 1000 Pinon Rd	11/12/97	1445	✓	DW	2	✓											
House 2 1002 Pinon Rd	11/12/97	1500	✓	DW	2	✓											
Spence Residence Well	11/12/97	1515	✓	DW	2	✓											

LAB CODE I.D.

A = Asheville, NC
B = Burlington, NC
C = Charlotte, NC
D = Denver, CO
E = Lexington, SC
G = Macon,GA
K = Frankfort, KY
L = Lumberton, NC
M = Morrisville, NC
N = Norcross, GA
O = Orlando, FL
R = Richmond, VA
S = Subcontracted

Lab Use Only Custody Seal: ❒Yes ❒No ❒N/A 0 C-Billing **Init Lab Temp.** **Rec. Lab Temp**

COMMENTS: Shipped samples to Hydro/FIA via Fed Ex: 800574411006

Relinquished By: [signature]	Date 11/12/97	Time 1600	Received By: Brian E. [signature]	Date 11/12/97	Time 1550
Relinquished By: Karen Moore	Date 11/12	Time 1615	Received By:	Date	Time
Relinquished By: Fed Ex	Date	Time	Received By: [signature]	Date 11/13/97	Time 1000
Relinquished By:	Date	Time	Received By:	Date	Time

Lab Use Only:

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAR 3 1 2009

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

UST DOCKET 6T

Re: **Notice to Proceed-Groundwater Sampling**
Bid # IFB-33335-3/11/08-EMW; PO# 719459

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct eighteen (18) groundwater-sampling events. The packets contain all necessary information for work to begin. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order # 719459 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
17246	Mercer's Welding	Georgetown	1	A. McCormick	04/24/09	BTEXMN, DCA, EDB, Oxygenates, PAHs, & total Pb	35426	35425
00420	Cooleys Grocery	Anderson	4	R. Miner	04/24/09	BTEXMN, DCA, & EDB	35546	35548
15774	Smith's Service Stat	Anderson	3	R. Miner	04/24/09	BTEXMN, DCA, & EDB	35331	35332
00720	Horace Lowe	Anderson	6	R. Miner	04/24/09	BTEXMN, DCA, EDB, & Oxygenates	35328	35329
03824	Stooksbury Indust.	Greenville	8	V. Bosnick	04/24/09	BTEXMN, DCA, EDB, Oxygenates, PAHs, & total Pb	35375	35376
14212	Satterfield Used Cars	Greenville	21	V. Bosnick	04/24/09	BTEXMN, DCA, EDB, Oxygenates, & total Pb	35256	35255
12036	Simpsonville Short St	Greenville	20	S. Briney	04/24/09	BTEXMN, DCA, EDB, & total Pb	35617	35618
12847	Laurens CPW	Laurens	4	S. Briney	04/24/09	BTEXMN, EDB, & total Pb	35472	35471
16844	Selma Convenience	Dillon	6	S. Fulmer	04/24/09	BTEXMN & EDB	34826	34825
09390	McConnells Mart	York	26	D. Thome	04/24/09	BTEXMN, DCA, & EDB	35019	35020
09352	Val Mart 2	York	16	A. McCormick	04/24/09	BTEXMN, DCA, EDB, & Oxygenates	35586	35585
06957	Vallentine's Store	Orangeburg	32	R. Miner	04/24/09	BTEXMN, DCA, EDB, & Oxygenates	35537	35538
15475	Rockland Parking Lot	Bamberg	50	B. Dolphin	04/24/09	BTEXMN, DCA, & EDB	35557	35556
00120	Four Seasons Food	Aiken	13	B. Dolphin	04/24/09	BTEXMN & EDB	35553	35552

05742	Henry Wilson Station	Lee	2	M. Johnson	04/24/09	BTEXMN, DCA, EDB, & total Pb	35498	35496
12814	Wailon's Quick Stop	Horry	9	S. Jackson	04/24/09	BTEXMN, DCA, & EDB	35318	35319
14508	Jack Hook's West	Horry	4	S. Jackson	04/24/09	BTEXMN, DCA, & EDB	35397	35398
01446	Derst Baking Co	Charleston	4	A. Shrader	04/24/09	BTEXMN, DCA, EDB, & total Pb	35501	35500
01467	Yellow Cab	Charleston	3	A. Shrader	04/24/09	BTEXMN, DCA, EDB, & total Pb	35493	35492

MECI will perform services at the sites on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. Contact information has been provided in the information packet. The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs. **Please note, the final report is due within 3 weeks from the date the site is sampled. If the site is not sampled by the specified due date or the report is not received in the specified time period, a late fee may be imposed.**

Please contact me with the sampling schedule before commencing work at these facilities. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
Corrective Action Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management

enc: Information Packets
Approved Cost Agreements

cc: Renee Spencer, PACE Analytical, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078 (w/ Approved CAs)
Technical Files (w/o. enc.)

Approved Cost Agreement 35553

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

DOLPHIBM

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	13.0000	23.00	299.00
		F	EDB	13.0000	25.00	325.00
				Total Amount		624.00

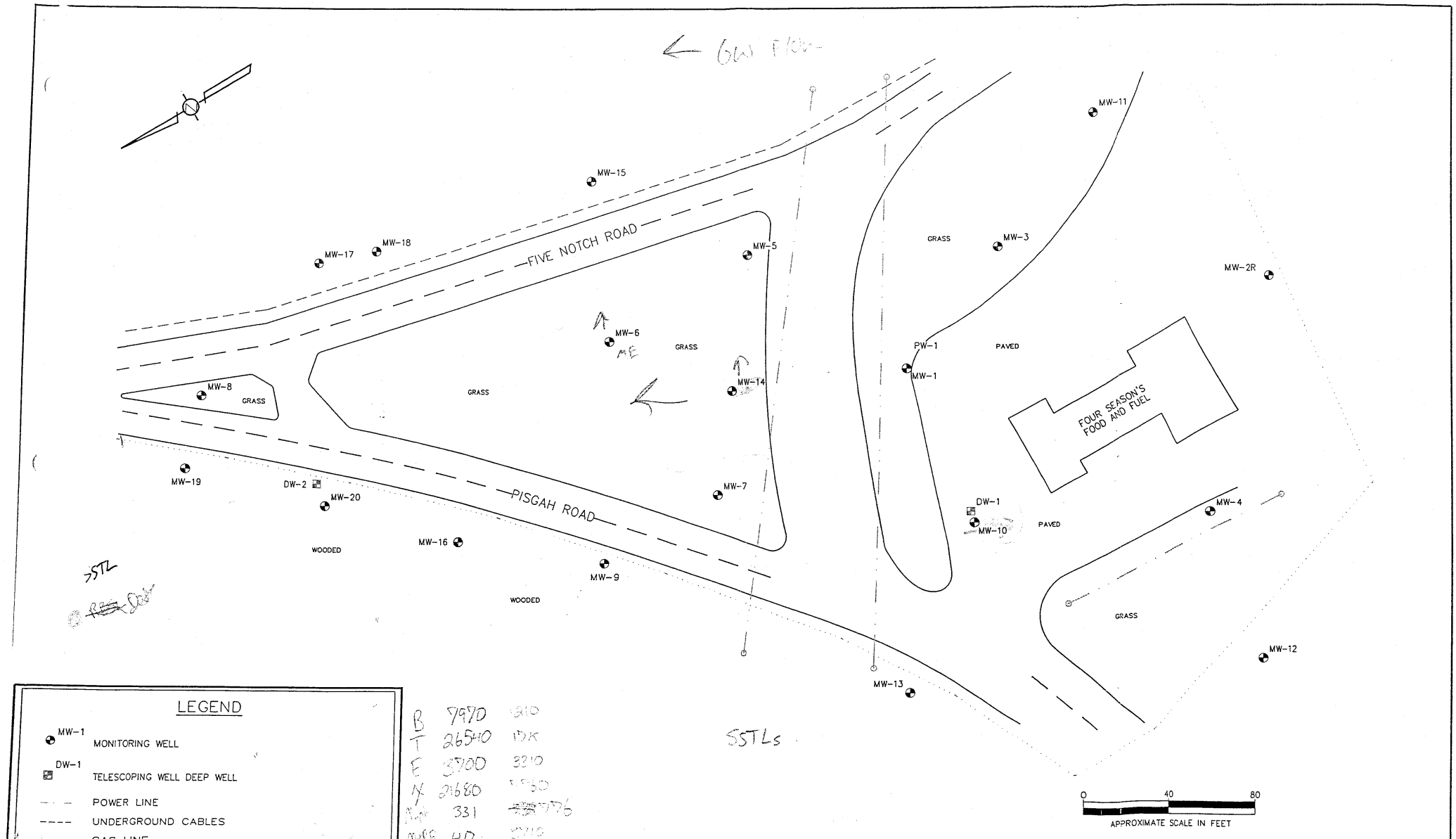
Approved Cost Agreement 35552

Facility: 00120 FOUR SEASONS FOOD & FUEL 5

DOLPHIBM

PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	150.00	150.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	3.0000	12.00	36.00
		D	GROUNDWATER NO-PURGE	10.0000	10.00	100.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	3.0000	0.30	0.90
				Total Amount		286.90



LEGEND

- MW-1 MONITORING WELL
- DW-1 TELESCOPING WELL DEEP WELL
- POWER LINE
- UNDERGROUND CABLES
- GAS LINE

B	7970	1210
T	26540	17K
E	3700	3310
X	21680	[illegible]
[illegible]	331	~~[illegible]~~ 776
[illegible]	40	[illegible]

CONSULTECH ENVIRONMENTAL, INC.	DRAWN: CJH	DATE: 11/06/05
Environmental Consulting and Engineering © 1999	REVISION #	
Delivering innovative solutions to today's environmental concerns	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 2
SITE PLAN MAP
Site 00120

SEI
Environmental, Inc.

3021 McNaughton Drive
Suite 9
Columbia, SC 29223
800.377.2826
803.788.2535
Fax 788.2399

RECEIVED
MAY 0 6 1998
DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

May 6, 1998

Mr Buzz Jackson
Jackson Petroleum
P.O. Box 861
Aiken, SC 29802

Re: Shop N Fill #35, North Augusta, SC
Site # 00120

Dear Mr. Jackson:

Enclosed is the Quarterly Activities Report (January 1st through April 24th 1998 inclusive) for the above referenced site. Also enclosed is our invoice # 30289 for those activities. Our payment terms are net 30 days.

If you have any questions or require additional information please do not hesitate to call.

Best regards,

SEI Environmental, Inc.

Fred Lyke

Fred Lyke
Branch Manager

Cc Connie Anderson, SCDHEC

OGRAM
TING # 60Tech

QUARTERLY ACTIVITIES REPORT

Shop & Fill #35
Site ID# 00120
2031 Pisgah Road
North Augusta, S.C. 29841
Aiken County

PREPARED FOR:

South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, S.C. 29201

PREPARED BY:

SEI Environmental, Inc.
3021 McNaughton Drive, Suite 9
Columbia, South Carolina 29223

Frederick P. Lyke, P.G. #1055

April 23, 1998

SUMMARY OF QUARTERLY ACTIVITIES
AT SHOP AND FILL # 35

DATE	DESCRIPTION
1/3	Repositioned booms
1/8	Inspected booms, booms OK
1/15	Inspected booms, booms OK
1/22	Inspected booms, booms OK
1/29	Replaced all booms
2/3	Inspected booms, booms OK
2/6	Repaired and repositioned 3 booms
2/10	Inspected booms, booms OK
2/13	Inspected booms, booms OK
2/16	Inspected booms, booms OK
2/20	Inspected booms, booms OK
2/23	Replaced 3 booms
2/26	Inspected booms, booms OK
3/3	Inspected booms, booms OK
3/6	Inspected booms, booms OK
3/11	Replaced all booms
3/13	Inspected booms, all OK
3/17	Replaced boom in creek culvert
3/20	Reset booms in large culvert and creek culvert
3/26	Inspected booms, all OK

4/2	Repositioned boom in large culvert, changed small boom, used absorbent diapers to clean up sheen in runoff area next to large culvert and small boom.
4/6	Replaced boom under creek culvert, and repositioned all other booms
4/9	Replaced three large booms
4/14	Inspected booms, booms OK
4/17	Inspected booms, booms OK
4/22	Inspected booms, booms OK
4/24	Replaced all booms

SPATCO
Environmental,
Inc.

PO Box 31516
300 North Graham St.
harlotte, NC 28231
704.596.4373

Invoice
Please rem
SPATCO Er nental, Inc.
PO Box 65
Charlotte, NC 28265-0348

SPATCO

Work Order No.	19700983
Page	1
Date	04/29/98
Account No.	52732
Invoice No.	30295
Branch	630

JACKSON PETROLEUM
P O BOX 861
102 WILLIAMSBURG ST.
AIKEN, SC 29802

Site Location SHOP N FILL #35
2031 PISGAH RD
N AUGUSTA, SC 29841

Customer PO No.
BUZZ JACKSON

**** NEW REMIT TO ADDRESS - PLEASE CHANGE YOUR RECORDS ****

Task Description	Units	Unit Price	Amount
SEI ENVIRONMENTAL INC. TO INVOICE FOR QUARTERLY ACTIVITIES @ SHOP-N-FILL #35 JANUARY 1,1998- APRIL 24, 1998	1.00	1,984.10	1,984.10
Account -			1,984.10

THANK YOU FOR YOUR BUSINESS

Payment Terms 1% 10, NET 30 Salesman: 960030 ORIGINAL

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVI OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 734-5455 Fax (803) 734-3604

AUG 21 1998

Jackson Petroleum
Mr. W. C. Jackson, Jr.
P. O. Box 861
Aiken, SC 29802-0861

Re: Shop-N-Fill #35
Facility ID: #00120; Release #1
Release Reported on November 7, 1997
Aiken County

Dear Mr. Jackson:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced concern. To determine what risk the release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the scope of work as outlined in the enclosed Rapid Assessment (RA) document is necessary. The Division requests that a Rapid Assessment Plan be submitted within 30 days.

According to our records, the release was reported to the SCDHEC subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(B) of the Act, you are responsible for the first $25,000 for site rehabilitation. To insure that any expenditures you make apply to this $25,000 deductible, if the release becomes qualified to receive SUPERB funds, it is prudent for this agency to pre-approve such costs along with your technical plan of action. By law, the SUPERB account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the $25,000 deductible can be compensated from the SUPERB Account if the release meets all qualification requirements.

To proceed with the qualification process for the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the following information is required:

- Written confirmation of the existence or nonexistence of an environmental insurance policy for this site. **This information must be signed by the responsible party and a notary public.** For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement.

- According to our records, your annual registration fees, $100.00 per tank per year, for fiscal year(s) 1998 and 1999 have not been submitted for a total of **$355.50**. See enclosed invoices. If you feel that this is incorrect please contact Ms. Kathy Milasnovich at(803) 734-4667.

Please complete and return the enclosed insurance information form within 14 days from the date of this letter. Upon receipt of the signed RA Invoice, RA Report, and a copy of your canceled check (front and back) or a notarized statement from the contractor verifying payment for this scope of work, it may be applied toward your deductible, as appropriate.

Please complete and return the enclosed Owner/Operator Information Sheet within 14 days from the date of this letter (note that all rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98). A cost proposal number will be established to track the allowable costs associated with this RA.

PRC

6 Tech

SCDHEC/UST/SLFS/CJW/980819

On all correspondence regarding this site and scope of work, please reference Facility ID #00120. If you have any questions concerning this correspondence, please contact Chuck Williams at (803) 734-5455 or 1-800-826-5435(within South Carolina only).

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Charles J. Williams, III, Hydrogeologist

Christopher S. Doll, P.G., Manager

enc: Insurance Information Sheet
Contractor Choice Information Sheet
Rapid Assessment document
Certified Contractors List
Registration Tank Fee Invoices

cc: Technical File
Read File

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 734-5455 Fax (803) 734-3604

OCT 28 1998

CERTIFIED MAIL

Jackson Petroleum
Mr. W. C. Jackson, Jr.
P. O. Box 861
Aiken, SC 29802

Re: Shop-N-Fill #35
Facility ID: #00120, Release #1
Notice of Vilolation
Aiken County

Dear Mr. Jackson:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete an Rapid Assessment Plan in July 1998 with the assessment report due on September 1998. To date the required report has not been received. In accordance with Section 280.65 II-B(3)(a) of the South Carolina Underground Storage Tank Regulations the assessment must be conducted as documented chemicals of concern are above the risk-based-screening levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. **The report must be submitted within 60 days from the date of this letter, if the report is not received in accordance with this schedule, enforcement procedures will be initiated.**

On all correspondence regarding this site, please reference Facility ID # **00120.** If you have any questions concerning this correspondence, please call Chuck Williams at (803) 734-5455 or 1-800-826-5435(within South Carolina only).

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Charles J. Williams, III, Hydrogeologist

Christopher S. Doll, P.G., Manager

cc: Technical File
Read File

DOCKETING # 62 Tech

SCDHEC/UST/SLS/CJW/00120.nov/072498

UNITED STATES POSTAL ICE

AUGUSTA, GA 309
PM
13 NOV
1998

-Class Mail
tage & Fees Paid
USPS
Permit No. G-10

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DIVISION OF UST MANAGEMENT
SC DEPARTMENT OF HEALTH AND
ENVIRONMENTAL CONTROL
2600 BULL STREET
COLUMBIA, SC 29201

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DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

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Mr. W.C. Jackson, Jr
PO Box 861
Aiken, SC 29802

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PS Form 3800, April 1995

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3. If you want a return receipt, write the certified mail number and your name and address on a return receipt card, Form 3811, and attach it to the front of the article by means of the gummed ends if space permits. Otherwise, affix to back of article Endorse front of article **RETURN RECEIPT REQUESTED** adjacent to the number

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102595-97-B-0145

PS Form **3800**, 995 *(Reverse)*

SEI Environmental, Inc.

RECEIVED
DEC 10 1998
DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

SITE CHECK

Shop N Fill #35
2031 Pisgah Road
North Augusta, South Carolina
Site ID #00120
Aiken County

PREPARED FOR:

Mr. William Jackson, III
Jackson Petroleum Company, Inc.
Post Office Box 861
Aiken, South Carolina

PREPARED BY:

SEI Environmental, Inc.
3021 McNaughton Drive, Suite 9
Columbia, South Carolina 29223
(803) 788-2535

Robert G. Bolton, Jr.
Project Manager

Frederick P. Lyke, P.G. #1055

63 Tech

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1.0 INTRODUCTION

Jackson Petroleum Company, Inc. contracted SEI Environmental, Inc. (SEI), to conduct a site check at the Shop N Fill #35 facility located at 2031 Pisgah Road in North Augusta, South Carolina. A site location map is presented as Figure 1. The groundwater sampling activities were approved by SCDHEC in correspondence to Jackson Petroleum Company, Inc. November 10, 1997.

2.0 METHODOLOGY

2.1 Soil Boring Activities

On August 4, 1998, SEI personnel conducted one soil boring (identified as SB-1) with the use of a truck mounted B-45 drill rig. This boring is located adjacent to the underground storage tank (UST) basin and the dispenser island. The approximate depth of this boring is 15 feet below ground surface (bgs). Soil samples were obtained at five feet intervals during the boring activities. The location of SB-1 is depicted in Figure 2.

2.2 Monitor Well Installation

A truck mounted B-45 drill rig installed one (1) shallow groundwater monitor well (identified as MW-1) on August 4, 1998. The approximate depth of this well is 25 feet bgs. This monitor well was placed between the current UST basin and Five Notch Road. Soil samples were obtained at five feet intervals during the installation of Monitor Well MW-1. Figure 2 identifies the location of the monitor well.

The monitor well is constructed of 2-inch diameter, Schedule 40, flush threaded PVC well casing with factory slotted (0.01-inch opening) Schedule 40 PVC well screen attached. The Type II monitor well is constructed with the top of the well screen above the water table to allow for detection of potential free-phase liquid hydrocarbon. A uniformly graded silica filter pack was

installed in the annular space from total depth to approximately 2.0 feet above the top of the screen and followed by approximately 2.0 feet of bentonite pellets, which were hydrated. The remainder of the boring was grouted to land surface. The monitor well was completed with a water tight, locking PVC cap, protected by a flush finished concrete pad with a 9-inch diameter steel, traffic rated manhole with a bolt down cover. Following installation, the monitor well was developed with a clean, centrifugal pump to remove any fine materials that may impede the flow of groundwater into the well. Monitor well construction details and lithologic descriptions are presented in Appendix A.

2.3 Site Geology

Visual analysis of subsurface soils collected from field screening activities and monitor well installations conducted as part of this assessment indicated the soil types ranging from stiff clay to fine sand. The maximum depth of the current investigation was approximately 25 feet bgs.

2.4 Site Hydrogeology

During the August 7, 1998, gauging event, liquid phase hydrocarbons (LPH) were not detected in Monitor Well MW-1. Groundwater measurements are summarized in Table I.

2.5 Soil Sampling and Analysis

During the soil boring and monitor well activities of August 4, 1998, SEI personnel collected soil samples from SB-1 and MW-1 at five feet intervals. New, disposable, latex gloves were used to maintain sample integrity during the sampling process. Immediately upon collection, the soil samples were placed in airtight plastic bags and allowed to volatilize. After volatilization, the headspace of each sample was measured with an organic vapor analyzer – flame ionization detector (OVA-FID). The sample that exhibited the highest concentration from each location was submitted for laboratory analysis. If more than one sample per location exhibited the highest concentration, the sample collected from the greatest depth per location was submitted, provided

it was obtained above the water table. The soil sample that exhibited the greatest OVA-FID reading at SB-1 was obtained from 13 to 15 feet bgs, and the soil sample that exhibited the greatest OVA-FID reading at MW-1 was obtained from 15 to 17 feet bgs. These samples were placed in laboratory supplied containers, placed on ice, and shipped via FedEx to Specialized Assays Environmental in Nashville, Tennessee for proper analysis. Proper preservation methods and chain-of-custody procedures were followed throughout the sampling process. The samples were analyzed for benzene, toluene, ethylbenzene, and xylenes (BTEX) by EPA method 8021B, and polynuclear aromatic hydrocarbons (PAH) by EPA method 8100.

2.4 Groundwater Sampling and Analysis

On August 7, 1998, SEI personnel obtained a groundwater sample from Monitor Well MW-1. A new, disposable, polyethylene bailer was used for the collection of the water sample from the well. Due to the presence of petroleum odors in the monitor well, the groundwater sample was obtained after three well volumes were purged. All purge water was drummed for proper disposal at a permitted treatment facility. New, disposable, latex gloves were used to maintain sample integrity during the sampling process. The groundwater sample was placed in laboratory supplied containers, placed on ice, and shipped via FedEx to Specialized Assays Environmental in Nashville, Tennessee for proper analysis. Proper preservation methods and chain-of-custody procedures were followed throughout the sampling process. The groundwater sample was analyzed for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene by EPA method 602 and polynuclear aromatic hydrocarbons (PAH) by EPA method 610.

3.0 LABORATORY RESULTS

3.1 Soil Sample Results

Soil analytical results for the samples collected August 4, 1998, detected BTEX concentrations in SB-1 and MW-1 sample locations. In addition, naphthalene concentrations were also detected at

SB-1. At SB-1, BTEX and naphthalene concentrations were detected greater than their respective risk based screening levels (RBSL) of 0.005 mg/kg, 0.857 mg/kg, 1.332 mg/kg, 18.6 mg/kg, and 0.075 mg/kg. These RBSLs are for clay-rich soil where the depth to groundwater from the worst case sample is 5 to 10 feet. At MW-1, BTEX concentrations were not detected greater than their respective RBSLs. Laboratory analytical results are summarized in Table III and in Figure 3. Laboratory analytical results and chain-of-custody are presented in Appendix B.

3.2 Groundwater Results

Groundwater analytical results for the sample collected August 8, 1998, detected the presence of BTEX, MTBE, and naphthalene in Monitor Well MW-1. Benzene, toluene, MTBE, and naphthalene concentrations were detected greater than their respective risk based screening levels (RBSL) of 5 µg/l, 1000 µg/l, 40 µg/l, and 10 µg/l in Monitor Well MW-1. Laboratory analytical results are summarized in Table II and in Figure 4. Laboratory analytical results and chain-of-custody are presented in Appendix C.

4.0 CONCLUSIONS

- Liquid phase hydrocarbons were not observed in Monitor Well MW-1 during the current sampling activities.
- Soil analytical results from SB-1 indicate the presence of BTEX and naphthalene greater than their respective RBSLs.
- Groundwater analytical results from Monitor Well MW-1 indicate benzene, toluene, MTBE, and naphthalene greater than their respective RBSLs.

5.0 REPORT LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the current UST system. Subsurface investigative methodologies are in accordance with all applicable state and federal regulatory requirements. The information presented in this report is based upon site specific observations, generally accepted geological practices, and analytical results for environmental samples collected at the time of the field investigation. All data is believed to represent subsurface conditions at the facility, however, data may not be completely representative of all subsurface conditions.

REFERENCES

SCDHEC, January 5, 1998, *Risk-Based Corrective Action for Petroleum Releases*, Columbia, South Carolina.

TABLES

TABLE I Groundwater Field Measurements Shop N Fill #35 / North Augusta, South Carolina				
Monitor Well Number	Gauging Date	Depth to Water (feet)	LPH Thickness (feet)	Depth of Well (feet)
MW-1	08/07/98	22.16	0	25

LPH=Liquid Phase Hydrocarbons

Table II Soil Analytical Results Shop N Fill # / North Augusta, South Carolina				
COC	RBSL[1] (mg/kg)	SB-1 (mg/kg)	RBSL[2] (mg/kg)	MW-1 (mg/kg)
Benzene	0.005	7.200	0.005	0.0021
Toluene	0.857	215.0	1.640	0.0206
Ethylbenzene	1.332	19.85	1.292	0.0013
Xylenes	18.6	75.95	42.898	0.0056
Total BTEX	NA	318	NA	0.0296
Naphthalene	0.075	0.15	0.211	<0.07
Benzo(a)anthracene	9958.5	<0.067	83.535	<0.067
Benzo(b)fluoranthene	118	<0.07	31.042	<0.07
Benzo(k)fluoranthene	31860	<0.07	267.404	<0.07
Chrysene	6.866	<0.07	13.233	<0.07
Dibenzo(a,h)anthracene	4028.511	<0.07	99.673	<0.07

[1] = RBSL for clay-rich soil where groundwater is 5-10 feet from the worst case soil sample. This RBSL applies to SB-1.
[2] = RBSL for sandy soil where groundwater is 5-10 feet from the worst case soil sample. This RBSL applies to MW-1.

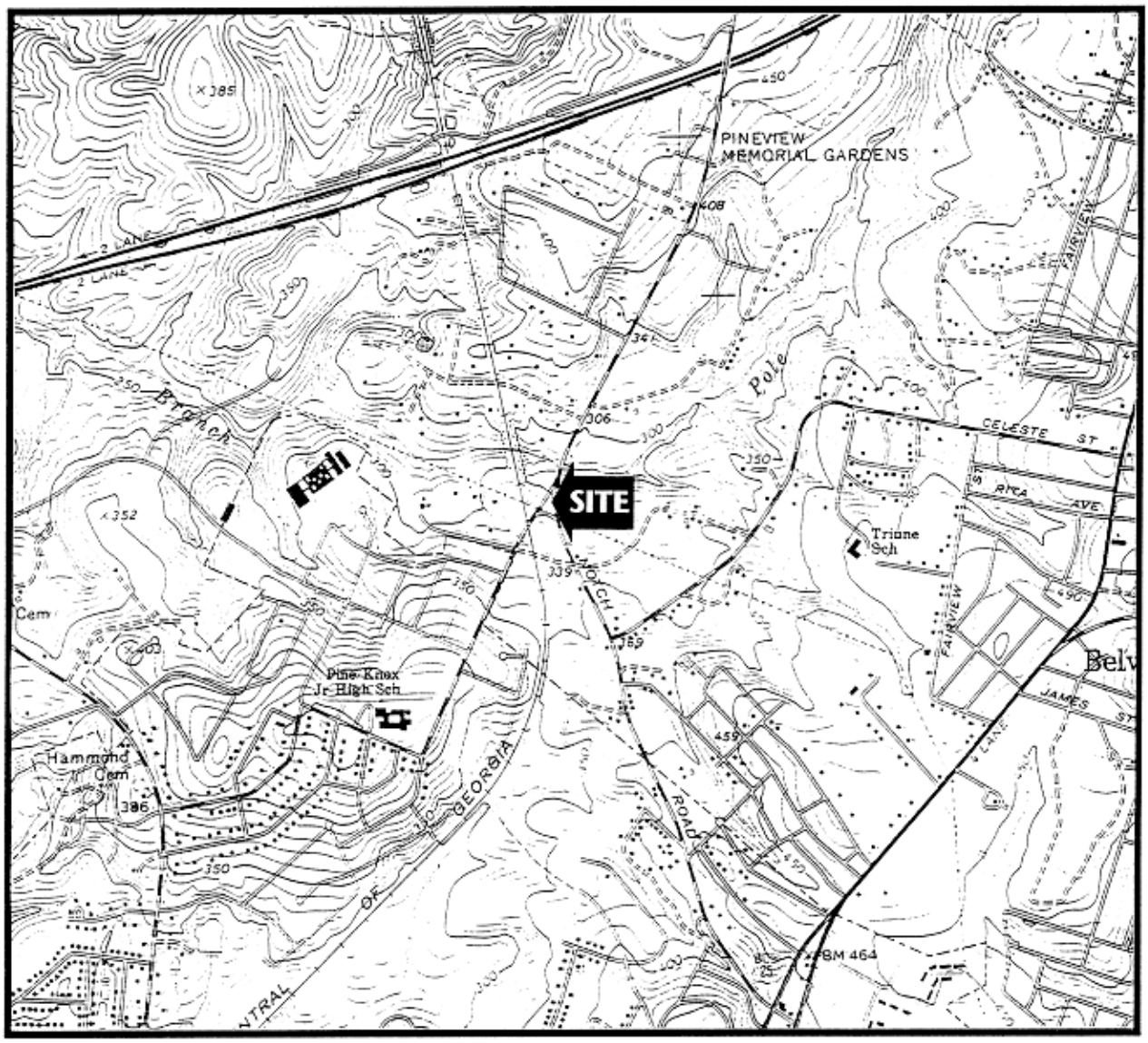
Table III Groundwater Analytical Results Shop N Fill #35 / North Augusta, South Carolina		
COC	RBSL (µg/l)	MW-1 (µg/l)
Free Product Thickness	NA	None
Benzene	5	178
Toluene	1000	1030
Ethylbenzene	700	149
Xylenes	10000	453
Total BTEX	NA	1810
MTBE	40	185
Naphthalene	10	282
Benzo(a)anthracene	10	<5.0
Benzo(b)fluoranthene	10	<5.0
Benzo(k)fluoranthene	10	<5.0
Chrysene	10	<5.0
Dibenzo(a,h)anthracene	10	<5.0

NA = Not Applicable

FIGURES

7.5 MINUTE SERIES(TOPOGRAPHIC)

NORTH AUGUSTA QUADRANGLE



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

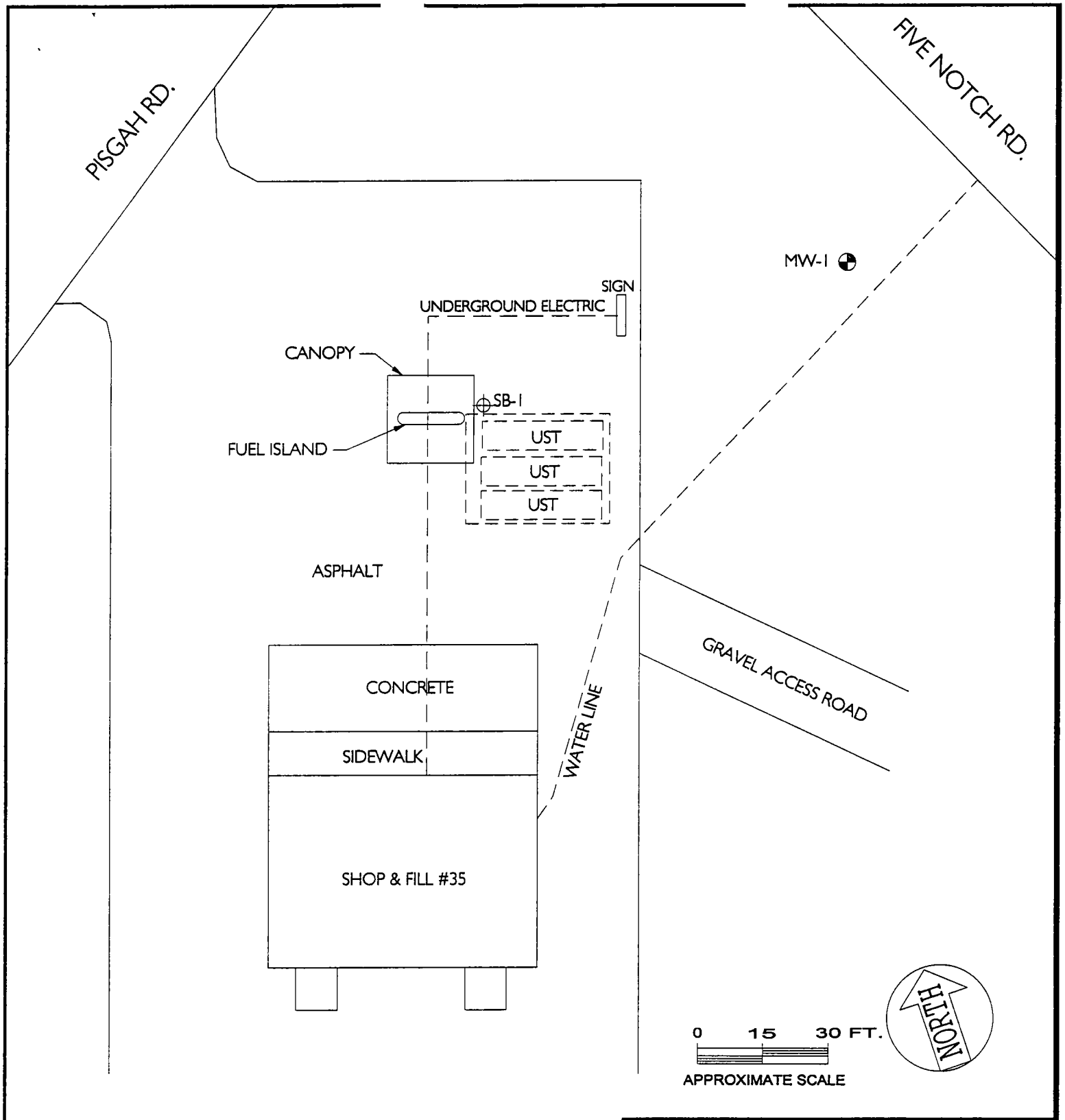
1 .5 0 1 KILOMETER

NORTH

SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP
SHOP N FILL #35
2031 PISGAH RD.
NORTH AUGUSTA, GA

WO# 397-049 DWG #	DATE: 8/19/98 DRAWN BY: JCI



LEGEND:

- MONITORING WELL
- SOIL BORING

SEI Environmental, Inc.

FIGURE 2: SITE MAP
SHOP N FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, GA

WO #397-049	DATE: 8/13/98
DWG #SF0049F2	DRAWN BY: JCJ

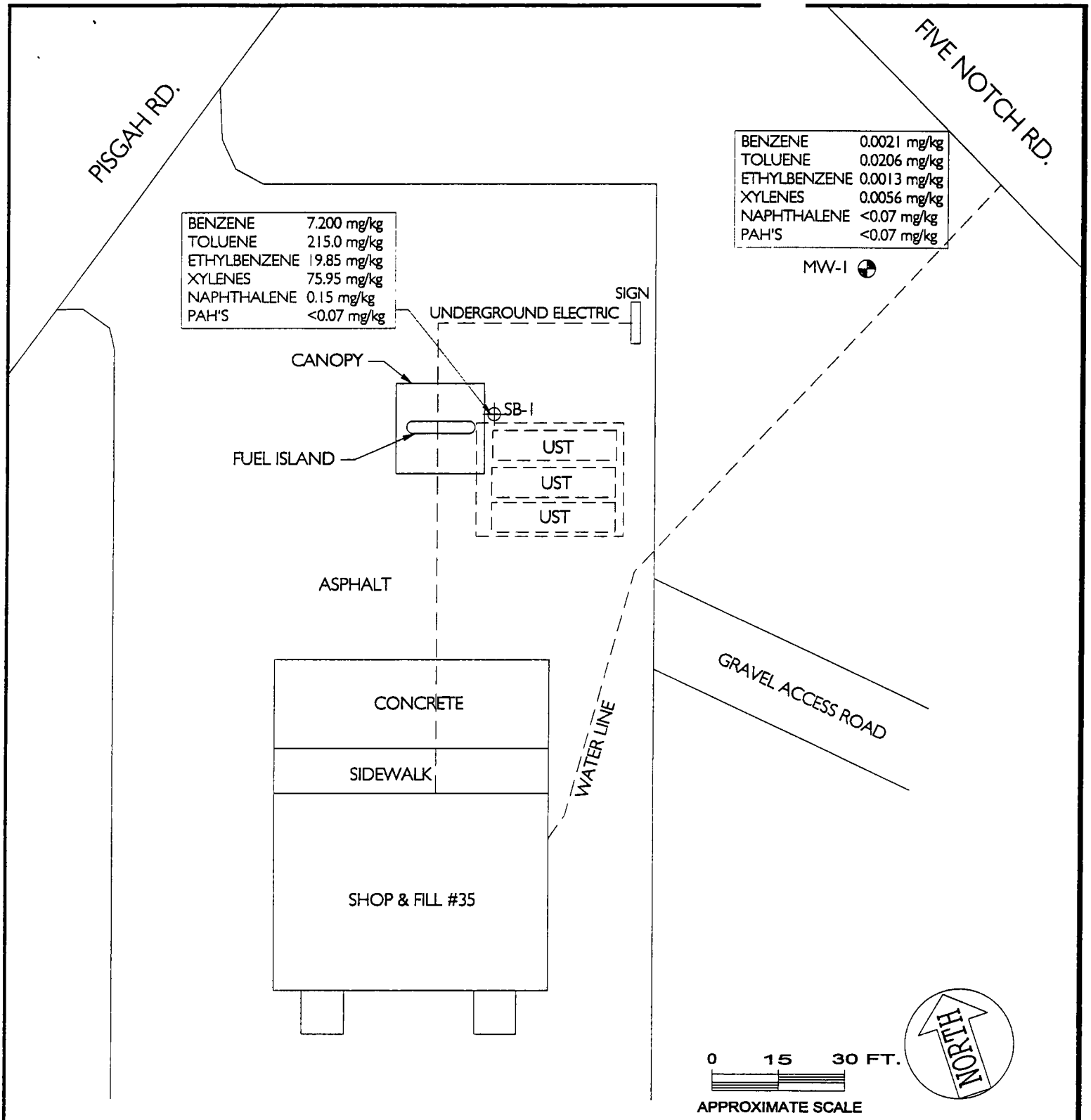
Boring Log and Type II Well Construction Details

SOIL BORING I.D.: SB-1 DATE DRILLED: 8/4/98
STATE PERMIT #: WORK ORDER #: 397-049
PROJECT NAME: SHOP N FILL #35
SITE ADDRESS: 2031 PISGAH RD., NORTH AUGUSTA, SC
LATITUDE: N/D LONGITUDE: N/D
TOP OF CASING ELEV.: N/D LAND SURFACE ELEV.: N/D

DEPTH	SAMPLE NUMBER	BLOW COUNT	RECOVERY	OVA (ppm)	UNIFIED METHOD	DESCRIPTIVE LOG
0						ASPHALT
0.3		N/D	N/D	N/D	CL	DUSKY ORANGE CLAY, HARD, DRY; TRACE TO COMMON COARSE TO VERY FINE SAND
3		7,11,15,17	24/24	>1000	CL	MODERATE ORANGE CLAY, HARD, DAMP; COMMON TO ABUNDANT MEDIUM TO VERY FINE SAND; TRACE COARSE SAND; TRACE PALE GRAY MOTTLED
10		5,6,10,11	24/24	>1000	CL	MODERATE ORANGE CLAY, DAMP, STIFF; TRACE MICA; COMMON TO ABUNDANT COARSE SAND; TRACE DUSKY RED-ORANGE MOTTLED; TRACE PALE ORANGE MOTTLED
13		6,10,15,12	24/24	>1000	CL	PALE GRAY CLAY, DAMP, STIFF; TRACE TO COMMON MEDIUM TO VERY FINE SAND; TRACE TO COMMON VERY COARSE SAND; TRACE PALE ORANGE MOTTLED; TRACE DUSKY ORANGE MOTTLED

DRILLING METHOD: 2-1/4" HOLLOW STEM AUGER
SAMPLING METHOD: SPLIT SPOON
GRAVEL PACK SIZE: #1A
SLOT SIZE: 0.010"
COMMENTS:

N/D = NOT DETERMINED



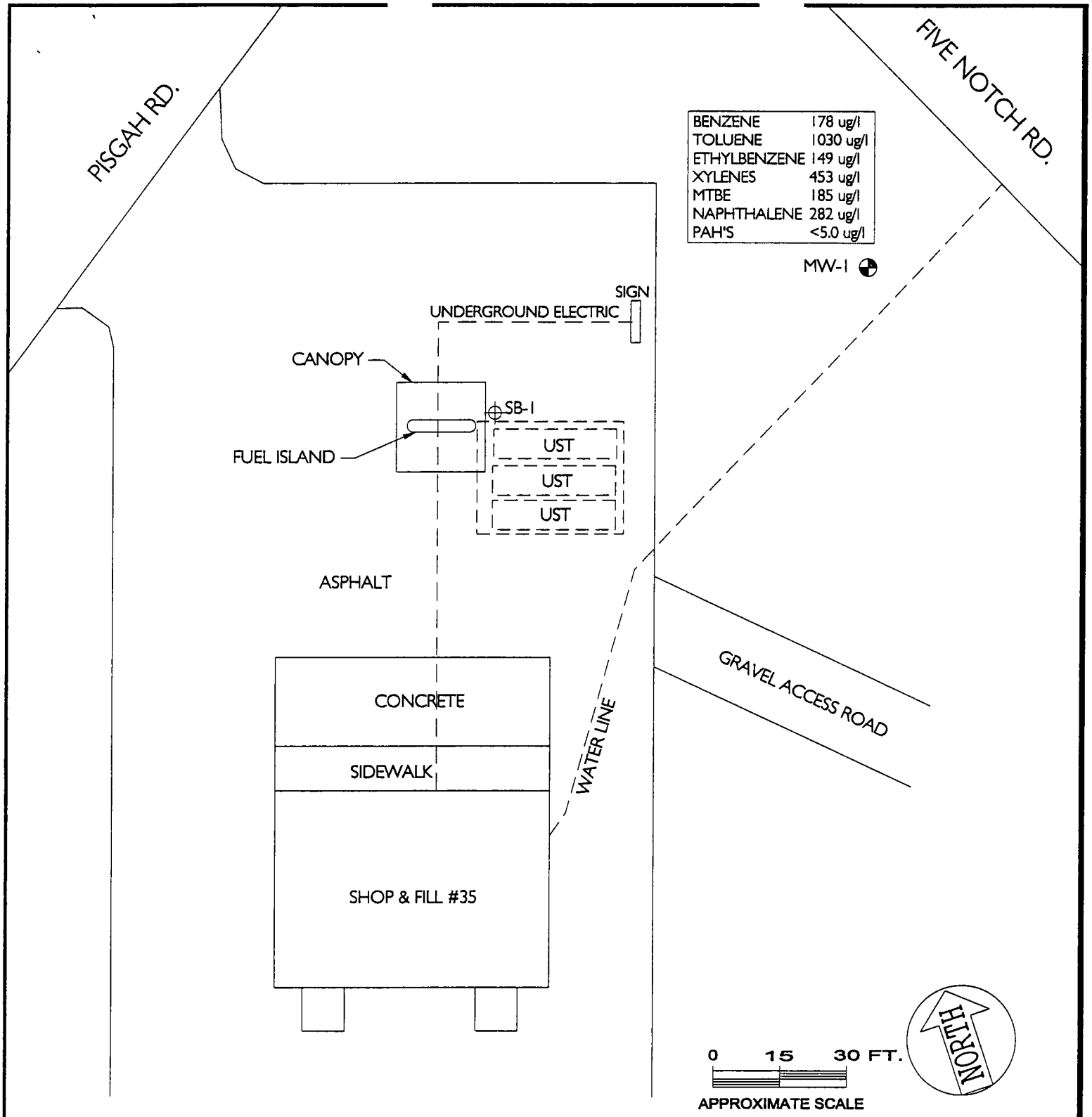
LEGEND:

- MONITORING WELL
- SOIL BORING

SEI Environmental, Inc.

FIGURE 3: SOIL ANALYTICAL RESULTS
SHOP N FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, GA

WO #397-049	DATE: 8/13/98
DWG #SF0049F3	DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- SOIL BORING

SEI Environmental, Inc.

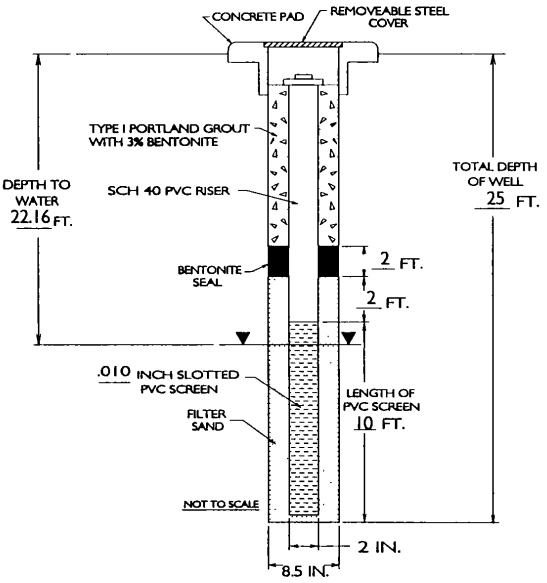
FIGURE 4: GROUNDWATER ANALYTICAL RESULTS
SHOP N FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, GA

WO #397-049	DATE: 8/13/98
DWG #SF0049F4	DRAWN BY: JCJ

APPENDIX A

Boring Log and Type II Well Construction Details

WELL IDENTIFICATION: MW-1 DATE DRILLED: 8/4/98
STATE PERMIT #: WORK ORDER #: 397-049
PROJECT NAME: SHOP N FILL #35
SITE ADDRESS: 2031 PISGAH RD., NORTH AUGUSTA, SC
LATITUDE: N/D LONGITUDE: N/D
TOP OF CASING ELEV.: N/D LAND SURFACE ELEV.: N/D



DRILLING METHOD: 2-1/4" HOLLOW STEM AUGER
SAMPLING METHOD: SPLIT SPOON
GRAVEL PACK SIZE: #1A
SLOT SIZE: 0.010"
COMMENTS:

N/D = NOT DETERMINED

DEPTH	SAMPLE NUMBER	BLOW COUNT	RECOV-ERY	OVA (ppm)	UNIFIED METHOD	DESCRIPTIVE LOG
0		N/D	N/D	N/D	CL	MODERATE ORANGE CLAY, HARD, DRY; TRACE TO COMMON MEDIUM TO VERY FINE SAND
3		N/D	N/D	N/D	CL	DUSKY ORANGE CLAY, HARD, DRY; TRACE TO COMMON COARSE TO VERY FINE SAND
5		7,8,12,15	24/24	400	CL	DUSKY ORANGE CLAY, HARD, DRY; TRACE TO COMMON COARSE TO VERY FINE SAND; TRACE PALE ORANGE MOTTLED
10		6,13,18,21	24/24	>1000	SC	PALE ORANGE SAND, VERY COARSE TO VERY FINE, SUB-ROUNDED TO SUB-ANGULAR; TRACE TO COMMON CLAY; TRACE WHITE MOTTLED; TRACE RED-ORANGE MOTTLED
15		6,10,12,14	24/24	>1000	SC	PALE WHITE SAND, VERY COARSE TO VERY FINE, SUB-ROUNDED TO SUB-ANGULAR; COMMON CLAY; TRACE 8mm SUB-ROUNDED CLEAR QUARTZ; TRACE DUSKY RED MOTTLED
25		N/D	N/D	N/D	SC	PALE WHITE SAND, VERY COARSE TO VERY FINE, SUB-ROUNDED TO SUB-ANGULAR; COMMON CLAY; TRACE 8mm SUB-ROUNDED CLEAR QUARTZ; TRACE DUSKY RED MOTTLED

APPENDIX B

SPECIALIZED ASSAYS
ENVIRONMENTAL

7A- 026689

2960 Foster Creighton Drive
Nashville, TN 37204
615-726-0177, 800-765-0980
FAX 615/726-3404

REFERRING CLIENT

Account: 6489
SEI Environmental, Inc.
Fred Lyke
3021 McNaughton Drive Suite 9
Columbia, SC 29223
Ph: 803-788-2535 Fax: 803-735-8663

Specialized Assays: (800) 765-0980

LLING CONTROL NUMBER (FOR LAB USE ONLY): 108986

PROJECT #: 197-049

P.O. #:

MPLERS (Signature-Please Print): Wayne A. Padolin

PROJECT NAME: Shop + Fill 35

FOR LAB USE ONLY ACC#	SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	# OF CONT	ANALYSIS REQUESTED
91603	MW-1 15'-17'	8/4	0928		X	2	8100 PAH 8020 BTEX
91603	MW-1 15'-17'	8/4	0928		X	2	ENCORES 5035 BTEX
91604	SB-1 13'-15'	8/4	1120		X	2	8100 pah 8020 BTEX
91604	SB-1 13'-15'	8/4	1120		X	2	ENCORES 5035 BTEX

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Received for Laboratory by:	Date / Time
[signature]	8/4 1730		[signature]	8598 900
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Remarks: * BOB BOLTON FROM OFFICE WILL CALL REGARDING BTEX ANALYSIS UP 4°C HOT SOIL	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	SAI Project #:	

For further assistance in completing the chain of custody form please refer to the instructions found on the opposite sid

APPENDIX C

SPECIALIZED ASSAYS
ENVIRONMENTAL

RECEIVED AUG 2 4 1998 7A- 028643

2960 Foster Creighton Drive
Nashville, TN 37204
615-726-0177, 800-765-0980
FAX 615/726-3404

Specialized Assays: (800) 765-0980

REFERRING CLIENT

Account: 6489
SEI Environmental, Inc.
Fred Lyke
3021 McNaughton Drive Suite 9
Columbia, SC 29223
Ph: 803-788-2535 Fax: 803-735-8663

LLING CONTROL NUMBER (FOR LAB USE ONLY): 109429

PROJECT #: 398138

P.O. #:

AMPLERS (Signature-Please Print): Albert McNab ALBERT McNAB

PROJECT NAME: SHOP & FILL #35

FOR LAB USE ONLY ACC#	SAMPLE DESCRIPTION	DATE	TIME	COMP	GRAB	# OF CONT	ANALYSIS REQUESTED
93492	MW-1	08/07/98	11:42		X	3	BTEX+NAPH+MTBE 602 PAH 610

Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Received for Laboratory by:	Date / Time
Albert McNab	08/07 12:00		M. Beasley	8/8/98 9:00
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	Remarks: Report to Bob Bolton 4°C	
Relinquished by: (Signature)	Date / Time	Received by: (Signature)		
Relinquished by: (Signature)	Date / Time	Received by: (Signature)	SAI Project #:	

For further assistance in completing the chain of custody form please refer to the instructions found on the opposite sid

APPENDIX D

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. GK1221

2. Page 1 of 08/07/98

3. Generator's Name and Mailing Address
SEI ENVIRONMENTAL
3021 MCNAUGHTON DR
COLUMBIA, SC 29223

4. Generator's Phone (803-) 788-3535

5. Transporter 1 Company Name
SEI ENVIRONMENTAL

6. US EPA ID Number

A. Transporter's Phone
803-788-2535

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address
G&K TANK SERVICES, INC
5070 BROAD ST EXT
SUMTER, SC 29154

10. US EPA ID Number

C. Facility's Phone
803-494-4593

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL	2	DR	110	G
b. NON-HAZARDOUS PETROLEUM CONTAMINATED SOIL	1	DR	55	G
c. NON-HAZARDOUS PETROLEUM CONTAMINATED WATER	1	DR	55	G
d. NON-HAZARDOUS BOOMS FROM PETROLEUM SPILL	1	DR	55	G

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

11. a. THE HONEY BEAR, LATTA SC 398-054
11. b. & c. S&F 35 N. AUGUSTA, SC 197-049
11. d. SOCASTEE, SOCASTEE, SC 197-446
11.

16. **GENERATOR'S CERTIFICATION:** I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name: FRANCIS J. FOX
Signature: [signature]
Month 08 Day 07 Year 98

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: FRANCIS J. FOX
Signature: [signature]
Month 08 Day 07 Year 98

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name
Signature
Month Day Year

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in Item 19.

Printed/Typed Name: Lee BLACKMON
Signature: Lee Blackmon
Month 08 Day 07 Year 98

GENERATOR

TRANSPORTER

FACILITY

ORIGINAL - RETURN TO GENERATOR

G & K
TANK SERVICES, INC.

Broad St. Extension • PO Box 1384 • Sumter, SC 29151
(803) 494-2694 • 1-800-800-6840 • FAX: (803) 494-8598

Certificate of Disposal

Tank # 1) ONE SOIL
1) ONE WATER
S&F 35 N. AUGUSTA, SC
197-049

Size 55 GALLON
55 GALLON

This is to certify that the above tank has been disposed of by G&K Tank Services, Inc., in accordance with and exceeding EPA regulations on Petroleum Tank Disposal.

Certified by Thomas D. Kelly

Date AUGUST 7, 1998

AMOCO
Products Jobber

JACKSON PETROLEUM CO., INC.
SHOP-N-FILL STORES

W.C. JACKSON, III
President and Treasurer

VIRGINIA J. STAPLETON
Vice President and Secretary

RECEIVED
JUN 0 4 1999
DIVISION OF UNDERGROUND

June 4, 1999

Ms. Bette McKenney, Manager
Enforcement Section
SCDHEC
2600 Bull St.
Columbia, SC 29201-1708

FAX AND MAIL

Ref.: Shop-N-Fill #55 Site ID # 00164, Cost Proposal # 07941 for IGWA
Shop-N-Fill #45 Site ID # 00100, Cost Proposal # 07962 for IGWA
Shop-N-Fill #35 Site ID # 00120, Release #1, Rapid Assessment Plan

Dear Bette:

Please be advised that Jackson Petroleum Co., Inc. has contracted with NESCO to perform the above three actions. I will provide more information next week when it becomes available to me about scheduling.

Also, for the Department's information, we received the letter about Shop-n-Fill #35 on May 25.

If you have questions or need additional information, please give me a call.

Yours very truly,

William C. Jackson, III
President

PROGRAM
ETING # 64 Tech

P.O. BOX 861 • AIKEN, SC 29802 • PHONE: 803-648-0763

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4339 Fax (803) 898-4330

JUL 13 1999

Jackson Petroleum
Mr. W. C. Jackson, Jr.
P. O. Box 861
Aiken, SC 29802-0861

Re: Shop-N-Fill #35
UST Permit #00120, Cost Proposal #08372 Release #1
Rapid Assessment Plan received June 15, 1999
Aiken County

Dear Mr. Jackson:

The Division of Underground Storage Tank Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the Assessment Plan and the Cost Proposal. Rehabilitation activities at the site should be resumed immediately upon receipt of this letter. Characterization of all exposure points should be completed using field screening points. Based on the field screening results, monitoring wells should be installed in appropriate locations to monitor the migration of chemicals of concern (COC) along these pathways and for rehabilitation. Please contact the Department prior to well installation for concurrence regarding the final well locations.

According to our records, the release was reported to the SCDHEC subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(B) of the Act, you are responsible for the first $25,000 for site rehabilitation. To insure that any expenditures you make apply to this $25,000 deductible, it is prudent for this agency to pre-approve such costs along with your technical plan of action. By law, the SUPERB account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the $25,000 deductible can be compensated from the SUPERB Account.

The Cost Agreement is approved up to the amount of the enclosed cost agreement form. This includes the adjustment of the following rates and/or site rehabilitation activities proposed in the cost proposal to ensure compliance with current SUPERB program criteria per Section 44-2-20(2):

- Item 4 B: Personnel Mob/demob have been decreased from seven to five.
- Item 16: Subsequent survey has been denied, this task can be completed with the comprehensive survey.

The Division grants preapproval for transportation of virgin petroleum contaminated soil, ten drums, and wastewater, one drums, from the referenced site to a permitted treatment facility. The contaminated soil or groundwater must be properly stored in labeled containers or covered with plastic as appropriate. The contaminated soil and/or ground water must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below risk-based screening levels, please contact the project manager for approval to dispose of soil and/or ground water on site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or ground water.

PROGRAM
TING # 65 Tech

SCDHEC/UST/SLFS/CJW/990615

All applicable S.C. certification requirements apply to the laboratory services, well installation and report preparation. All rehabilitation activities associated with a UST release must be performed by a SCDHEC certified Class I site rehabilitation contractor as required by R.61-98. A Assessment Report, as outlined in the Rapid Assessment document and associated invoice (form enclosed) should be submitted **within 90 days of the date of this correspondence.** If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available. Please note that payment from the SUPERB account will be made upon review of the report and confirmation that all work performed was technically justified.

On all correspondence regarding this site, please reference **UST Permit #00120 and CP #08372.** If you have any questions concerning this correspondence, please contact Chuck Williams at 803-898-4339 or 1 (800) 826-5435 (within South Carolina).

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Charles J. Williams, III, Hydrologist

Christopher S. Doll, P.G., Manager

enc: Approved Assessment Component Cost Proposal w/ Assessment Component Invoice Form
Monitoring Well Approval

cc: Financial Section (w/ AACCP and ACIF)
Technical File (w/Copy of Monitoring Well Approval)
NESCO, 1941 Decker Blvd., Columbia, SC 29206(w/Org. MWA and copy of enc.)

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PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: June 15, 1999 Approval No.: 11600

Approval is hereby granted to: NESCO
UST Permit #: 00120
County: Aiken

This approval is for the construction of seven Type II, one Type III monitoring well(s) and 240 feet of temporary wells in accordance with the South Carolina Well Standards and Regulations. The well(s) are to be constructed within the shallow aquifer for the intended purpose of monitoring ground-water quality and/or water level(s) at the referenced facility. Approval is provided with the following conditions:

1. The latitude and longitude, surveyed elevations, boring and/or geologist logs and actual (as built)construction details for each well will be submitted with the technical report.

2. Each well will be labeled with an identification plate constructed of a durable material affixed to the casing or surface pad where it is readily visible. The plate will provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Well construction and sampling derived waste including, but not necessarily limited to, drill cuttings, drilling fluids, development and purge water should be managed properly and in compliance with applicable requirements. If containerized, each vessel should be clearly labeled with regard to contents, source, and date of activity.

4. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to Chuck Williams at (803) 898-4339 or Williacj@columb26.dhec.state.sc.us.

5. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) and associated measurements (i.e., in-situ field measurements) to me with the technical report.
6. Monitoring wells will be installed by or under the direct supervision of a licensed well driller certified by the State of South Carolina.

7. Monitoring wells will be abandoned, when no longer required, by or under the direct supervision of a licensed well driller certified by the State of South Carolina.

This approval is pursuant to the provisions of Section 44-55-40 of the 1976 South Carolina Code of Laws and the Department of Health and Environmental Control Regulations R.61-71. Please remember to have a copy of this approval on the site during well installation.

Approved by: _____
Charles J. Williams, III, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of UST Management

cc: Lower Savannah District EQC
Mr. W. C. Jackson, Jr., P. O. Box 861, Aiken, SC 29802-0861
Technical File

NATIONAL
ENVIRONMENTAL
SERVICE COMPANY

NESCO

For Practical Solutions

RAPID ASSESSMENT REPORT

FORMER SHOP-N-FILL #35

North Augusta, South Carolina

February 2000

SCDHEC Site ID No. 00120

NESCO Report No. 21-439/1

UST PROGRAM
DOCKETING # 66 Tech

RAPID ASSESSMENT REPORT

FORMER SHOP-N-FILL #35
2031 Pisgah Road
North Augusta, South Carolina
GWPD Site No.: 00120

February 24, 2000

RECEIVED

FEB 2 8 2000

Bureau of Underground
Storage Tank Management

Prepared by:

NESCO
For Practical Solutions.

521 Clemson Road
Columbia, South Carolina 29229

NESCO Project No.: 21-439c

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1 INTRODUCTION

This report presents the findings of a Rapid Assessment (RA) of soil and groundwater contamination at the Former Shop-N-Fill site located in Aiken County, North Augusta, SC, (GWPD Site No.: 00120).

Site Address:

Shop-N-Fill #35
2031 Pisgah Road
North Augusta, SC 29841

Responsible Party:

Jackson Petroleum
P.O. Box 861
Aiken, SC 29802-0861
Contact: Mr. W.C. Jackson, Jr.

This assessment was conducted by:
NESCO
521 Clemson Road
Columbia, SC 29229
Phone: 803-699-1976

The RA Work Plan and Cost Proposal were approved in correspondence from SCDHEC Bureau of UST Management to Mr. W.C. Jackson, Jr. dated July 13, 1999.

The site is located (within the city limits) at the intersection of Pisgah Road and Two Notch Road in Aiken County, North Augusta, SC. The site currently operates as a convenience store/gasoline retailer. The site topographic map is depicted in Figure 1 and a site map displaying field screening locations, monitor well locations, and surrounding property uses is displayed as Figure 2.

1.1 Regional Geology & Hydrogeology

The former Shop-N-Fill #35 site is located in the Upper Coastal Plain Physiographic Province of South Carolina. This area consists of unconsolidated deposits of sand, silt, and clay deposited in an upper delta plain depositional environment.

From information derived from the USGS North Augusta Quadrangle 7.5 Minute Series Topographic Map, the site tends to slope to the southeast with an elevation of approximately 300 feet above Mean Sea Level (MSL).

1.2 Receptor Survey

To evaluate the potential for exposure of the surrounding population and environment to CoC, a receptor survey was conducted for the site and surrounding properties within a 1,000 foot radius of the area of investigation. The scope of the survey is provided in the table below:

RECEPTOR	AREA OF SEARCH RADIUS
wells (drinking and non-drinking water wells)	1000 feet
surface waters (potential wetlands, creeks, streams, etc.,)	500 feet
basements (residential and non-residential structures)	500 feet
underground utilities (water, sewer, telephone, electric, etc.,)	250 feet

Two potential receptors were noted within the search radius of the site. There are two water wells located approximately 500 feet west of the former tank bed. A storm drain is located approximately 100 feet east of the former tank bed. There is also an unnamed stream located approximately 400 feet north of the former tank bed.

Groundwater beneath the site appears to flow in a predominately northerly direction.

The depth to utility line trenches range from 3 to 6 feet bls. The depth to groundwater during the RA sampling events revealed that groundwater is located between 20 and 25 feet bls on the Shop-N-Fill site. Depth to water off site ranged from 6 feet to 12 feet. Therefore, the utility trenches are not considered to be potential receptors at the Former Shop-N-Fill #35 site.

The storm drain to the northeast of the worst case well (MW-1) is also not considered a receptor due to the depth to ground water in its vicinity. The storm drain 350 feet north of the worst case well (MW-1) is the nearest receptor. The depth to ground water in this are is 6 feet to 12 feet.

2 ASSESSMENT INFORMATION

2.1 Site Specific Geology and Hydrogeology

The Former Shop-N-Fill #35 site is located in the Upper Coastal Plain Physiographic Province of South Carolina. The geology is similar across the site and consists of unconsolidated deposits of sand, silt, and clay existing in a weathered environment. The surficial soil is a medium to coarse grained, poorly sorted silty sand to an approximate depth of 10 feet. A medium to coarse grained, poorly sorted sand with kaolin and quartz is present from 10 to 20 feet. Soil boring logs are provided in Appendix B. Well construction logs are provided in Appendix C.

2.2 Site Assessment Activities and Results

Assessment activities began on August 25, 1999 and concluded on February 3, 2000. During this period, NESCO personnel drilled eight soil borings and eleven field screening borings, gauged the depth to groundwater in all permanent groundwater monitoring wells, installed eight shallow wells, installed one deep well, collected groundwater samples, performed slug tests, and conducted an intensive receptor survey.

2.2.1 Soil Assessment

Eight geoprobe soil borings and eleven field screening points were installed across the site in order to determine the potential extent of CoC. Four foot continuous soil samples were taken from each soil boring and were screened utilizing an organic vapor analyzer (OVA). Soil samples were collected from the vadose zone at boring termination and were submitted to a South Carolina certified laboratory for analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), and naphthalene by EPA method 8260, and polynuclear aromatic hydrocarbons (PAHs) by EPA method 8270. Soil samples for laboratory analysis were collected from each of the eight soil borings as follows; SB-1 at 20'-25', SB-2 at 21'-25', SB-3 at 8'-10', SB-4 at 12'-14', SB-5 at 12'-14', SB-6 at 8'-10', SB7 at 8'-10', and SB-8 at 12'-14'. Soil boring and field screening logs with soil screening results are included in Appendix B. Table 1 summarizes the soil analytical data. Figure 3.0 displays the location of the soil borings and field screening locations. Figure 4.0 depicts the distribution of CoC in the soil.

2.2.2 Monitoring Well Installation, Sampling and Testing

Eight shallow monitoring wells (MW-2 through MW-9) and one deep (pit case) monitoring well (PCW-1) were drilled to assess the extent of horizontal and vertical contamination. Monitor well construction diagrams are located in Appendix B.

The groundwater elevations in the ten monitoring wells present on site were measured on February 3, 2000. These elevations are shown in Table 2 and Figure 5.

The monitoring wells were sampled between September 21, 1999 and February 3, 2000. Prior to sampling, all wells were purged by comparing pH, conductivity, and temperature, until stabilization. Samples were immediately packed in crushed ice following collection. A Chain of Custody / Work Request was completed prior to offsite sample removal. All groundwater samples were transported to Test America, Inc.

The laboratory analytical results from the sampling events indicated the presence of benzene, toluene, ethylbenzene. xylenes, naphthalene, MTBE, and EDB in concentrations above the applicable RBSL / MCL in the shallow aquifer beneath the site. Total lead was detected in the groundwater samples from wells MW-3 (0.013 mg/l), MW-8 (0.14 mg/l), and MW-9 (0.06 mg/l). The lead concentrations in the samples from MW-8 and MW-9 are above the RSBL of 0.015 mg/l. However, the groundwater samples collected from these wells were highly turbid and silty. Therefore, lead concentrations detected in the groundwater samples from these wells are likely not a representation of groundwater quality. A summary of groundwater analytical results is displayed as Table 3 and Figure 6. Hydrocarbon specific plume maps are displayed as Figures 7 through 13. A free product thickness of 0.59 feet and 0.27 feet was measured in monitor well MW-1 on January 6, 2000 and February 3, 2000; respectively.

FORMER SHOP-N-FILL #35 (GWPD #00120)									
Sample Location	SB-1	SB-2	SB-3	SB-4	SB-5	SB-6	SB-7	SB-8	RBSL
Sample Date	8/30/99	8/30/99	8/30/99	8/30/99	8/30/99	8/30/99	8/30/99	8/30/99	
Depth of Sample (ft)	20-22	20-22	8-10	12-14	12-14	8-10	8-10	12-14	
Benzene (ug/kg)	<7.7	<7.0	<6.3	**20**	**10**	<7.3	**6100**	<9.2	7
Toluene (ug/kg)	<7.7	<7.0	<6.3	110	330	75	**550000**	79	1700
Ethylbenzene (ug/kg)	<7.7	<7.0	<6.3	<8.2	6.8	<7.3	**43000**	<9.2	1500
Xylenes (ug/kg)	<7.7	<7.0	<6.3	<8.2	35	16	**200000**	20	44000
Total BTEX (ug/kg)	BDL	BDL	BDL	130	381.8	91	799100	99	
PAH (ug/kg)	<360	<440	<380	<410	<440	<360	17000	<370	
Naphthalene (ug/kg)	<7.7	<7.0	<6.3	<8.2	5.7	<7.3	**34000**	13	200
TPH (ug/kg)	NA	NA	NA	NA	NA	NA	420000	NA	
TOC (ug/kg)	NA	<13	NA	NA	NA	NA	NA	NA	

Table 1: SOIL QUAILTY DATA

Notes: NA - Not Analyzed

· Contaminant concentration levels represented in **BOLD** denote an exceedence of the RSBL

Former Shop-N-Fill #35 (GWPD #00120)						
STATION	DATE MEASURED	TOC ELEVATION (Feet)	SCREEN INTERVAL (Feet)	DEPTH TO WATER (Feet)	GW ELEVATION (Feet)	HYDRAULIC CONDUCTIVITY (cm/sec)
MW-1	2/3/00	98.62	15'-25'	23.32'	75.29'	
MW-2	2/3/00	103.11	17'-27'	24.75'	78.36'	
MW-3	2/3/00	99.87	17'-27'	23.22'	76.65'	2.6×10^{-4}
MW-4	2/3/00	100.56	17'-27'	22.85'	77.71'	
MW-5	2/3/00	85.96	10'-20'	12.15'	73.81'	
MW-6	2/3/00	83.85	9'-19'	12.10'	71.75'	4.8×10^{-5}
MW-7	2/3/00	91.22	10'-20'	17.18'	74.04'	
MW-8	2/3/00	71.78	5'-15'	6.62'	65.16'	
MW-9	2/3/00	87.18	10'-20'	13.77'	73.41'	
PCW-1	2/3/00	98.91	36'-46'	23.61'	75.3'	1.0×10^{-3}

Table 2: SUMMARY OF GROUNDWATER ELEVATIONS AND HYDRAULIC CONDUCTIVITIES

Notes: NM - Not Measured

MW-1 contained free product during measurement

Former Shop-N-Fill #35 (GWPD Site No.: 00120)

Sample Location:	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	PCW-1	Stream	RBSL
Sample Date:	9/21/99	9/21/99	9/21/99	9/21/99	1/6/00	1/6/00	1/6/00	2/3/00	2/3/00	9/21/99	2/3/00	
Benzene	NA	BDL	BDL	BDL	BDL	**38**	**475**	4.3	BDL	BDL	BDL	5
Toluene	NA	BDL	2.0	BDL	BDL	**2230**	**6650**	BDL	BDL	BDL	2.3	1,000
Ethylbenzene	NA	BDL	BDL	BDL	BDL	386	205	BDL	BDL	BDL	BDL	700
Xylenes	NA	BDL	BDL	BDL	BDL	2351	895	6.2	BDL	BDL	BDL	10,000
Total BTEX	NA	BDL	2.0	BDL	BDL	5005	8225	10.5	BDL	BDL	2.3	N/A
Naphthalene	NA	BDL	BDL	BDL	BDL	**182**	**44.1**	8.1	BDL	BDL	BDL	25
PAHs	NA	BDL	BDL	BDL	BDL	99	12	BDL	BDL	BDL	NS	N/A
Trimethylbenzene	NA	BDL	BDL	BDL	BDL	840	294.8	6.9	BDL	BDL	NS	N/A
MTBE	NA	BDL	BDL	BDL	BDL	**48**	**3740**	BDL	BDL	BDL	BDL	40
EDB	NA	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	0.05
Lead (mg/L)	NA	BDL	0.013	BDL	BDL	BDL	BDL	**.14**	**.06**	BDL	NS	.015

NOTES:

All concentrations reported in parts per billion (ppb), with the exception of Lead, Iron, Nitrate, Sulfate, and Methane concentrations reported in parts per million (ppm).
BDL - Not Detected (below laboratory minimum detection limits)
NA – Not Analyzed

Nutrient Data

Sample Location:	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	PCW-1
Dissolved Oxygen	NA	NA	5.9	8.6	7.5	5.78	2.7	2.1	2.4	5.7
Nitrate	NA	1.69	1.63	1.54	1.61	BDL	BDL	0.40	0.83	1.94
Sulfate	NA	BDL	BDL	BDL	2.30	BDL	BDL	2.30	6.70	20.2
Iron	NA	4.40	2.20	0.75	0.19	9.30	44.9	36.7	84.5	.65
Methane	NA	BDL	BDL	BDL	BDL	36.0	BDL	484	BDL	BDL

Table 3: GROUNDWATER QUALITY DATA

2.2.3 Aquifer Evaluation

Three independent slug tests were conducted at the site (during the RA field effort) to determine the hydraulic characteristics of the shallow aquifer. Slug tests were performed on MW-6, MW-3, and PCW-1 (Telescoping well). The groundwater elevation at each well location was gauged with an electronic water level indicator probe and compared to the surveyed top of casing. The slug tests were performed by rapidly removing a double bailer of water and measuring the resultant stress (rise vs. time) on the aquifer with an electronic water level indicator and a stopwatch. Slug test data were analyzed using the modified Bouwer and Rice Methodology (1989). The results of all of the slug tests are summarized in Table 2 and indicate that the average permeability (hydraulic conductivity) of the surficial aquifer is 0.4 ft/day or 1.54×10^{-4} cm/sec. The hydraulic conductivity of the deeper surficial aquifer was determined to be 2.8 ft/day or 1×10^{-3} cm/sec.

$$V = (i \times K)/n_e$$

Groundwater velocity was determined by using the average of the shallow hydraulic conductivity (K) values at 0.4 ft/day. A value of 0.25 was used for the effective porosity (n_e) and was determined as an estimate for sandy silts. The hydraulic gradient (i) was measured as 0.018 ft/ft. Therefore, the average groundwater velocity near the plume is calculated to be 0.029 ft/day or 10.59 feet/year. Slug test data and analyses are located in Appendix D.

A potentiometric surface map (see Figure 5) was generated and the groundwater flow direction was estimated. Groundwater flow within the surficial aquifer appears to be generally toward the north/northeast.

2.3 Fate and Transport Modeling

The basis for discussion about the present contaminant plume is the EPA developed program called BIOSCREEN Natural Attenuation Decision Support System (1996). It is used in concert with Environmental Degradation Rates by Howard et. al. (1991) to quantify potential reductions in CoC levels for the site. The modeling effort was performed to estimate the predicted horizontal, down gradient extent of the identified CoC. Six separate CoC were identified during this assessment and their migration was subsequently modeled. The CoC are benzene, toluene, ethylbenzene, total xylenes, naphthalene, and MTBE.

The modeling was conducted using the following assumptions: (1) the modeled area length is the distance from the worst case well to the nearest receptor, the storm drain (360 feet north), (2) MW-1 was used as the source of the release, due to the free phase gasoline within this well; (3) the hydrogeology is as determined in Section 2.2.3 of this report; (4) the simulation time used was 90 years; (5) the half lives used represent low aerobic half-life values as contained within the Handbook of Environmental Degradation Rates - Howard et al., 1991. This was determined based on the high dissolved oxygen

readings taken at the site and the high delta oxygen calculation.

The BIOSCREEN models used for this assessment were the "Instantaneous Reaction" (IR) model and the "1st Order Decay (1st OD)" model. Both models take into consideration the environment of degradation acting on the dissolved constituents in the source zone and plume. Sufficient data was gathered to make the IR model and the 1st OD model, using site-specific nutrient data or half lives, reliable for fate and transport determinations.

The findings of the modeling indicate that benzene and toluene will reach the receptor at a concentration above the RBSL. A summary of the modeling data is provided in the table below. Please note "IR" denotes the Instantaneous Reaction Model and "1st OD" denotes the 1st Order of Decay Model (BIOSCREEN input parameters can be found in Table 4). BIOSCREEN model output data sheets and maximum plume migration data sheets are located in Appendix F.

Former Shop-N-Fill #35 (GWPD No.: 00120)				
CoC	Concentration Value Used for MW-1 (ug/l)	Concentration @ Receptor (ug/l)	RBSL (ug/l)	Maximum Extent of Plume Migration
Benzene	226,000	88,750	5	685 ft.* (IR)
Toluene	301,000	109,300	1,000	595 ft.* (IR)
Ethylbenzene	280,000	57,500	700	500 ft.* (IR)
Xylenes	278,000	0	10,000	239 ft.* (IR)
Naphthalene	2,000	0	25	12 ft.* (IR)
MTBE	5,000,000	1,671,250	40	1288 ft.* (IR)
EDB	28,000	0	50	335 ft.*(IR)

Table 4: PREDICTED MIGRATION AND ATTENUATION OF CoC

2.3 Fate and Transport Modeling (Con't.)

Former Shop-N-Fill #35 (GWPD No.: 00120)		
Seepage Velocity	10.59 ft/yr	see Section 2.2.4
Hydraulic Conductivity	1.54 X 10^{-4} cm/sec	see Section 2.2.4
Porosity	0.25	see Section 2.2.4
Estimated Plume Length	300 ft.	Best professional judgement
Soil Bulk Density	1.7 kg/l	recommended by model's User Manual
Partition Coefficient - Benzene	81 l/kg	SCDHEC "RBCA for Petroleum Releases"
Partition Coefficient - Toluene	133 l/kg	SCDHEC "RBCA for Petroleum Releases"
Partition Coefficient - Ethylbenzene	176 l/kg	SCDHEC "RBCA for Petroleum Releases"
Partition Coefficient - Xylenes	639 l/kg	SCDHEC "RBCA for Petroleum Releases"
Partition Coefficient - Naphthalene	1543 l/kg	SCDHEC "RBCA for Petroleum Releases"
Partition Coefficient - MTBE	0 l/kg	As per guidance by SCDHEC
Fraction Organic Carbon	.001	recommended by model's User Manual
Solute Half-Life (benzene @ low aerobic degradation)	0.014 years	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life (toluene @ low aerobic degradation)	0.011 years	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life (ethylbenzene @ low aerobic degradation)	0.008 years	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life (xylenes @ low aerobic degradation)	0.019 years	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life (naphthalene @ low aerobic degradation)	0.001 years	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life (MTBE @ low aerobic degradation)	0.077 years	Environmental Degradation Rates by Howard et. al. (1991)
Solute Half-Life (EDB @ low aerobic degradation)	0.077 years	Environmental Degradation Rates by Howard et. al. (1991)
Delta Oxygen	4.6 mg/l	average background concentration minus the lowest observed concentration in the source area - recommended by model's User Manual)
Delta Nitrate	1.22 mg/l	average background concentration minus the lowest observed concentration in the source area - recommended by model's User Manual
Observed Ferrous Iron	27.1 mg/l	average observed concentration found in source area (model's User Manual)
Delta Sulfate	2.30 mg/l	average background concentration minus the lowest observed concentration in the source area - recommended by model's User Manual
Observed Methane	18.0 mg/l	average observed concentration found in source area (model's User Manual)
Modeled Area Length (MW-1 to the downgradient receptor)	400 ft.	distance from the monitoring well representing the source to the receptor
Modeled Area Width	40 ft.	estimate - best professional judgment
Simulation Time	90 years	Time plume reaches maximum distance

Table 5: FATE AND TRANSPORT MODEL INPUT PARAMETERS

3 TIER 1 EVALUATION

A site conceptual model for both current and projected future land use was developed to identify all complete exposure pathways using available site-specific assessment information. Exposure routes, mediums, and exposure points selected for evaluation included the ingestion of contaminated groundwater, direct dermal contact with contaminated soil and inhalation of volatile compounds. Each identified exposure pathway(s) was evaluated for both current (Table 6) and future land use (Table 7).

Current and future exposure pathways include ingestion, dermal contact, and inhalation of volatiles from groundwater, and subsurface (smear zone) soils. The groundwater ingestion pathway is included because there is no ordinance to prevent water wells (personal consumption or irrigation) from being installed near the site in the future. The dermal contact pathway is included in the event that construction activities expose contaminated soils. Inhalation of volatiles from groundwater is included for the scenario that a future private well is impacted and groundwater is used for showering purposes.

Former Shop-N-Fill #35 (GWPD No.: 00120)				
Media (for exposure)	**Exposure Route**	**Pathway Selected for Evaluation?**	**Exposure point/reason for non-selection**	**Data Requirements (if pathway is selected)**
Air	Inhalation Explosion Hazard	**YES** No **YES** No	Potential exposure to VOCs during construction activities such as pipe line construction, basement construction, etc.	Remain below RBSLs for vapors and below 10% of the LEL.
Groundwater	Ingestion Dermal Contact Volatile Inhalation	**YES** No **YES** No **YES** No	Water Supply wells located within 1000 feet radius of site.	Reduce CoC concentrations in groundwater below the calculated SSTLs
Surface Water	Ingestion Dermal Contact Volatile Inhalation	**YES** NO **YES** NO **YES** NO	Unnamed down gradient stream may receive impacted groundwater through infiltration into storm drain lines.	Reduce CoC concentrations in groundwater below the calculated SSTLs Dermal contact & volatile inhalation possible to anyone walking by this stream.
Surficial Soil	Ingestion Dermal Contact Volatile Inhalation Leaching to Groundwater	Yes **NO** Yes **NO** Yes **NO** Yes **NO**	Surficial soil at the site did not appear to have been impacted from UST operations.	
Subsurface Soil	Ingestion Dermal Contact Volatile Inhalation Leaching to Groundwater	Yes **NO** **YES** No **YES** No Yes **NO**	Ingestion unlikely with subsurface soil Groundwater contaminated	Reduce CoC concentrations in groundwater below the calculated SSTLs Dermal contact & volatile inhalation possible during construction activities.

Table 6: SITE CONCEPTUAL MODEL (Current Land Usage)

Former Shop-N-Fill #35 (GWPD No.: 00120)				
Media (for exposure)	**Exposure Route**	**Pathway Selected for Evaluation?**	**Exposure point/reason for non-selection**	**Data Requirements (if pathway is selected)**
Air	Inhalation	**YES** No	VOC emissions possible.	Remain below RBSLs for vapors and below 10% of the LEL.
	Explosion Hazard	**YES** No	VOC emissions possible.	
Groundwater	Ingestion	**YES** No	Future use of private wells probable.	Ensure CoCs remain below RBSLs.
	Dermal Contact	**YES** No		
	Volatile Inhalation	**YES** No		
Surface Water	Ingestion	**YES** No	Possible contamination of unnamed stream.	
	Dermal Contact	**YES** No		
	Volatile Inhalation	**YES** No		
Surficial Soil	Ingestion	Yes **NO**	Surficial soil at the site did not appear to have been impacted from UST operations. .	
	Dermal Contact	Yes **NO**		
	Volatile Inhalation	Yes **NO**	Groundwater contaminated	
	Leaching to Groundwater	Yes **NO**		
Subsurface Soil	Ingestion	Yes **NO**	Ingestion unlikely with subsurface soil	Reduce CoC concentrations in groundwater below the SSTLs for BTEX, Naph.
	Dermal Contact	**YES** No		
	Volatile Inhalation	**YES** No		
	Leaching to Groundwater	Yes **NO**	Groundwater contaminated	

Table 7: SITE CONCEPTUAL MODEL (Future Land Usage)

4 TIER 2 EVALUATION

Based on the results of the site conceptual model, a Tier 2 risk evaluation was completed. Exposure points were established, points of compliance were identified and site-specific target levels (SSTLs) were calculated for each identified exposure point.

4.1 Establishing Exposure Points

The exposure pathways identified in Section 3.0 include ingestion, dermal contact, and inhalation of volatiles from groundwater, surface water, and subsurface (smear zone) soils.

The possible exposure point for ingestion is: (1) the potential for the installation of drinking water supply wells in the future.

The exposure points for dermal contact and the inhalation of volatiles are: (1) the potential for future construction activities whereby construction personnel come into contact with contaminated subsurface soils; and (2) the potential for a drinking water supply well to be constructed in the future.

4.2 Establishing Points of Compliance

Three exposure pathways are identified in Section 4.1 and include ingestion, dermal contact, and inhalation of volatiles from groundwater, surface water, and subsurface (smear zone) soils. Groundwater monitoring well MW-1 was chosen as the compliance point based upon the levels of petroleum constituents in the well and the proximity of this well to the closest receptors (downgradient storm drain).

4.3 Establishing the Site-Specific Target Levels (SSTLs)

SSTLs have been calculated for each CoC above the RBSL (i.e. BTEX, naphthalene, and MTBE) using the BIOSCREEN Natural Attenuation Decision Support System (BIOSCREEN). Groundwater was the only media which SSTLs were calculated. Sufficient data was not available from this assessment to calculate SSTLs for exposure pathways such as (1) inhalation of volatiles pathway; and (2) dermal contact with contaminated soil pathway.

4.3.1 Groundwater Pathway

The BIOSCREEN Natural Attenuation Decision Support System (BIOSCREEN) was used to calculate the SSTLs for groundwater. NESCO determined the Site Specific Target Levels (SSTLs) for BTEX, naphthalene, MTBE and EDB. The modeling effort is summarized in the table below.

Former Shop-N-Fill #35 (GWPD No.: 00120)			
CoC	***Predicted SSTL*** *Source (Well) Concentration*	***Predicted Concentration @ the Receptor (360 ft downgradient)***	***RBSLs***
Benzene	31,000 ug/l	0 ug/l (1st OD) 0 ug/l (IR)	5 ug/l
Toluene	35,000 ug/l	0 ug/l (1st OD) 0 ug/l (IR)	1,000 ug/l
Ethylbenzene	65,000 ug/l	0 ug/l (1st OD) 0 ug/l (IR)	700 ug/l
Xylenes	278,000 ug/l	0 ug/l (1st OD) 0 ug/l (IR)	10,000 ug/l
Naphthalene	2,000 ug/l	0 ug/l (1st OD) 0 ug/l (IR)	25 ug/l
MTBE	24,000 ug/l	0 ug/l (1st OD) 0 ug/l (IR)	40 ug/l
EDB	28,000 ug/l	0 ug/l (1st OD) 0 ug/l (IR)	0.05 ug/l

Table 8: SSTL CALCULATIONS FOR GROUNDWATER

From the data provided above, the following CoC must be reduced to the above SSTLs:

- Benzene (From 226,000 ug/l to 31,000 ug/l)
- Toluene (From 301,000 ug/l to 35,000 ug/l)
- Ethylbenzene (From 280,000 ug/l to 65,000 ug/l)
- Xylenes (No reduction)
- Naphthalene (No reduction)
- MTBE (from 5,000,000 ug/l to 24,000 ug/l)
- EDB (No reduction)

The SSTL calculation data is provided in Appendix F.

5 CONCLUSIONS AND RECOMMENDATIONS

NESCO has completed a Rapid Assessment for the Former Shop-N-Fill #35 site located in North Augusta, South Carolina. Data generated during this assessment indicated the presence of CoC in groundwater above the RBSLs for benzene, toluene, ethylbenzene, naphthalene, and MTBE within the shallow aquifer beneath the site. Groundwater flow beneath the site trends to the north at a rate of approximately 10.6 ft./year towards an unnamed creek.

A free product thickness of 0.59 feet and 0.27 feet was measured in monitor well MW-1 on January 6, 2000 and February 3, 2000; respectively.

Exposure pathways and potential exposure pathways, as further described in Section 3.0, were identified as ingestion, dermal contact, and inhalation of volatiles from groundwater, and (potentially) subsurface soils. Insufficient data was available (as generated from activities under this assessment) to determine the SSTLs for inhalation of volatiles pathway or dermal contact pathway. SSTLs were determined for groundwater, and are provided in Section 4.3.1.

The storm drain located 350 feet north of the worst case well (MW-1) was used for fate and transport modeling purposes. From information generated by the fate and transport model, there is potential for benzene, toluene, ethylbenzene, and MTBE to reach beyond the 350 feet of the modeled receptor (storm drain).

Based upon a review of the data generated by this assessment, the site would be classified as 3B due to the presence of free product. NESCO recommends the following:

1. A groundwater monitoring program developed and implemented to monitor the conditions of the site as documented within this report.

NESCO is pleased to provide consulting services to the Former Shop-N-Fill #35 site, and welcomes the opportunity to answer questions concerning this report. Please direct any questions to Andrea Smith or William Wood at (803) 699-1976.

Andrea Smith

Andrea Smith, E.I.T.
Staff Engineer

William Wood Jr.

William Wood, Jr., PG
SC Registration No. 2116

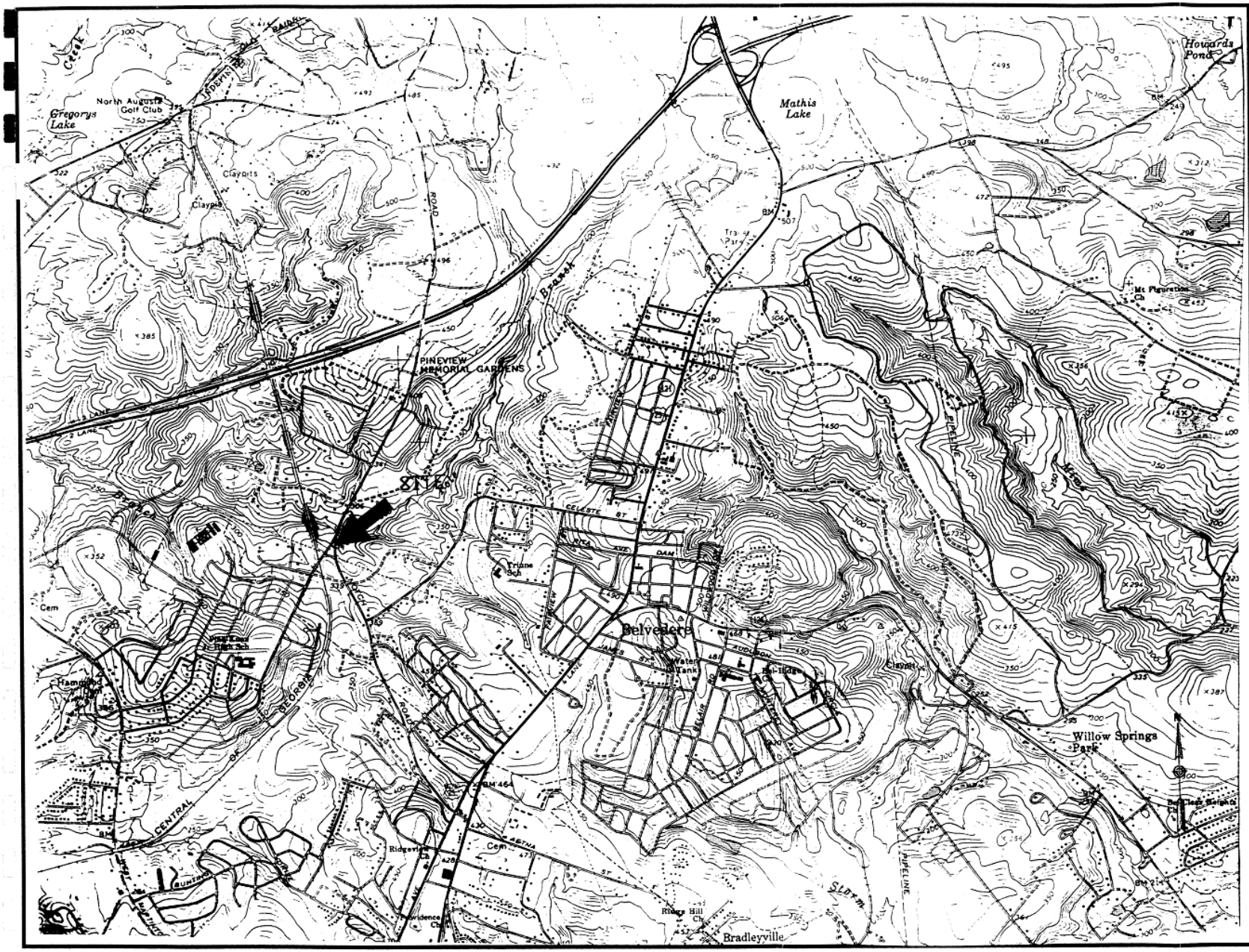

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FIGURE 1

TOPOGRAPHIC MAP
NORTH AUGUSTA QUAD
SCALE 1" = 2000'

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: TM0200.DWG

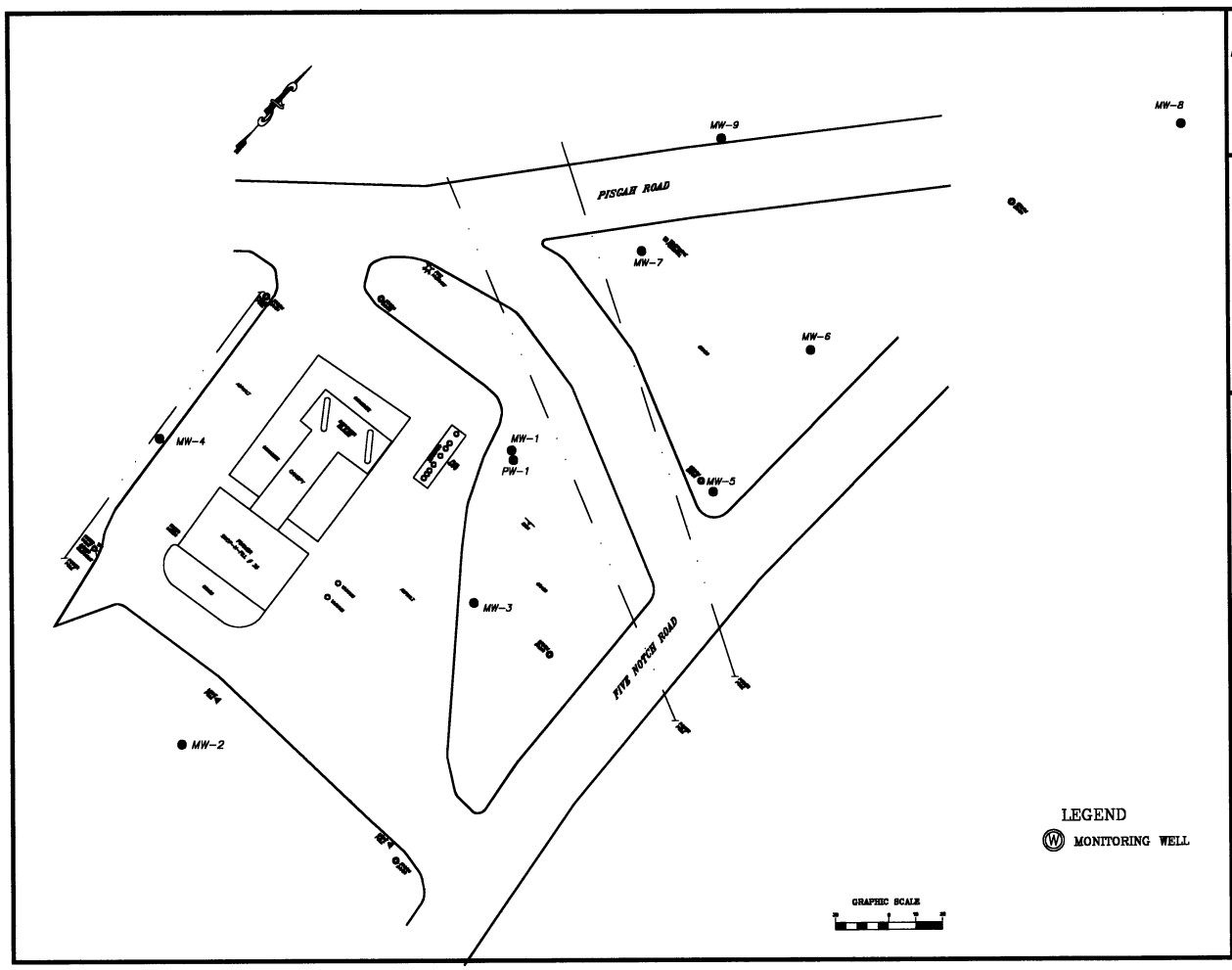

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FIGURE 2

SITE MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: SM0200.DWG

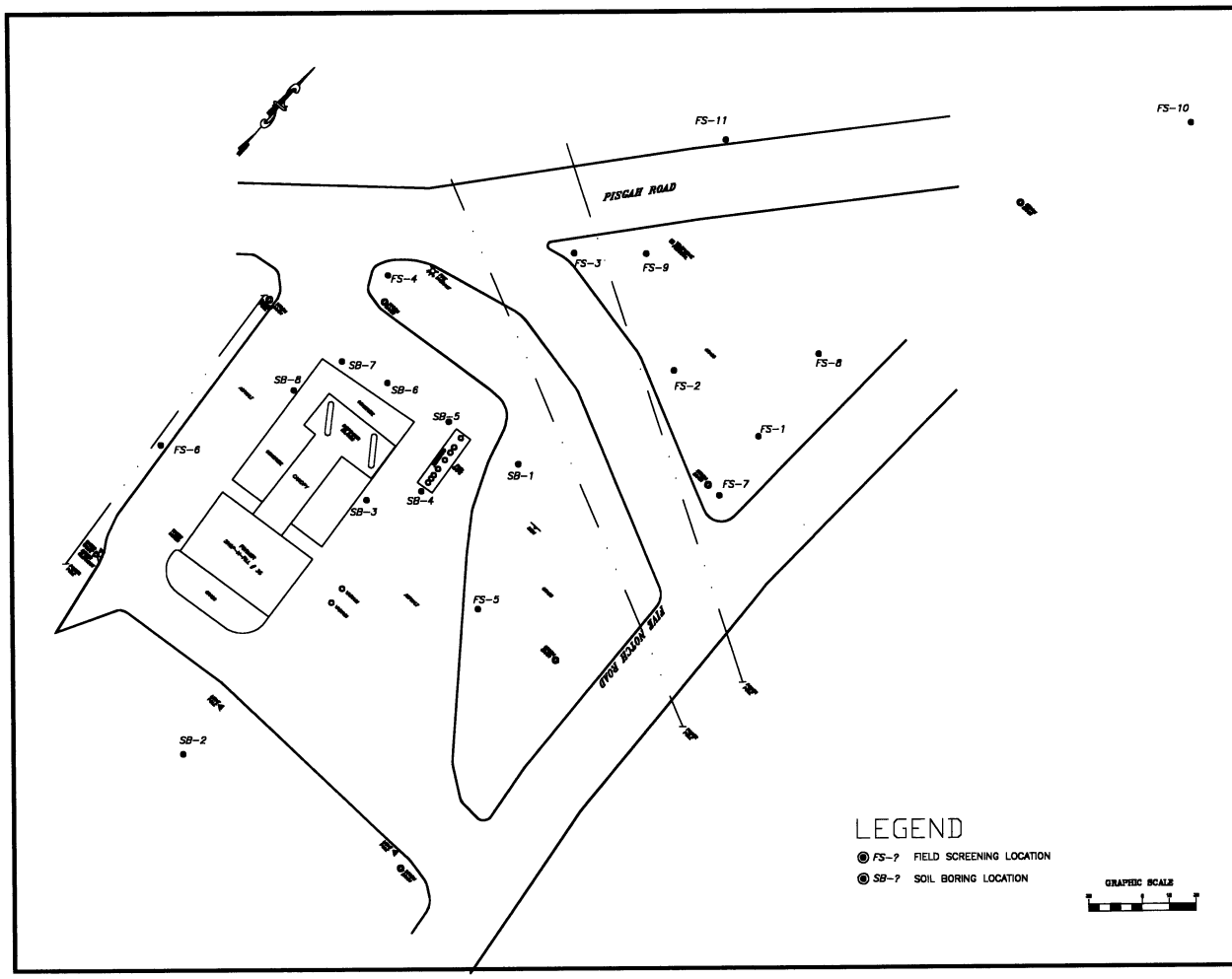

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FIGURE 3

SOIL BORING & FIELD SCREENIG LOCATION MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

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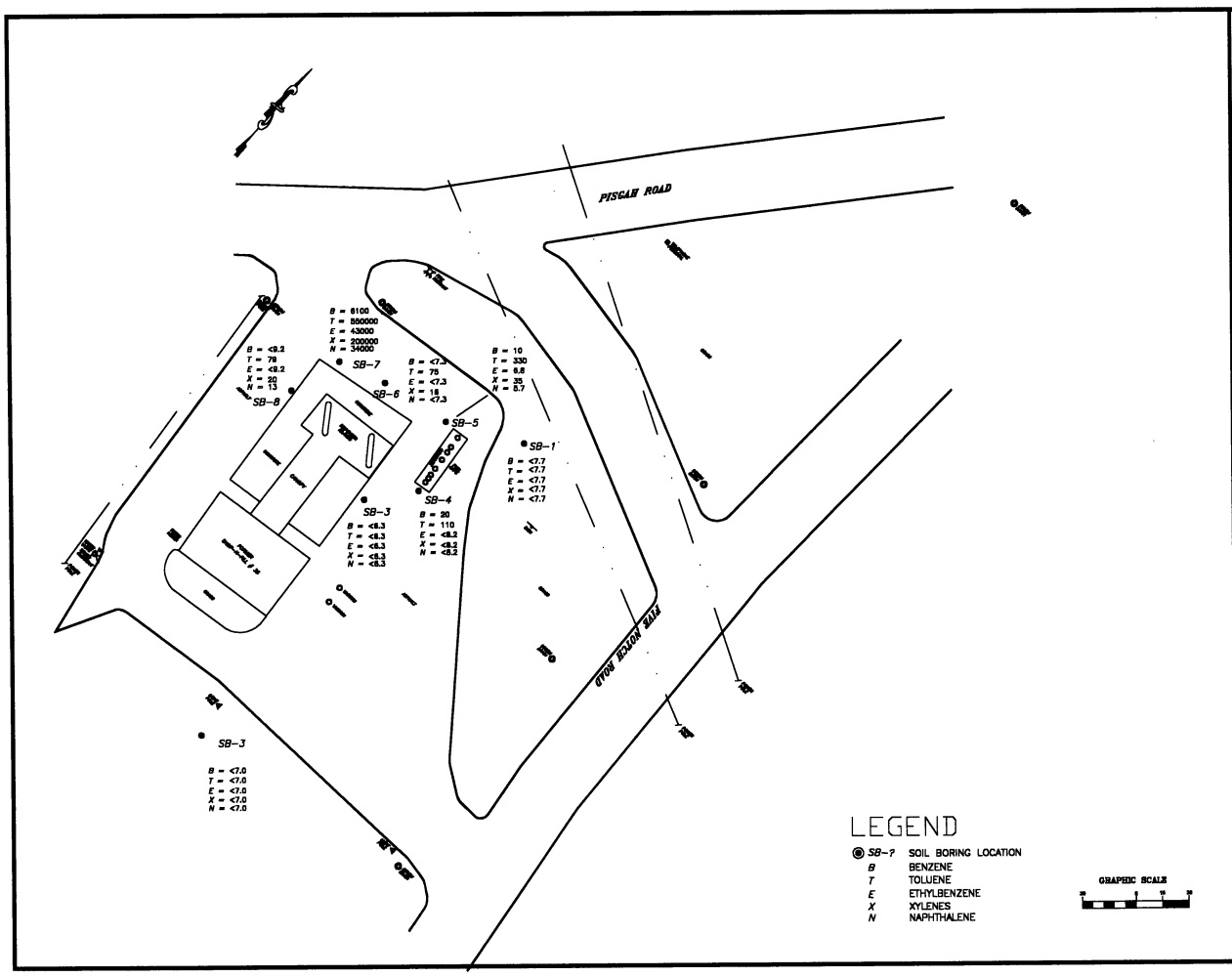
REPORT: 21-439c
FILE: SM0200.DWG



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PHONE: [illegible] FAX: [illegible]

FIGURE 4

SOIL QUAILTY MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: SQ0200.DWG

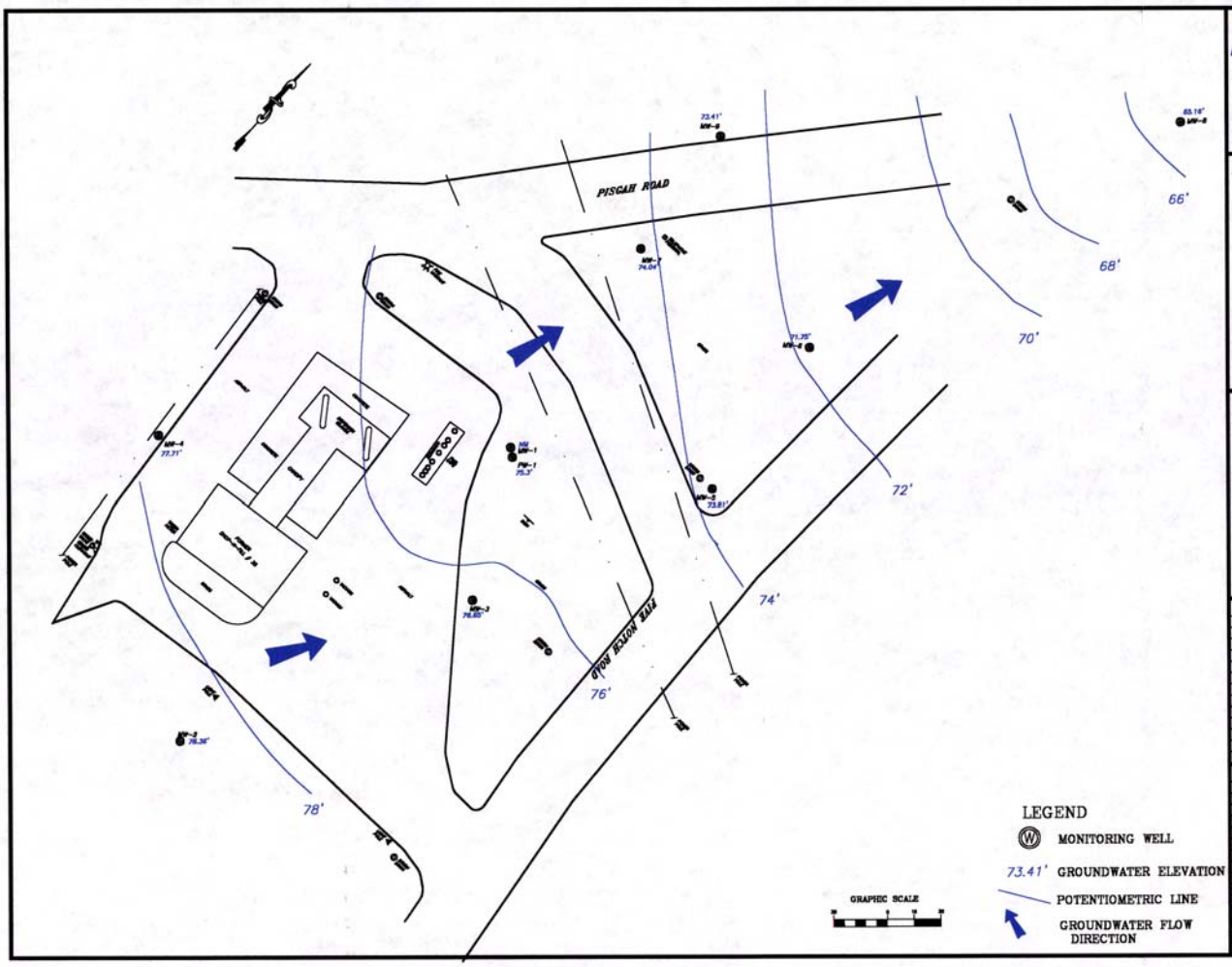

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FIGURE 5

POTENTIOMETRIC MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: PM0200.DWG

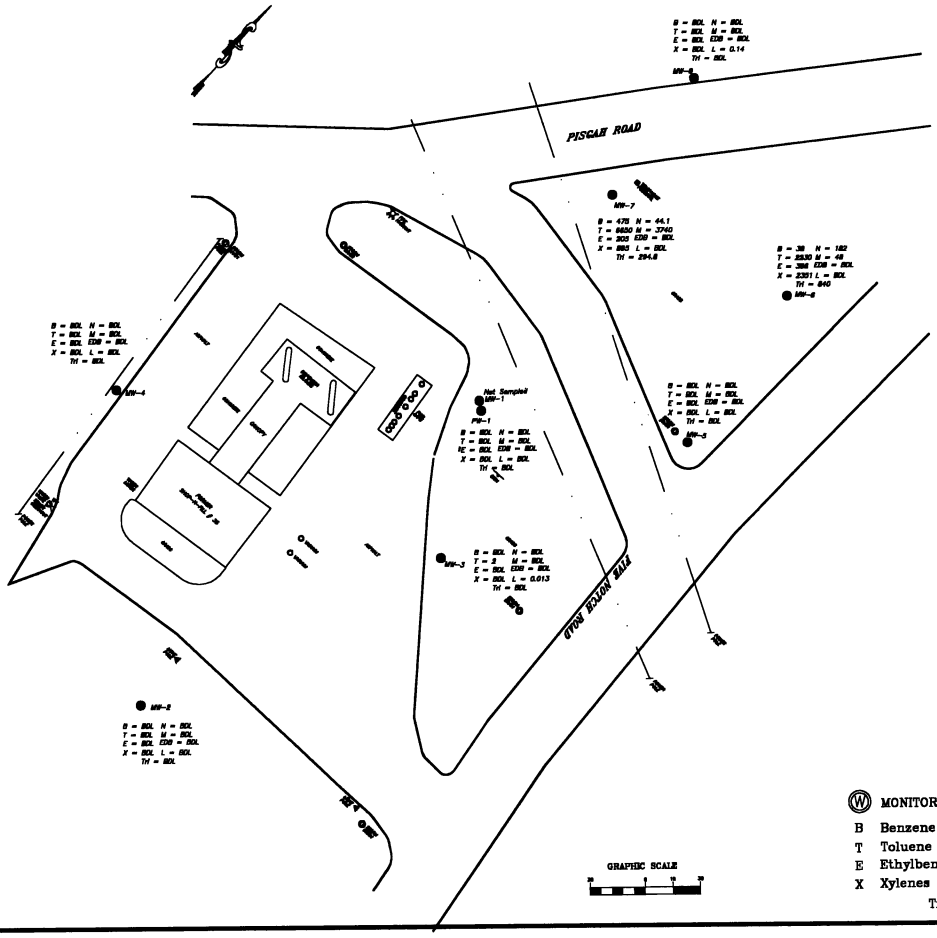

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FIGURE 6

GROUNDWATER QUALITY MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: GC0200.DWG

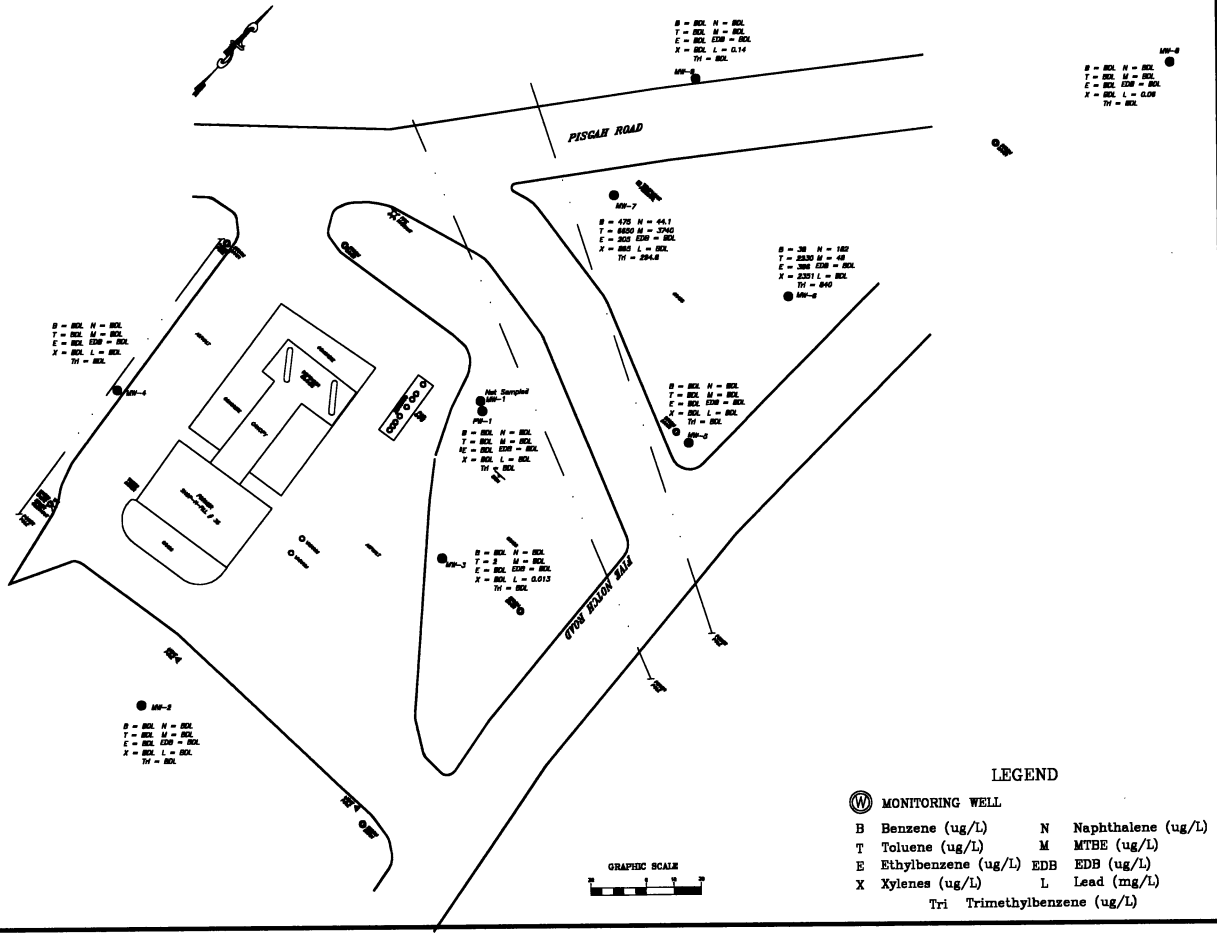

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FIGURE 6

GROUNDWATER QUALITY MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: GQ0200.DWG

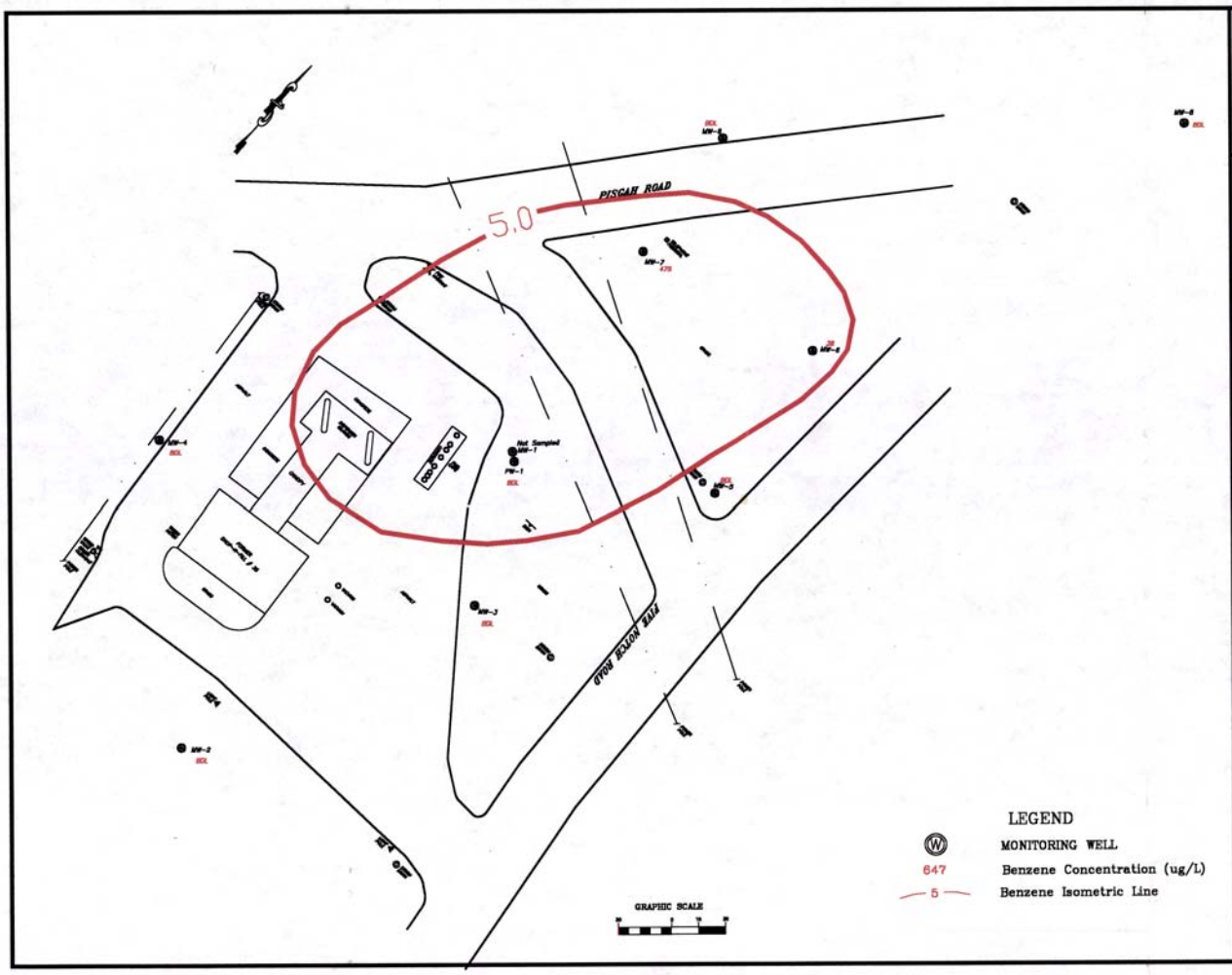

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FIGURE 7

BENZENE PLUME MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: BP0200.DWG

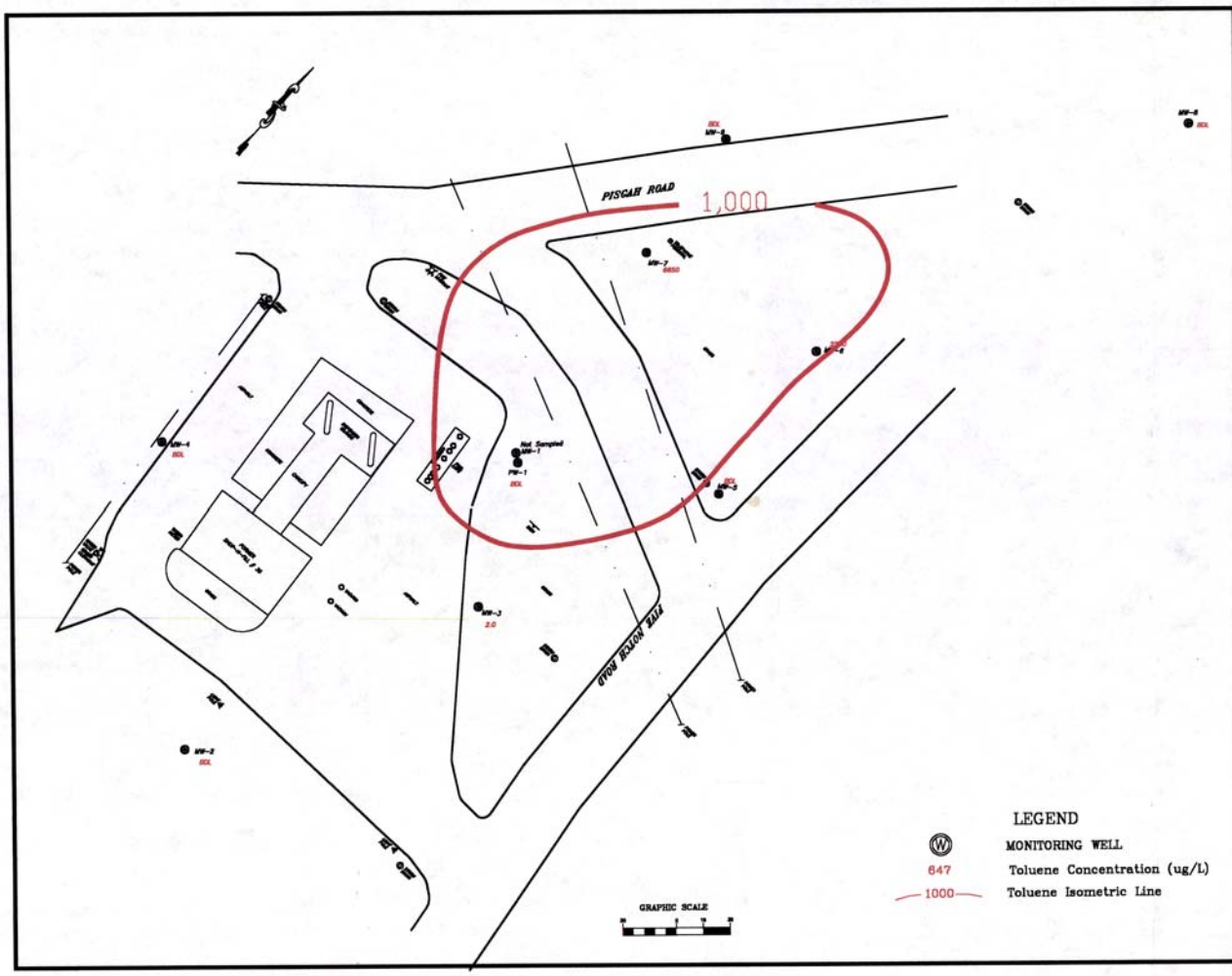

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FIGURE 8

TOLUENE PLUME MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: TP0200.DWG

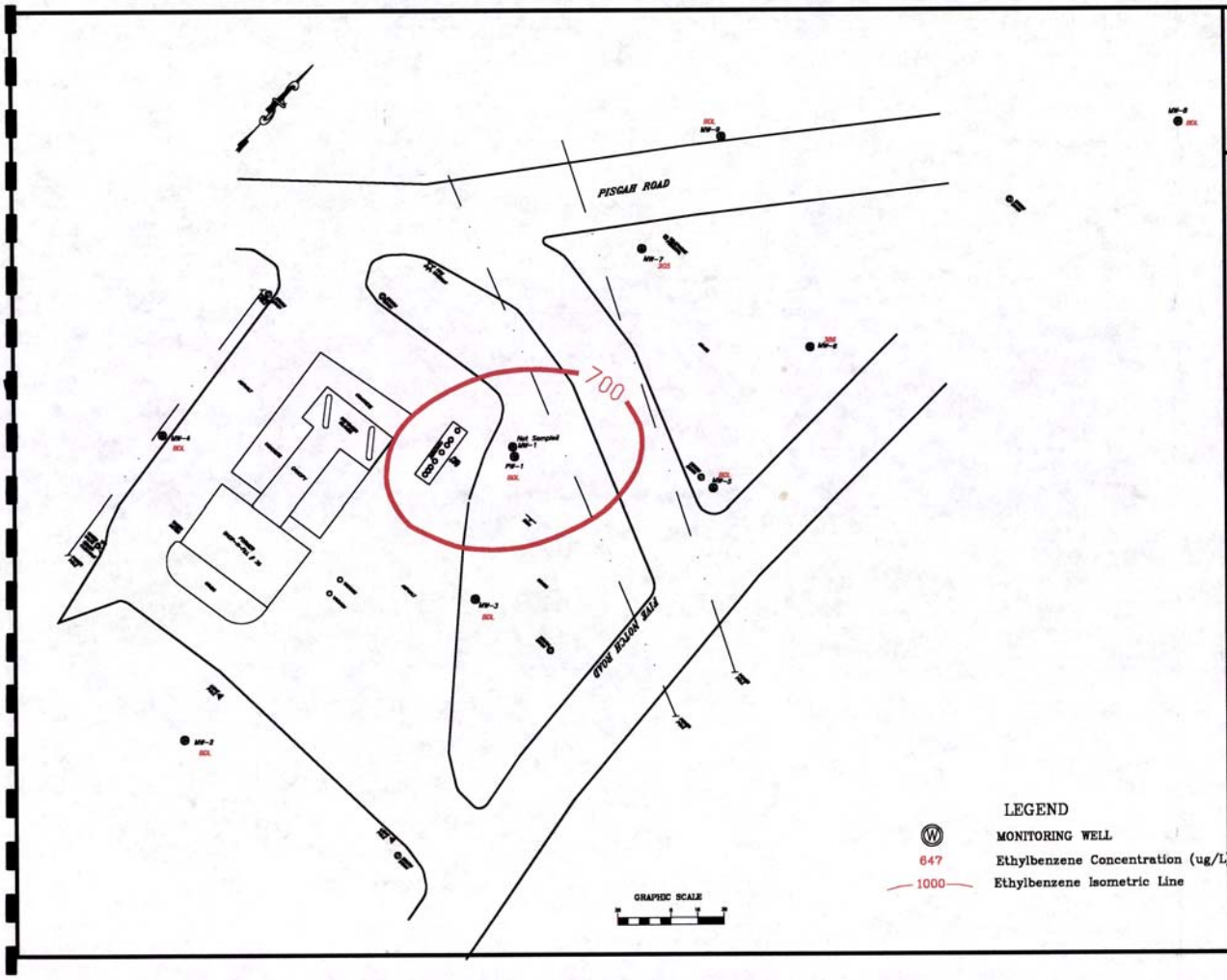

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FIGURE 9

ETHYLBEZENE PLUME MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
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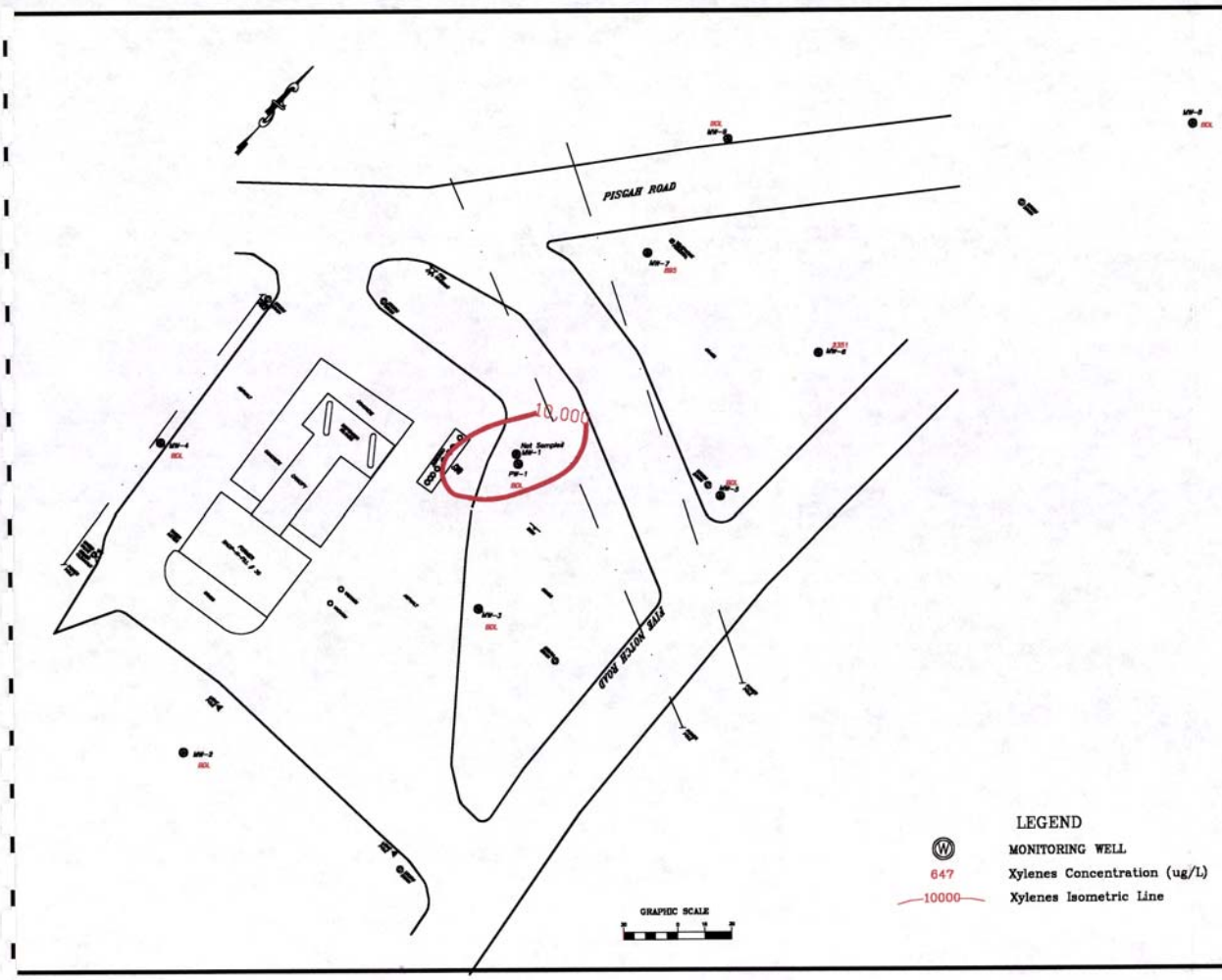

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FIGURE 10

XYLENES PLUME MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: XP0200.DWG

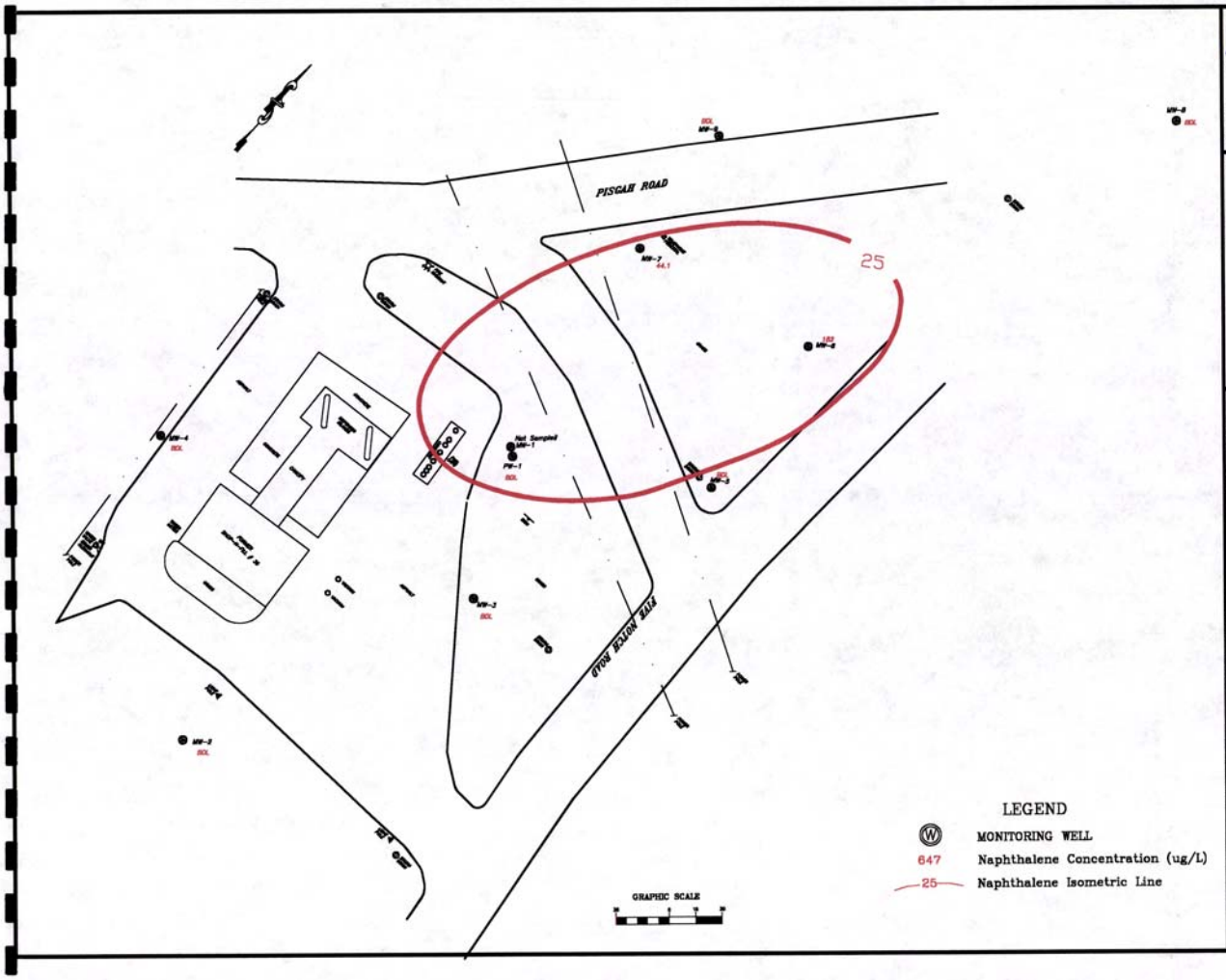

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FIGURE 11

NAPHTHALENE PLUME MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: NP0200.DWG

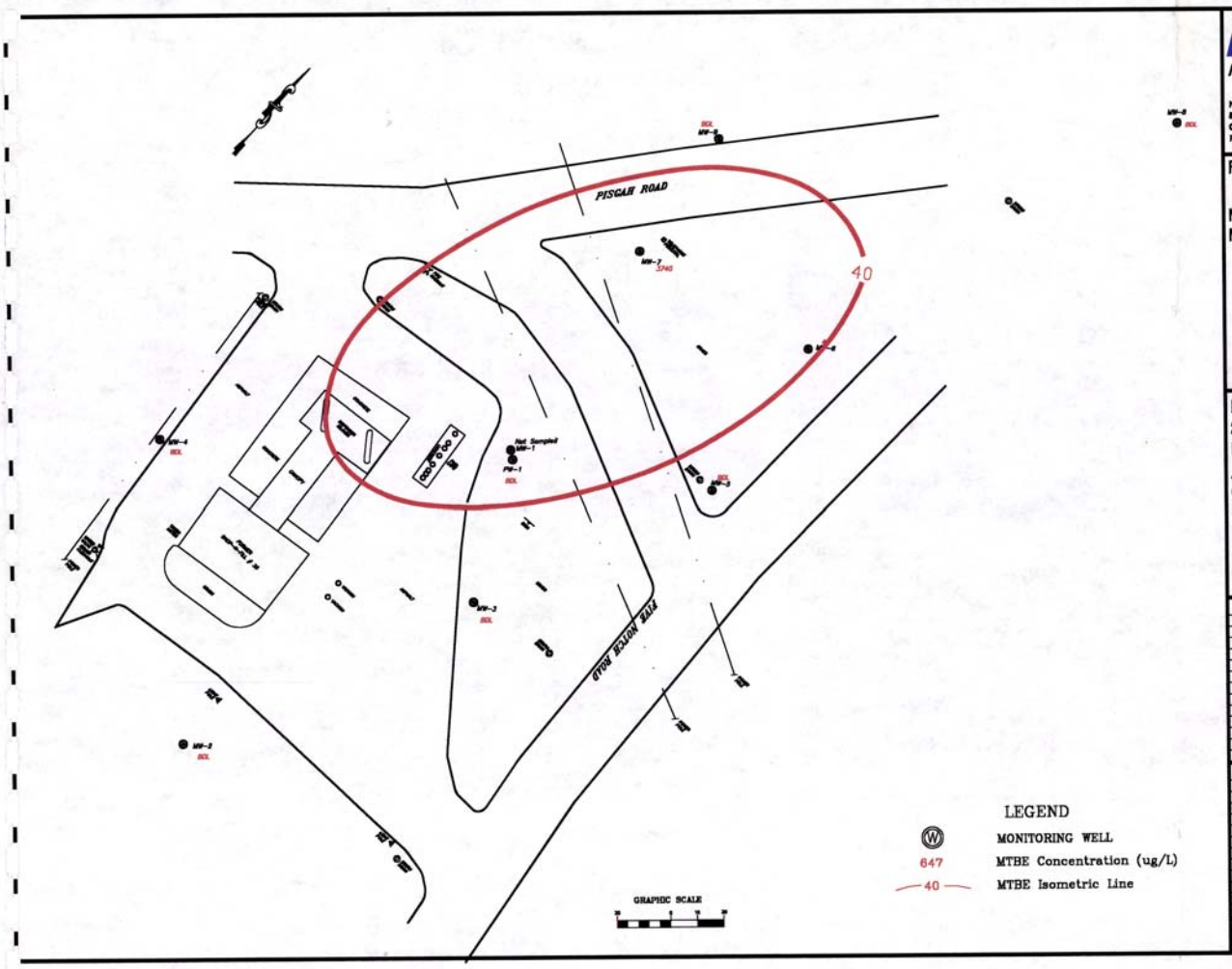

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FIGURE 12

MTBE PLUME MAP

FORMER SHOP-N-FILL #35
2031 PISGAH ROAD
NORTH AUGUSTA, SC
AIKEN COUNTY, SC
GWPD SITE ID #00120
NESCO PROJECT NO. 21-439c

REFERENCES

NOTES

REPORT: 21-439c
FILE: MP0200.DWG

APPENDIX A

LABORATORY ANALYTICAL RESULTS

Chain of Custody Record

TESTAMERICA INC.

5966

Page 1 of 1

- ☐ Asheville, NC (A) (828) 254-5169
- ☐ Bartlett, IL (C) (630) 289-3100
- ☐ Cedar Falls, IA (E) (319) 277-2401
- ☐ Charlotte, NC (G) (704) 392-1164
- ☐ Dayton, OH (I) (937) 294-6856
- ☐ Lumberton, NC (K) (910) 738-6190
- ☐ Nashville, TN (M) (615) 726-0177
- ☐ Pontiac, MI (O) (248) 332-1940
- ☐ Rockford, Il (Q) (815) 874-2171
- ☐ Atlanta, GA (B) (770) 368-0636
- ☐ Brighton, CO (D) (303) 659-0497
- ☐ Charleston, SC (F) (843) 849-6550
- ☐ Columbia, SC (H) (803) 796-8989
- ☐ Davenport, IA (J) (319) 323-7944
- ☐ Indianapolis, IN (L) (317) 842-4261
- ☐ Macon, GA (N) (912) 757-0811
- ☐ Orlando, FL (P) (407) 851-2560
- ☐ Watertown, WI (R) (920) 261-1660

Client: Nesco
Project No.: 21-439
Report Address: 521 Clemson Rd
Invoice Address:
Cola SC 29229
Same
Attn: Andrea Smith
Attn:
Phone No.: 803-699-1976
Sampled By: Andrea Smith, Brad Defer
Fax No.: 803-699-9863
P.O. No: 21-17605
Quote No. Special
State Samples Collected

TURNAROUND TIME
☐ Standard
☐ Rush (surcharges may apply) Date Needed: ____

REQUESTED PARAMETERS

178688
#5966

Is this work being conducted for regulatory compliance monitoring? Yes___ No___

Is this work being conducted for regulatory enforcement action? Yes___ No___

Which regulations apply:
RCRA____ NPDES Wastewater____
UST____ Drinking Water____
Other___ None____

Sample ID	Date	Time	Comp (C) Grab (G)	Matrix	Lab Use	PAH 8260/8021	BTEX, NAPH, MTBE, EDB	1,3,5 Trimethylbenzene	Nitrate	Sulfate	Lead	Manganese	Ferrous Iron	# and type of containers HCl	NaOH	HNO_3	H_2SO_4	Other	None	REMARKS
MW-7	2-3		G	H_2O	14576	X														
MW-8	2-3		↓	↓	77	X	X	X	X	X	X	X	X							
MW-9	2-3				78	X	X	X	X	X	X	X	X							
Stream	2-3				14577		X													

SHORT HOLDING TIME

QC Deliverables: ☐ None ☐ Level 2 - Batch QC ☐ Level 3 ☐ Level 4 ☐ Other

Init Lab Temp: 4.0°C
Rec Lab Temp:

COMMENTS: 8162391617

FAX CHAIN TO COLUMBIA

Relinquished By	Date	Time	Received By	Date	Time
Andrea Smith	2/4	1055	Michelle Riddle	2/4/00	1055
Michelle Riddle	2/4/00	1630	M. Beasley	2/5/00	9:00
Relinquished By:	Date	Time	Received By:	Date	Time
Relinquished By:	Date	Time	Received By:	Date	Time

LAB USE ONLY:

Custody Seal: ☐Yes ☐No ☐N/A
Bottles Supplied by TA: ☐Yes ☐No

Date: 01/07/00
Project No.: 21-439
Project: SHOP-N-FILL #35 (N. AUGUSTA)

Sample Data

Location of Sample: MW-5 @ 15'
Sample Description: WHITE/TAN F-M SILTY SAND W/FEW COARSE
USCS Class: SM
AASHTO Class:
Liquid limit:
Plasticity index:

Notes

Remarks:

Fig. No.:

Mechanical Analysis Data

	Initial	After wash
Dry sample and tare=	162.40	132.30
Tare =	0.00	0.00
Dry sample weight =	162.40	132.30

Minus #200 from wash= 18.5 %
Tare for cumulative weight retained= 0

Sieve	Cumul. Wt. retained	Percent finer
# 4	0.70	99.6
# 10	8.70	94.6
# 16	26.50	83.7
# 30	67.80	58.3
# 40	92.20	43.2
# 50	113.50	30.1
# 60	120.60	25.7
# 100	128.10	21.1
# 200	132.00	18.7

Hydrometer Analysis Data

Separation sieve is number 10
Percent -# 10 based on complete sample= 94.6
Weight of hydrometer sample: 110
Calculated biased weight= 116.23
Automatic temperature correction
Composite correction at 20 deg C = 3

Meniscus correction only= 0.5
Specific gravity of solids= 2.66

Hydrometer type: 152H Effective depth L= 16.294964 - 0.164 x Rm

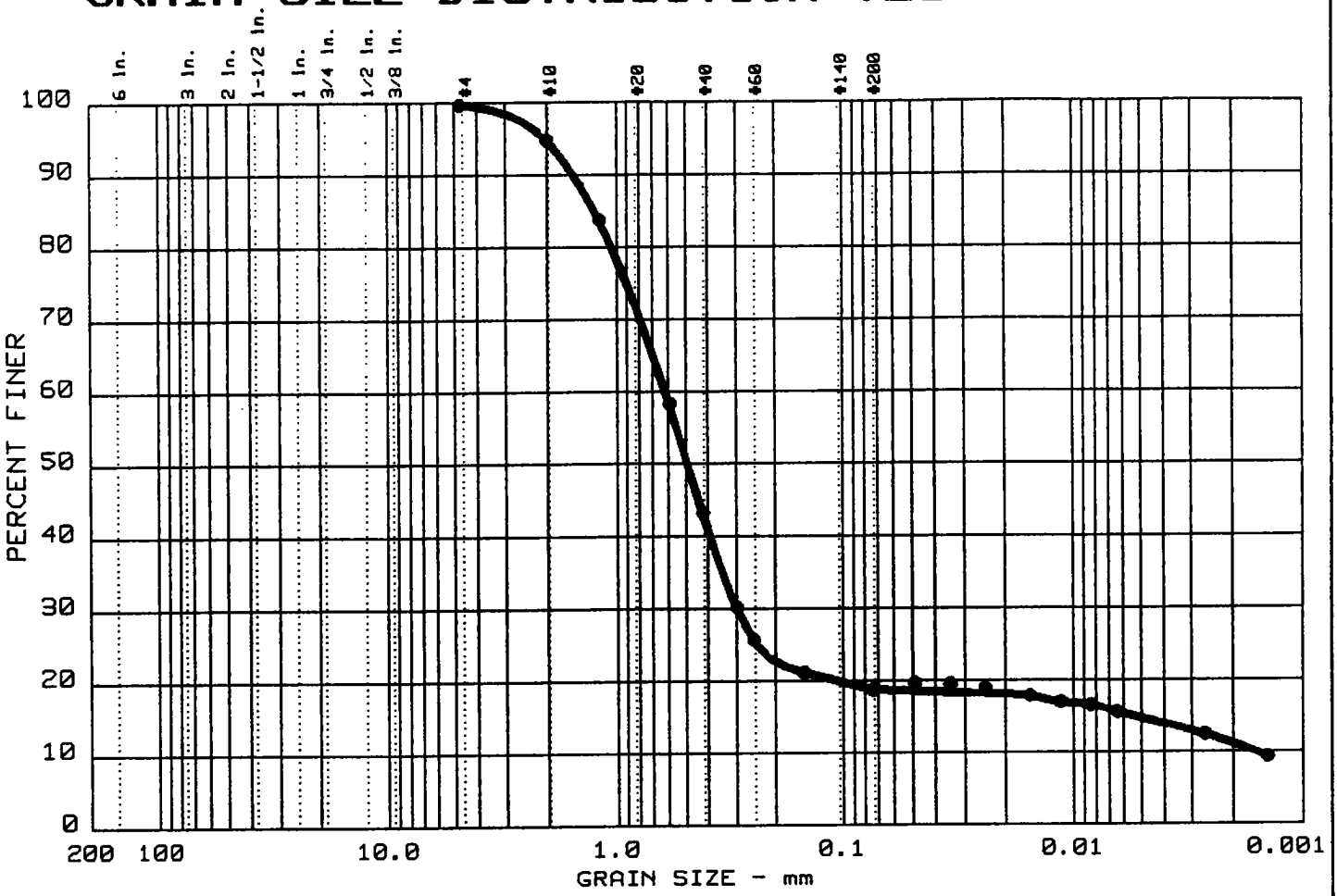
Elapsed time, min	Temp, deg C	Actual reading	Corrected reading	K	Rm	Eff. depth	Diameter mm	Percent finer
1.0	20.0	19.9	22.9	0.0136	20.4	12.9	0.0490	19.6
2.0	20.0	19.7	22.7	0.0136	20.2	13.0	0.0347	19.5
4.0	20.0	19.0	22.0	0.0136	19.5	13.1	0.0246	18.9
10.0	20.0	17.9	20.9	0.0136	18.4	13.3	0.0157	17.9
19.0	20.0	16.8	19.8	0.0136	17.3	13.5	0.0114	17.0
35.0	20.5	16.2	19.3	0.0135	16.7	13.6	0.0084	16.5
60.0	21.0	15.0	18.2	0.0134	15.5	13.8	0.0064	15.6
356.0	23.0	10.8	14.5	0.0131	11.3	14.4	0.0026	12.4
1374.0	20.0	7.9	10.9	0.0136	8.4	14.9	0.0014	9.3

Fractional Components

Gravel/Sand based on #4 sieve
Sand/Fines based on #200 sieve
% + 3 in. = 0.0 % GRAVEL = 0.4 % SAND = 80.8
% FINES = 18.8

D85= 1.24 D60= 0.614 D50= 0.488
D30= 0.2941 D15= 0.00541 D10= 0.00160
Cc = 88.1049 Cu = 384.5918

GRAIN SIZE DISTRIBUTION TEST REPORT



	% +3"	% GRAVEL	% SAND	% FINES
●	0.0	0.4	80.8	18.8

	LL	PI	D_{85}	D_{60}	D_{50}	D_{30}	D_{15}	D_{10}	C_c	C_u
●			1.24	0.61	0.49	0.294	0.0054	0.0016	88.10	384.6

MATERIAL DESCRIPTION	USCS	AASHTO
● WHITE/TAN F-M SILTY SAND W/FEW COARSE	SM	

Project No.: 21-439
Project: SHOP-N-FILL #35 (N. AUGUSTA)
● Location: MW-5 @ 15'

Date: 01/07/00

GRAIN SIZE DISTRIBUTION TEST REPORT

Remarks:

Figure No. _____

APPENDIX B

BORING LOGS

LOG OF BORING: SB-1

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	25'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
2			SAND, fmc burnt orange, poorly sorted			
5		3.2	SAND, fmc light orange, poorly sorted			
		4.3	SAND, fmc burnt orange, poorly sorted			
8						
11		2.2				
			Slightly Silty SAND, fm white/burnt orange			
14			SAND mc tan poorly sorted			
		1.2	Silty SAND, c burnt orange			
17			SAND, mc white with some small pebbles			
20		0				
			SAND, mc orange/burnt orange, poorly sorted			
23						
26		19	Total Depth - 25'			
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-2

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	25'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			SAND, fmc burnt orange, grey			
2			SAND, fmc burnt/light orange			
		0				
5						
8		2.4	SAND, fmc orange, poorly sorted			
11						
		0				
14						
		1.4				
17						
20		0				
			SAND, mc orange/burnt orange, poorly sorted			
23						
		2.6	Total Depth - 25'			
26						
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-3

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt			
			SAND, mc dark orange			
2		0				
		11				
5		18	Silty SAND, mc medium/dark orange w/ grey			
8		24				
		62	SAND, mc burnt/light orange			
11		24				
14		42				
			Total Depth - 15'			
17						
20						
23						
26						
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-4

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt			
2		0	**SAND**, mc dark orange			
		0				
5		0	**Slightly Silty SAND**, mc dark orange			
8		0				
11		6.2	**SAND**, mc dark orange **Sandy SILT**, mc burnt orange/medium brown			
		10				
14		140	**Total Depth - 15'**			
17						
20						
23						
26						
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-5

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt			
			Slightly Silty SAND, mc tan			
2		0	SAND, mc burnt/light orange			
		0				
5		0	Slightly Silty SAND, c burnt/light orange			
8		0				
		0	Slightly Silty SAND, mc orange			
11		7				
14		10	Total Depth - 15'			
17						
20						
23						
26						
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-6

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			Asphalt				
			Slightly Silty SAND, mc reddish brown				
2		0	Sandy SILT, mc burnt/light orange				
		0	Slightly Silty SAND, mc burnt/light orange				
5		0					
8		2.8					
		54					
11		10					
			SAND, mc tan				
14		12					
			Total Depth - 15'				
17							
20							
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-7

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			Asphalt				
			SAND, mc burnt red				
2		0					
		780					
5		>1000					
8		>1000					
11		>1000					
		>1000					
14		>1000					
			Total Depth - 15'				
17							
20							
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: SB-8

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Asphalt			
			SAND, mc burnt orange			
2		0				
		0	Slightly Silty SAND, burnt red with light orange			
5		0				
8		0				
		0				
11		0				
14		0				
			Total Depth - 15'			
17						
20						
23						
26						
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-1

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			SAND, fmc light beige poorly sorted with gravel				
2		0	GRAVEL				
			Silty SAND, mc orange poorly sorted with gravel				
		0	SAND, mc light grey with gravel and small pebbles				
5							
		0					
			GRAVEL, with some f white sand				
8		0					
			SAND, fmc white poorly sorted				
		2.8	SAND, fmc grey/orange poorly sorted, with gravel				
11							
		16					
			SAND, mc beige poorly sorted with pebbles				
14		2.5					
			Total Depth - 15'				
17							
20							
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-2

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			SAND, fmc reddish dark brown poorly sorted				
			SAND, fmc light pink poorly sorted				
2		0					
		0					
5							
		0					
			SAND, mc light pink with small pebbles				
8		0	SAND, fm white with calcite				
		0					
11							
		0					
			SAND, mc white with small pebbles and calcite				
14		110					
			Total Depth - 15'				
17							
20							
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-3

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	20'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			SAND, mc burnt orange/red with gravel/pebbles				
2		0					
		0	**Sandy SILT**, c orange/tan				
5		0					
			SAND, mc orange				
8		0					
		0	**SAND**, fmc grey/white with quartz				
11		0					
14		0					
		0	**SAND**, mc orange with quartz/pebbles				
17			**SAND**, fmc grey/white with quartz				
		0					
20		10	**Total Depth - 20'**				
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-4

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Geoprobe	Total Boring Depth (ft):	21'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft.-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			Topsoil				
			SAND, mc burnt orange/red				
2		0					
		0					
5		0	**Sandy SILT**, mc burnt orange with small pebbles				
8		0					
		0					
11			**SAND**, fmc burnt orange/red poorly sorted				
		0	**SAND, fm orange**				
14		0					
		0	**Silty SAND**, mc white/light grey poorly sorted with small pebbles				
17							
		0					
20		0	**SAND**, fmc burnt orange/red poorly sorted				
			Total Depth - 21'				
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-5

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	25'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			SAND, mc burnt red			
2		0				
5		0				
8						
11		0	SAND, m brown/tan sand			
14		4.6				
17						
20		10	SAND, m brown/tan/white with small pebbles			
23						
26		56	Total Depth - 15'			
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-6

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	25'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand	Screen	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			SAND,mc burnt red			
2						
5		0				
8						
11		0	SAND, m brown/tan			
14		50	SAND, c brown/tan			
17						
20		10	SAND, c brown/tan with small pebbles			
23						
26		12	Total Depth - 25'			
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-7

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	14'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	12/27/99	Sand	Screen	Geologist/ Engineer:	Brad Defee

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Sandy CLAY, mc red			
2						
5		0	Sandy SILT, c white			
			Sandy SILT, red			
8			Silty SAND, pinkish white			
		0				
11						
			Silty SAND, c white			
14			Total Depth - 14'			
17						
20						
23						
26						
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-8

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	12'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	12/27/99	Sand	Screen	Geologist/ Engineer:	Brad Defee

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			Sandy CLAY, mc red			
2						
5		0	Silty SAND, c tan			
8			Silty SAND, c white			
11		0	Total Depth-12'			
14						
17						
20						
23						
26						
29						
33						
37						
41						

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-9

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	12'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	12/27/99	Sand	Screen	Geologist/ Engineer:	Brad Defee

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			Sandy CLAY, mc red				
2							
5		0	Silty SAND, c tan				
8			Silty SAND, c pinkish white				
		0					
11			Silty SAND, c white				
14		10	Total Depth-14'				
17							
20							
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-10

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	1/27/00	Sand	Screen	Geologist/ Engineer:	Brad Defee

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			Sandy CLAY, mc red				
2							
5		0	Clayey SAND, c pinkish white				
8							
11		0					
14		0	Total Depth-15'				
17							
20							
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: FS-11

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	20'
Project Number:	21-439c	Casing/ Screen/ Slot		Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal		Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	1/27/00	Sand	Screen	Geologist/ Engineer:	Brad Defee

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction		ft-bgs
			Sandy CLAY, mc red				
2							
5		0	Silty SAND, c tan				
8			Silty SAND, mc pinkish white				
		0					
11			Silty SAND, fmc white				
14		0					
17							
20			Total Depth-20'				
23							
26							
29							
33							
37							
41							

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

APPENDIX C

MONITOR WELL CONSTRUCTION DIAGRAMS

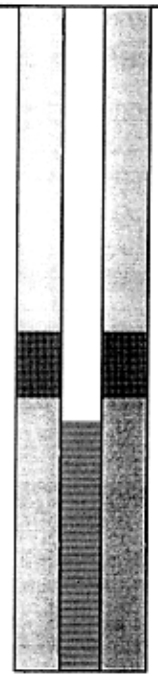
LOG OF BORING: MW-2

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	27'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	12'-15'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand 15'-27'	Screen 10'-27'	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)
			SAND, fmc burnt orange, grey
2			**SAND,** fmc burnt/light orange
		0	
5			
8		2.4	**SAND,** fmc orange, poorly sorted
11			
		0	
14			
		1.4	
17			
20		0	
			SAND, mc orange/burnt orange, poorly sorted
23			
		2.6	
26			**Total Depth - 27'**
29			
33			
37			
41			

Construction



ft-bgs

COMMENTS:

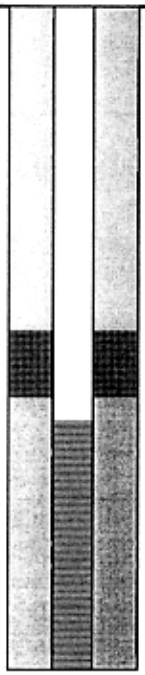
NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-3

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	27'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	12'-15'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand 15'-27'	Screen 17'-27'	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)		Construction	ft-bgs
			SAND,mc burnt red			
2						
5		0				
8						
11		0	**SAND,** mc brown/tan			
14		4.6				
17						
20		10	**SAND,** coarse brown/tan/white with small pebbles			
23						
26		56	**Total Depth - 27'**			
29						
33						
37						
41						



COMMENTS:

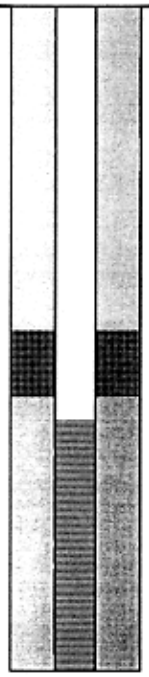
NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-4

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	27'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	13'-15'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand 15'-27'	Screen 17'-27'	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)	Construction	ft-bgs
			SAND, mc burnt red		
2					
5		0			
8					
11		0	**SAND,** mc brown/tan		
14		50	**SAND,** coarse brown/tan		
17					
20		10	**SAND,** coarse brown/tan with small pebbles		
23					
26		12	**Total Depth - 27'**		
29					
33					
37					
41					



COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

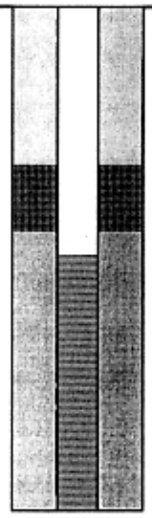
LOG OF BORING: MW-5

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	20'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	6'-9'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	12/27/99	Sand 9'-20'	Screen 10'-20'	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)
			Sandy CLAY, mc burnt red
2			
			Sandy SILT, c white
5		0	
			Sandy SILT, mc burnt red
8			**Silty SAND**, mc pinkish white
		0	
11			
			Silty SAND, c white
14			
		0	
17			
20		0	**Total Depth - 20'**
23			
26			
29			
33			
37			
41			

Construction



COMMENTS:

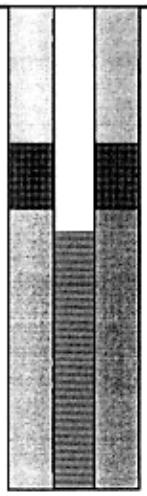
NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-6

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	19'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	4'-7'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	12/27/99	Sand 7'-19'	Screen 9'-19'	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)	Construction	ft-bgs
			Sandy CLAY, mc red		
2					
5		0	Silty SAND, c tan		
8			Silty SAND, c white		
11		0			
14		0			
17					
20		0	Total Depth - 19'		
23					
26					
29					
33					
37					
41					



COMMENTS:

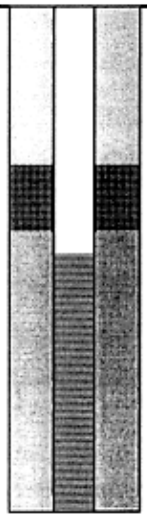
NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-7

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	20'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	5'-8'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	12/27/99	Sand 8'-20'	Screen 10'-20'	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)	Construction	ft-bgs
			Sandy CLAY, mc burnt red		
2					
5		0	**Silty SAND**, c tan		
8			**Silty SAND**, c pinkish white		
11		0	**Silty SAND**, c white		
14		0			
17					
20		50	**Total Depth - 20'**		
23					
26					
29					
33					
37					
41					



COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

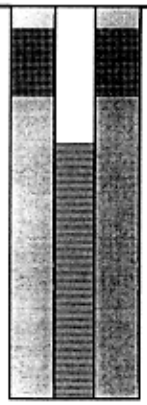
LOG OF BORING: MW-8

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	15'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	1'-3'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	1/27/00	Sand 3'-15'	Screen 5'-15'	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)
			Sandy CLAY, mc burnt red
2			
5		0	**Clayey SAND**, c pinkish white
8			
11		0	
14		0	**Total Depth - 15'**
17			
20			
23			
26			
29			
33			
37			
41			

Construction



COMMENTS:

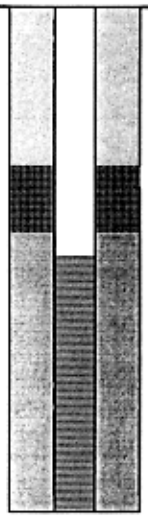
NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: MW-9

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	20'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	5'-8'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	1/27/00	Sand 8'-20'	Screen 10'-20'	Geologist/ Engineer:	Andrea Smith

ft -bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)	Construction	ft-bgs
			Sandy CLAY, mc burnt red		
2					
5		0	Silty SAND, c tan		
8			Silty SAND, c pinkish white		
11		0	Silty SAND, c white		
14		0			
17					
20		0	Total Depth - 20'		
23					
26					
29					
33					
37					
41					



COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

LOG OF BORING: PCW-1

NESCO
For Practical Solutions.

Site Name:	Shop-N-Fill #35	Drilling/Boring Method:	Hollow Stem Auger	Total Boring Depth (ft):	46'
Project Number:	21-439c	Casing/ Screen/ Slot	2 in/ 2in./ 0.010 in	Measuring Point Elev. (ft-reative):	
Location:	N. Augusta, SC	Subcontractor/Drillers:	NESCO	Latitude	N 33° 32.117'
Bentonite Seal	31'-34'	Driller Certification	Todd Allred #1446	Longitude	W 81° 57.862'
Date/Time Completed:	8/25/99	Sand 34'-46'	Screen 36'-46'	Geologist/ Engineer:	Andrea Smith

ft-bgs	Sample No.	OVA (ppm)	SOIL DESCRIPTION (texture, color, moisture, etc.)
			SAND, fmc burnt orange, poorly sorted
2			
		3.2	**SAND,** fmc light orange, poorly sorted
5			**SAND,** fmc burnt orange, poorly sorted
		4.3	
8			
		2.2	
11			
			Slightly Silty SAND, fm white/burnt orange
			SAND mc tan poorly sorted
14			
		1.2	**Silty SAND**, c burnt orange
17			**SAND**, mc white with some small pebbles
20		0	
			SAND, mc orange/burnt orange, poorly sorted
23			
		19	
26			
		0	
29			
		3.8	
33			
37			
41			
45			
			Total Depth - 46'

Construction

ft-bgs

COMMENTS:

NOTES:
ft-bgs - indicates feet below ground surface
N/A - indicates not applicable to this boring
ppm - indicates parts per million

APPENDIX D

SLUG TESTS

NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-3	SHEET 1 OF 5	

This form is used for finding a least squares regression curve to the first few relevant data points from a Bouwer and Rice slug test. This calculation sheet requires the input of the y vs. t data points and outputs y_0, y_t, and t for use in the Bouwer and Rice equations (1985).

Input Data Section

Input data in y vs. t coordinates as vectors for the straight-line portion of the y vs. t curve.

Input data coordinates below:

y (feet) t (sec)

$$y := \begin{bmatrix} .84 \\ .63 \\ .47 \\ .42 \\ .32 \end{bmatrix} \qquad t := \begin{bmatrix} 20 \\ 40 \\ 60 \\ 80 \\ 100 \end{bmatrix}$$

The output graph is plotted from t = 0 to t = $Range_t$ as specified by the user. Enter ending time for plotting range below.

$$Range_t := 150$$

Input desired y_t value here (default is 1.0):

$$y_t := 0.2$$

Automated Calculations Section to Determine Least Squares Regression Data

Linear interpolation functions:

$$m := slope(t, \overrightarrow{ln(y)}) \qquad m = -0.012$$

$$b := intercept(t, \overrightarrow{ln(y)}) \qquad b = 0.021$$

$$G := e^b \qquad G = 1.021$$

Governing least squares fit equation:

$$Y(T) := G \cdot e^{m \cdot T}$$

Equations to determine plotting variables:

$$T := 0, 1 .. Range_t \qquad i := 0 .. length(y) - 1$$

$$x := 100$$

$$t_2 := root(G \cdot e^{m \cdot x} - y_t, x) \qquad y_0 := Y(0)$$

NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-3	SHEET 2 OF 5	

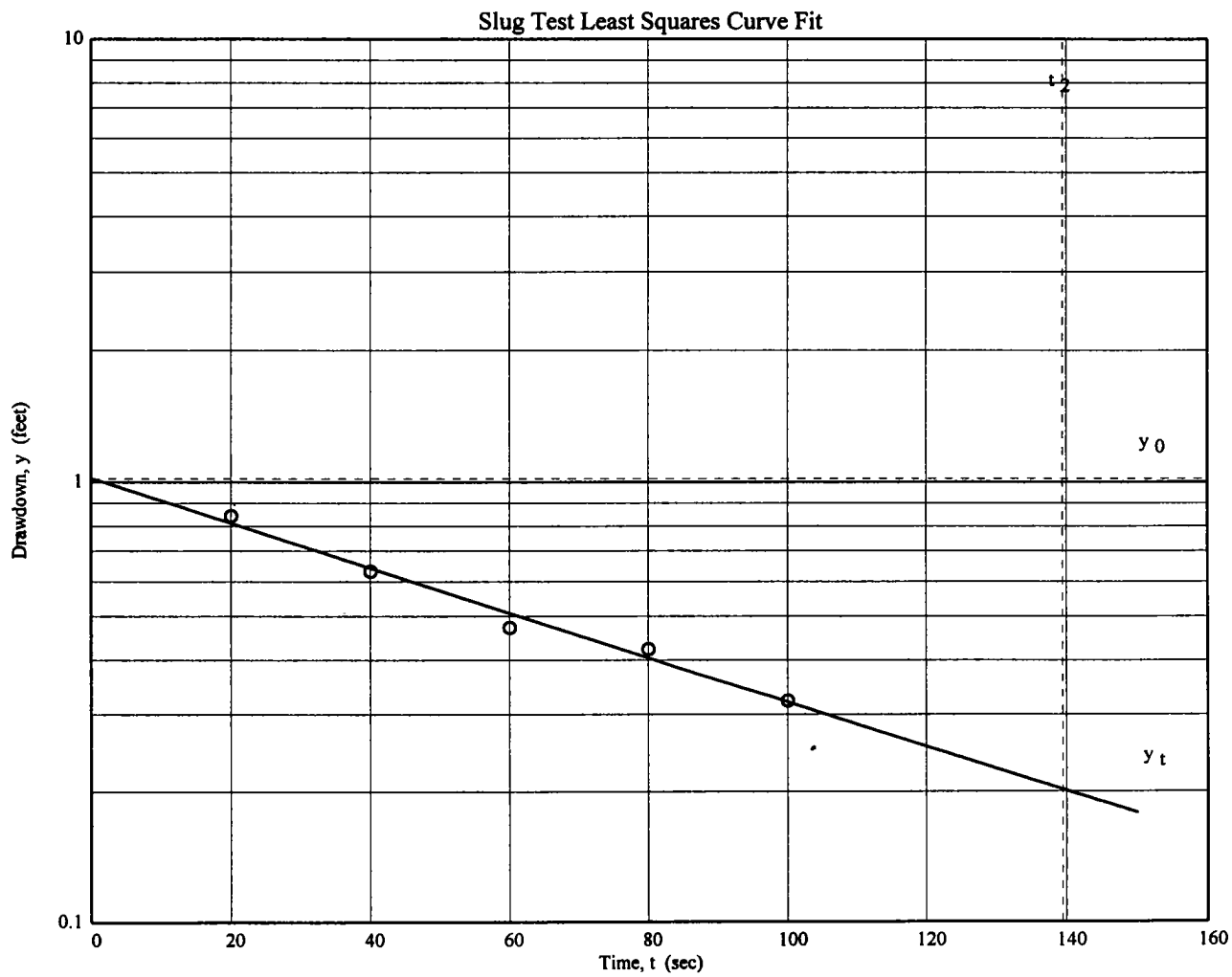
Output Section

$y_0 = 1.021$

$y_t = 0.2$

$t_2 = 139.541$

===Values for input to Bouwer and Rice (1985)



OOO Data Points
—— Least Squares Regression

NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-3	SHEET 3 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, A

$$Adata := \begin{bmatrix} 3.8 & 1.7 \\ 12 & 1.9 \\ 24 & 2.3 \\ 39 & 2.6 \\ 80 & 3.8 \\ 200 & 6.0 \\ 400 & 7.9 \\ 700 & 8.75 \\ 1000 & 9.3 \\ 1600 & 9.7 \end{bmatrix}$$

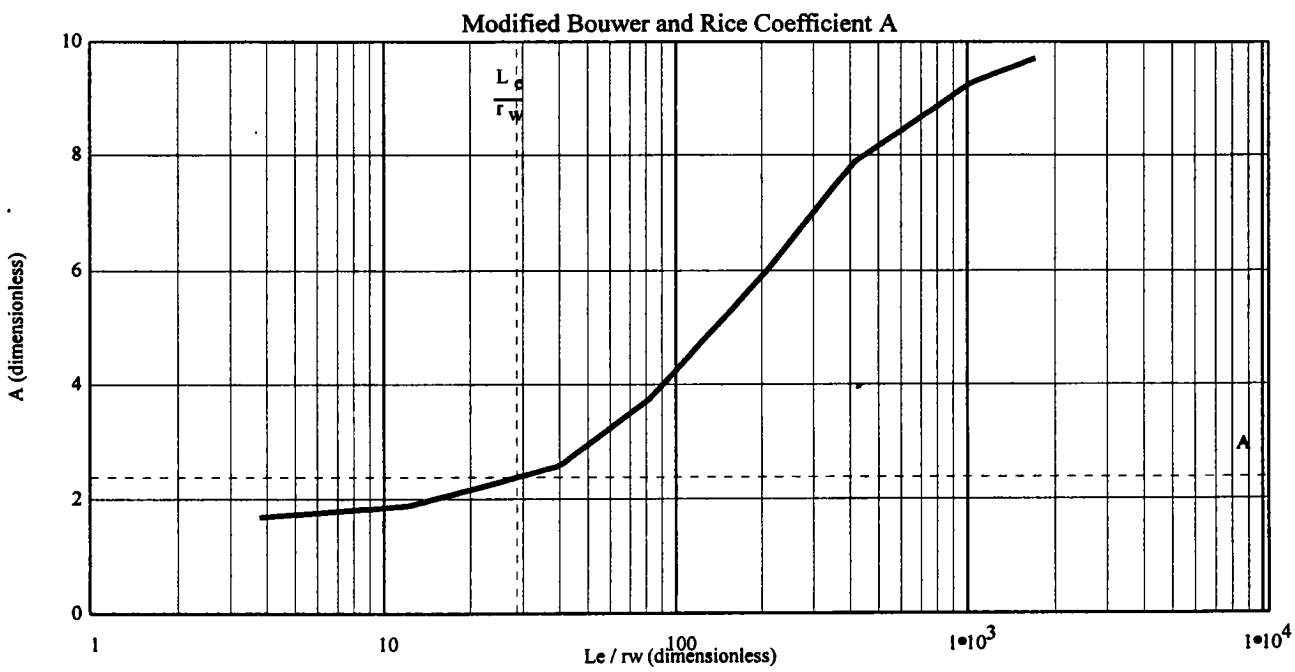
$X_A := Adata^{<0>}$ $\quad Y_A := Adata^{<1>}$ $\quad i := 0..\ length(X_A) - 1$

$Xlog_{A_i} := log(X_{A_i})$

$Afit(x) := linterp(Xlog_A, Y_A, x)$

$scale := 100$ $\quad j := 0..\ scale$

$x_j := min(Xlog_A) + j \cdot \frac{max(Xlog_A) - min(Xlog_A)}{scale}$ $\quad A := Afit\left(log\left(\frac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-3	SHEET 4 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, B

$$Bdata := \begin{bmatrix} 3.8 & 0.25 \\ 10 & 0.27 \\ 20 & 0.30 \\ 50 & 0.55 \\ 150 & 1.1 \\ 200 & 1.2 \\ 250 & 1.35 \\ 500 & 2.2 \\ 800 & 2.7 \\ 1600 & 3.25 \end{bmatrix}$$

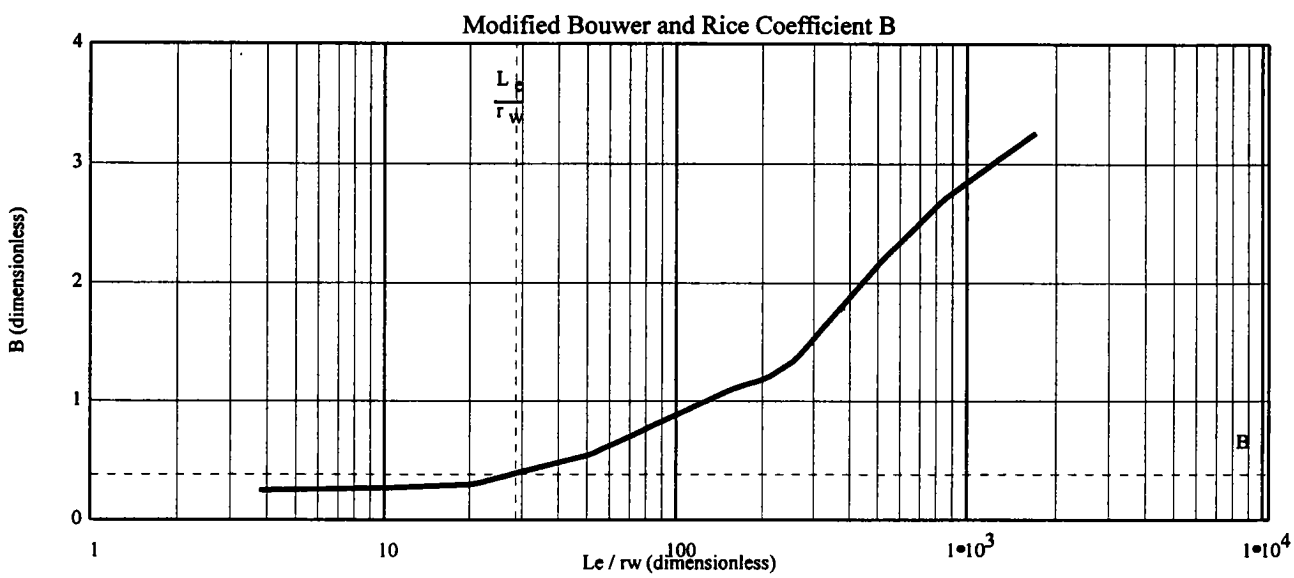
$X_B := Bdata^{<0>}$ $\quad Y_B := Bdata^{<1>}$ $\quad k := 0 .. \text{length}(X_B) - 1$

$Xlog_{B_k} := \log(X_{B_k})$

$Bfit(y) := \text{linterp}(Xlog_B, Y_B, y)$

$l := 0 .. scale$

$y_l := \min(Xlog_B) + l \cdot \dfrac{\max(Xlog_B) - \min(Xlog_B)}{scale}$ $\quad B := Bfit\left(\log\left(\dfrac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-3	SHEET 5 OF 5	

Known Constants

Input the following values:

$r_c := 1.\cdot in$ $\quad L_w := 10.18\cdot ft$

$r_w \equiv 4.25\cdot in$ $\quad H := 30\cdot ft$

$L_e \equiv 10\cdot ft$

$A = 2.4$ $\quad B = 0.394$

From the least squares curve fit above:

$y_0 = 1.021$

$y_t = 0.2$

$\tau := t_2\cdot sec$ $\quad \tau = 139.541\ sec$

Defining Functions -- Modified Bouwer and Rice Slug Test Equations

$$lnRe := \left[\frac{1.1}{\ln\left(\frac{L_w}{r_w}\right)} + \frac{A + B\cdot\ln\left(\frac{H - L_w}{r_w}\right)}{\left(\frac{L_e}{r_w}\right)}\right]^{-1}$$

$$K := \frac{r_c^2\cdot lnRe}{2\cdot L_e}\cdot\left(\frac{1}{\tau}\right)\cdot\ln\left(\frac{y_0}{y_t}\right)$$

Solution Block, K in terms of ft/day and cm/sec

$$K = 0.7\cdot\frac{ft}{day}$$

$$K = 2.6\cdot 10^{-4}\cdot\frac{cm}{sec}$$

NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-6	SHEET 1 OF 5	

This form is used for finding a least squares regression curve to the first few relevant data points from a Bouwer and Rice slug test. This calculation sheet requires the input of the y vs. t data points and outputs y_0, y_t, and t for use in the Bouwer and Rice equations (1985).

Input Data Section

Input data in y vs. t coordinates as vectors for the straight-line portion of the y vs. t curve.

Input data coordinates below:

y (feet) t (sec)

$$y := \begin{bmatrix} 3.85 \\ 3.51 \\ 3.42 \\ 3.30 \\ 3.14 \end{bmatrix} \qquad t := \begin{bmatrix} 60 \\ 80 \\ 100 \\ 120 \\ 150 \end{bmatrix}$$

The output graph is plotted from t = 0 to t = $Range_t$ as specified by the user. Enter ending time for plotting range below.

$$Range_t := 150$$

Input desired y_t value here (default is 1.0):

$$y_t := 0.2$$

Automated Calculations Section to Determine Least Squares Regression Data

Linear interpolation functions:

$$m := slope\left(t, \overrightarrow{\ln(y)}\right) \qquad m = -2.108 \cdot 10^{-3}$$

$$b := intercept\left(t, \overrightarrow{\ln(y)}\right) \qquad b = 1.449$$

$$G := e^{b} \qquad G = 4.26$$

Governing least squares fit equation:

$$Y(T) := G \cdot e^{m \cdot T}$$

Equations to determine plotting variables:

$$T := 0, 1 .. Range_t \qquad i := 0 .. length(y) - 1$$

$$x := 100$$

$$t_2 := root\left(G \cdot e^{m \cdot x} - y_t, x\right) \qquad y_0 := Y(0)$$

NESCO

CALCULATION SHEET

PROJECT: Shop-N-Fill #35
CALCULATED BY: ARS
DATE: 1/11/2000
TOPIC: Slug Test Data Calculations - MW-6

PROJECT NO.: 21-439
CHECKED BY:
DATE:
SHEET 2 OF 5

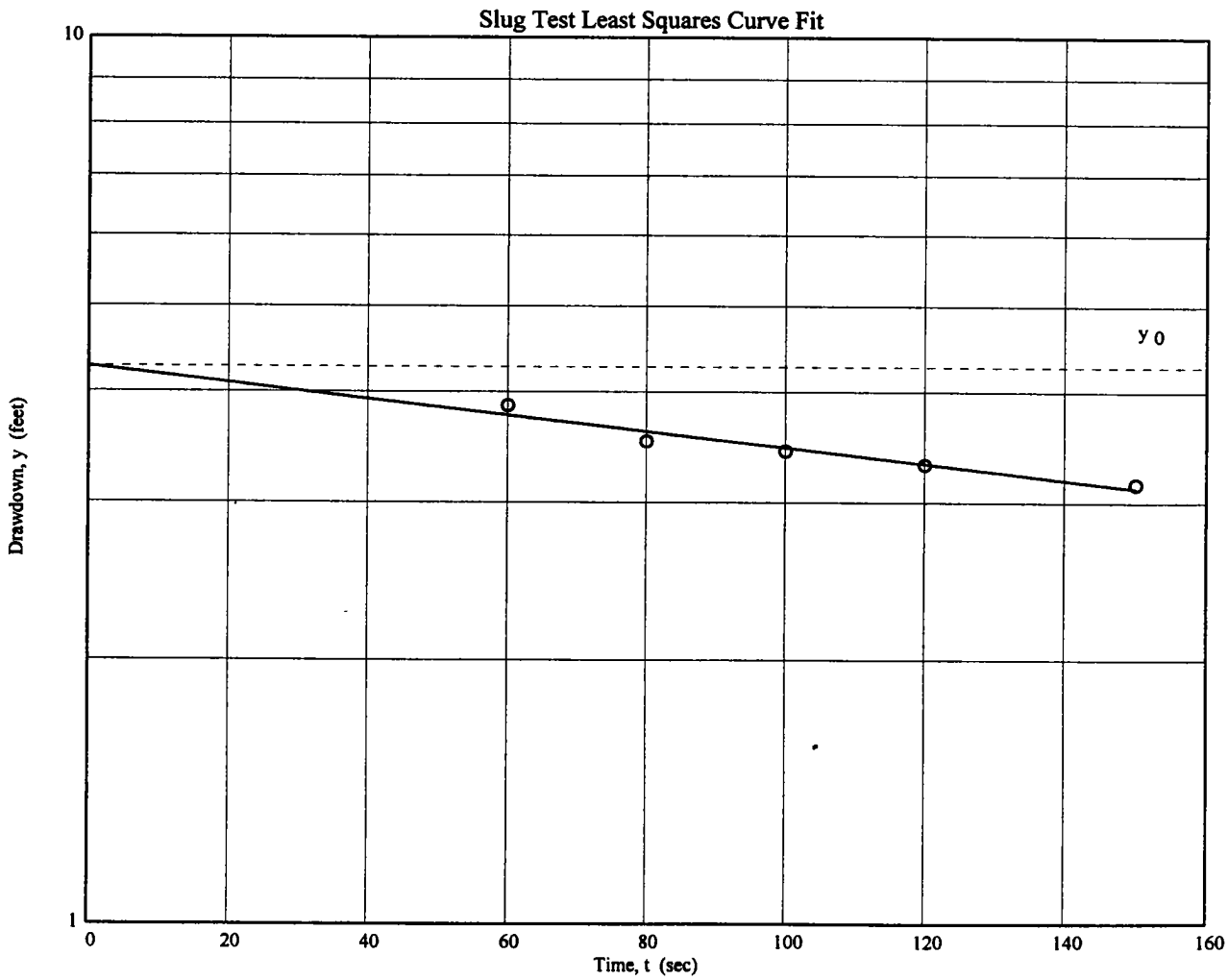
Output Section

$y_0 = 4.26$

$y_t = 0.2$

$t_2 = 1.45 \cdot 10^3$

===Values for input to Bouwer and Rice (1985)



OOO Data Points
—— Least Squares Regression

NESCO

CALCULATION SHEET

PROJECT: Shop-N-Fill #35
CALCULATED BY: ARS
DATE: 1/11/2000
TOPIC: Slug Test Data Calculations - MW-6

PROJECT NO.: 21-439
CHECKED BY:
DATE:
SHEET 3 OF 5

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, A

$$Adata := \begin{bmatrix} 3.8 & 1.7 \\ 12 & 1.9 \\ 24 & 2.3 \\ 39 & 2.6 \\ 80 & 3.8 \\ 200 & 6.0 \\ 400 & 7.9 \\ 700 & 8.75 \\ 1000 & 9.3 \\ 1600 & 9.7 \end{bmatrix}$$

$X_A := Adata^{<0>}$ $\quad Y_A := Adata^{<1>}$ $\quad i := 0 .. \text{length}(X_A) - 1$

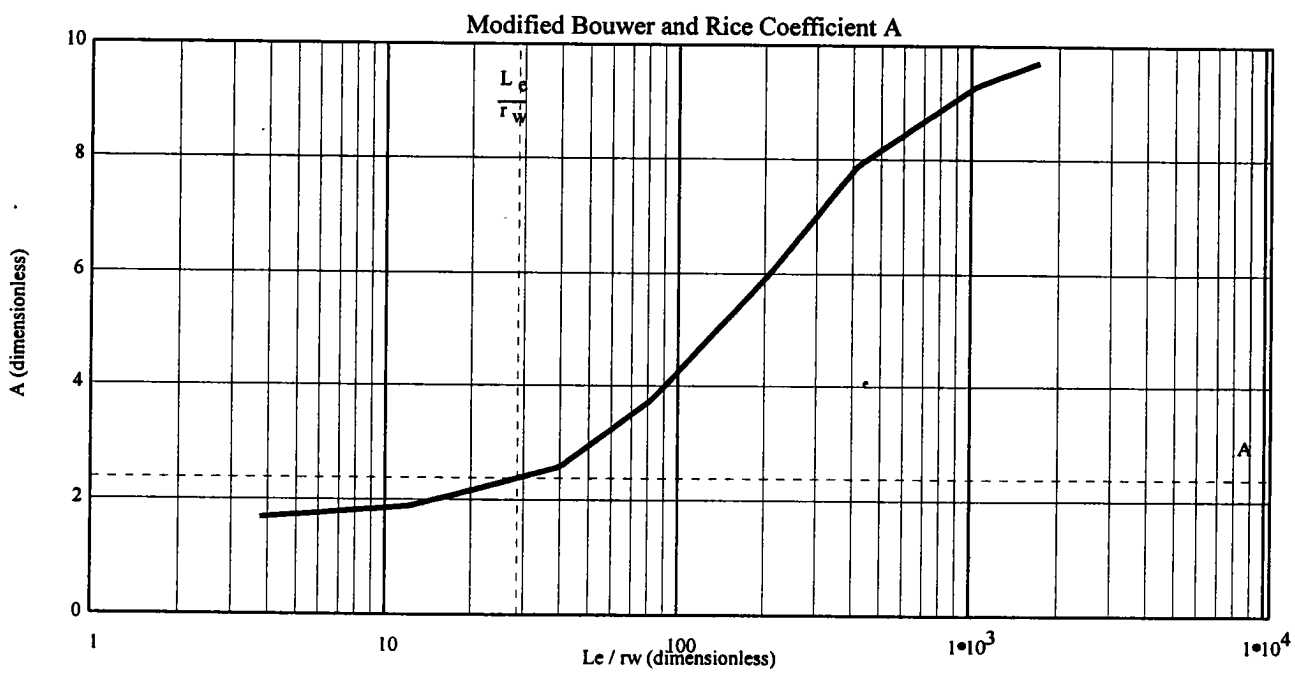
$Xlog_{A_i} := \log(X_{A_i})$

$Afit(x) := \text{linterp}(Xlog_A, Y_A, x)$

$scale := 100$ $\quad j := 0 .. scale$

$$x_j := \min(Xlog_A) + j \cdot \frac{\max(Xlog_A) - \min(Xlog_A)}{scale}$$

$$A := Afit\left(\log\left(\frac{L_e}{r_w}\right)\right)$$



NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-6	SHEET 4 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, B

$$Bdata := \begin{bmatrix} 3.8 & 0.25 \\ 10 & 0.27 \\ 20 & 0.30 \\ 50 & 0.55 \\ 150 & 1.1 \\ 200 & 1.2 \\ 250 & 1.35 \\ 500 & 2.2 \\ 800 & 2.7 \\ 1600 & 3.25 \end{bmatrix}$$

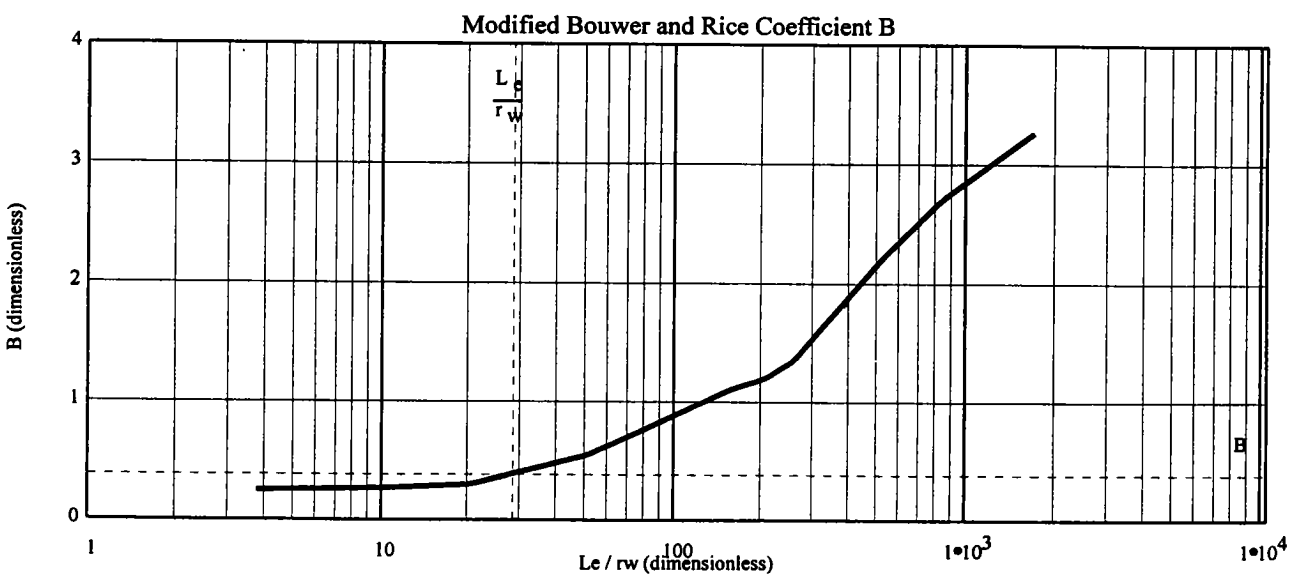
$X_B := Bdata^{<0>}$ $\quad Y_B := Bdata^{<1>}$ $\quad k := 0 .. \text{length}(X_B) - 1$

$Xlog_{B_k} := \log(X_{B_k})$

$Bfit(y) := \text{linterp}(Xlog_B, Y_B, y)$

$l := 0 .. \text{scale}$

$y_l := \min(Xlog_B) + l \cdot \dfrac{\max(Xlog_B) - \min(Xlog_B)}{\text{scale}}$ $\quad B := Bfit\left(\log\left(\dfrac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	1/11/2000	DATE:	
TOPIC:	Slug Test Data Calculations - MW-6	SHEET 5 OF 5	

Known Constants

Input the following values:

$r_c := 1.\cdot in$ $\quad L_w := 10.18\cdot ft$

$r_w \equiv 4.25\cdot in$ $\quad H := 30\cdot ft$

$L_e \equiv 10\cdot ft$

$A = 2.4$ $\quad B = 0.394$

From the least squares curve fit above:

$y_0 = 4.26$

$y_t = 0.2$

$\tau := t_2\cdot sec$ $\quad \tau = 1.45\cdot 10^3\ sec$

Defining Functions -- Modified Bouwer and Rice Slug Test Equations

$$\ln Re := \left[\frac{1.1}{\ln\left(\frac{L_w}{r_w}\right)} + \frac{A + B\cdot\ln\left(\frac{H - L_w}{r_w}\right)}{\left(\frac{L_e}{r_w}\right)}\right]^{-1}$$

$$K := \frac{r_c^2\cdot \ln Re}{2\cdot L_e}\cdot\left(\frac{1}{\tau}\right)\cdot\ln\left(\frac{y_0}{y_t}\right)$$

Solution Block, K in terms of ft/day and cm/sec

$$K = 0.1\cdot\frac{ft}{day}$$

$$K = 4.8\cdot 10^{-5}\cdot\frac{cm}{sec}$$

NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439c
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	2/4/00	DATE:	
TOPIC:	Slug Test Data Calculations - PW-1	SHEET 1 OF 5	

This form is used for finding a least squares regression curve to the first few relevant data points from a Bouwer and Rice slug test. This calculation sheet requires the input of the y vs. t data points and outputs y_0, y_t, and t for use in the Bouwer and Rice equations (1985).

Input Data Section

Input data in y vs. t coordinates as vectors for the straight-line portion of the y vs. t curve.

Input data coordinates below:

y (feet) t (sec)

$$y := \begin{bmatrix} 1.03 \\ 0.57 \\ 0.57 \\ 0.15 \\ 0.10 \end{bmatrix} \qquad t := \begin{bmatrix} 20 \\ 40 \\ 60 \\ 80 \\ 100 \end{bmatrix}$$

0.60

The output graph is plotted from t = 0 to t = $Range_t$ as specified by the user. Enter ending time for plotting range below.

$$Range_t := 150$$

nput desired y_t value here (default is 1.0):

$$y_t := 0.2$$

Automated Calculations Section to Determine Least Squares Regression Data

Linear interpolation functions:

$m := slope(t, \overrightarrow{ln(y)})$ $\qquad m = 1\ m$

$b := intercept(t, \overrightarrow{ln(y)})$ $\qquad b = 0.741$

$G := e^b$ $\qquad G = 2.098$

Governing least squares fit equation:

$$Y(T) := G \cdot e^{m \cdot T}$$

Equations to determine plotting variables:

$T := 0, 1 .. Range_t$ $\qquad i := 0 .. length(y) - 1$

$x := 1$

$t_2 := root(G \cdot e^{m \cdot x} - y_t, x)$ $\qquad y_0 := Y(0)$

NESCO

CALCULATION SHEET

PROJECT: Shop-N-Fill #35
CALCULATED BY: ARS
DATE: 2/4/00
TOPIC: Slug Test Data Calculations - PW-1,

PROJECT NO.: 21-439c
CHECKED BY:
DATE:
SHEET 2 OF 5

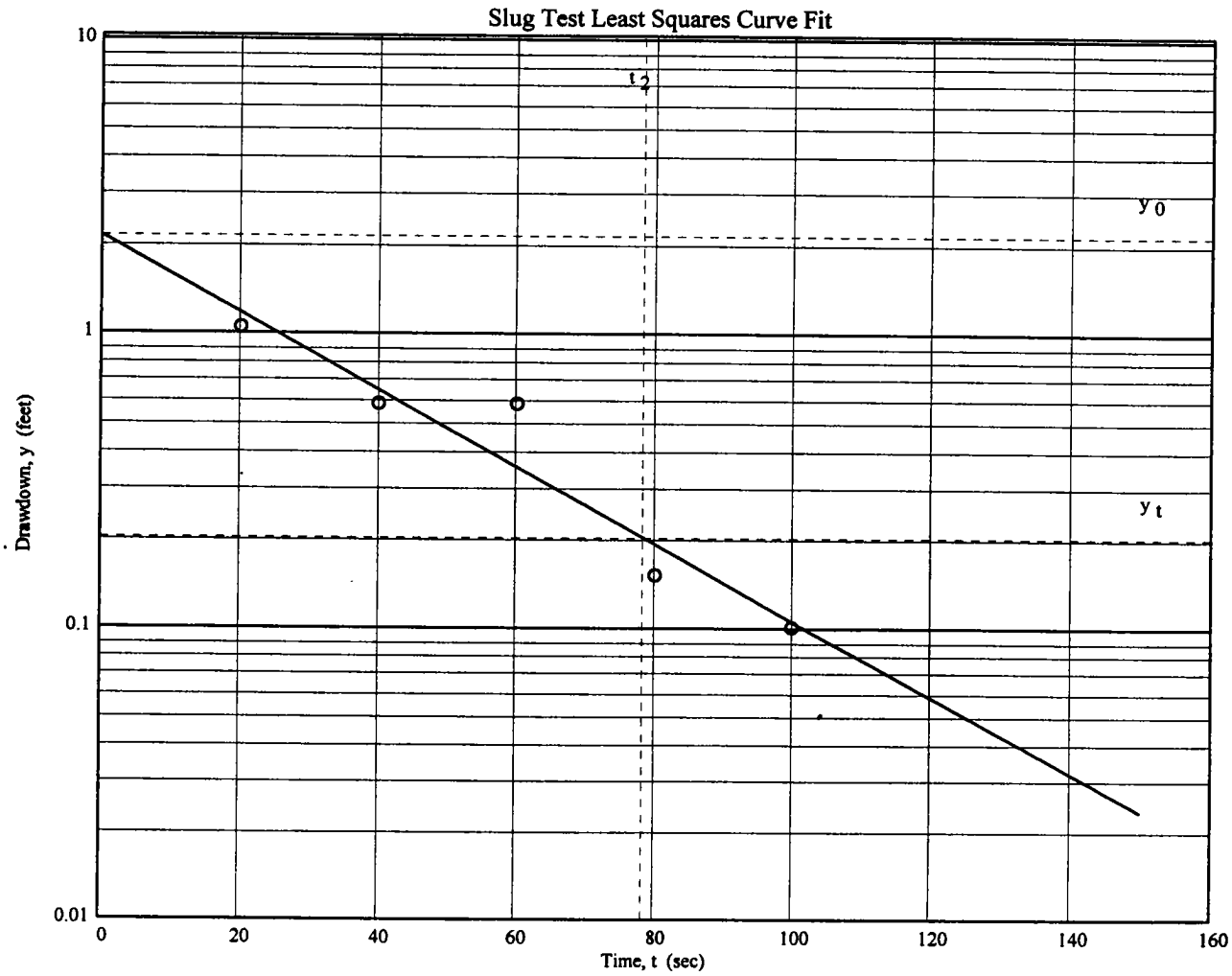
Output Section

$y_0 = 2.098$

$y_t = 0.2$

$t_2 = 78.247$

===Values for input to Bouwer and Rice (1985)



OOO Data Points
—— Least Squares Regression

NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439 c
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	2/4/00	DATE:	
TOPIC:	Slug Test Data Calculations - PW-1	SHEET 3 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, A

$$Adata := \begin{bmatrix} 3.8 & 1.7 \\ 12 & 1.9 \\ 24 & 2.3 \\ 39 & 2.6 \\ 80 & 3.8 \\ 200 & 6.0 \\ 400 & 7.9 \\ 700 & 8.75 \\ 1000 & 9.3 \\ 1600 & 9.7 \end{bmatrix}$$

$X_A := Adata^{<0>}$ $\quad Y_A := Adata^{<1>}$ $\quad i := 0..\ length(X_A) - 1$

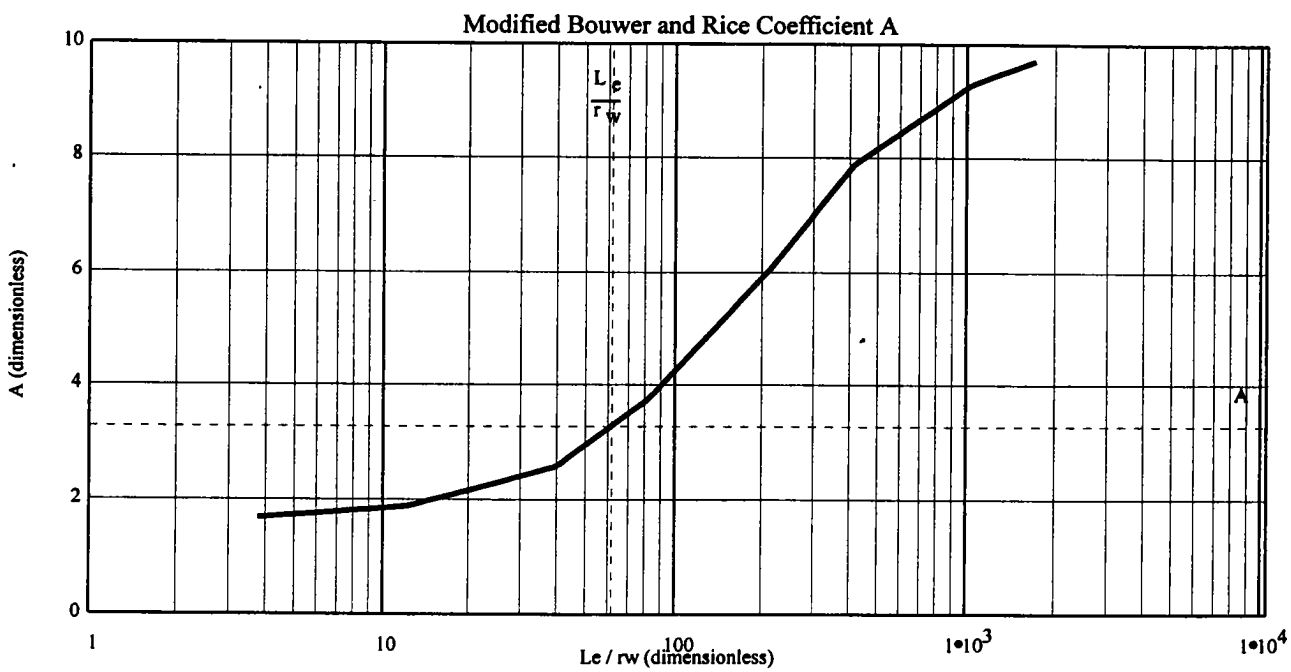
$Xlog_{A_i} := \log(X_{A_i})$

$Afit(x) := linterp(Xlog_A, Y_A, x)$

$scale := 100$ $\quad j := 0..\ scale$

$$x_j := \min(Xlog_A) + j \cdot \frac{\max(Xlog_A) - \min(Xlog_A)}{scale}$$

$$A := Afit\left(\log\left(\frac{L_e}{r_w}\right)\right)$$



NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439c
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	2/4/00	DATE:	
TOPIC:	Slug Test Data Calculations - PW-1	SHEET 4 OF 5	

Curve Matching for Modified Bouwer and Rice Partially Penetrating Well Constant, B

$$Bdata := \begin{bmatrix} 3.8 & 0.25 \\ 10 & 0.27 \\ 20 & 0.30 \\ 50 & 0.55 \\ 150 & 1.1 \\ 200 & 1.2 \\ 250 & 1.35 \\ 500 & 2.2 \\ 800 & 2.7 \\ 1600 & 3.25 \end{bmatrix}$$

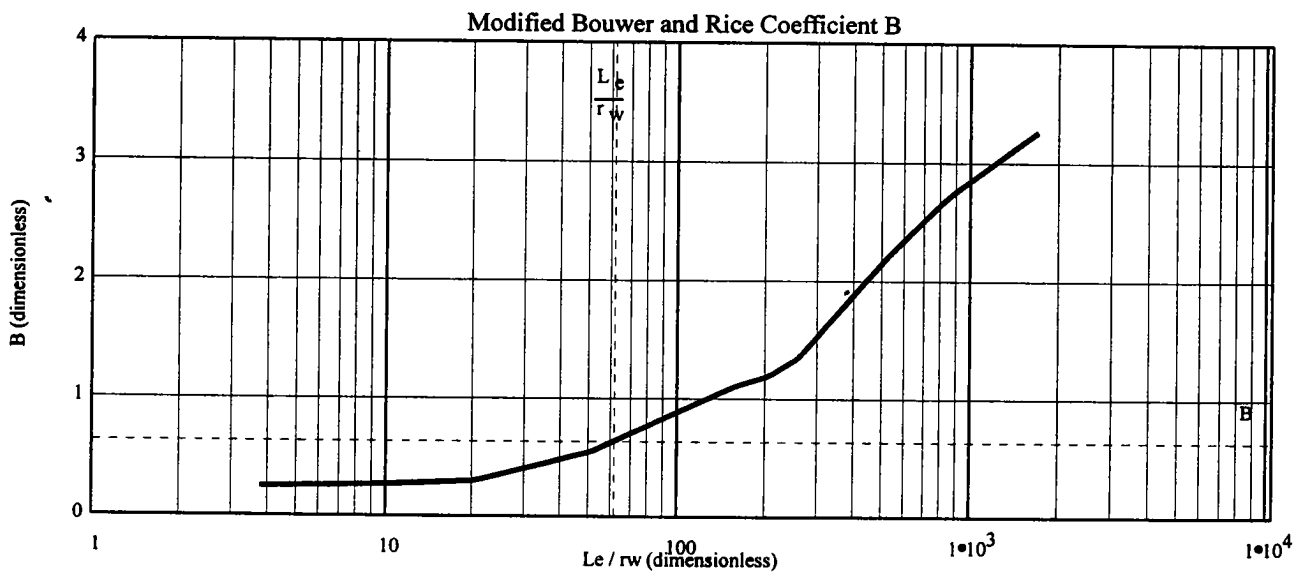
$X_B := Bdata^{<0>}$ $\quad Y_B := Bdata^{<1>}$ $\quad k := 0..\ length(X_B) - 1$

$Xlog_{B_k} := \log(X_{B_k})$

$Bfit(y) := linterp(Xlog_B, Y_B, y)$

$l := 0..\ scale$

$y_l := \min(Xlog_B) + l \cdot \dfrac{\max(Xlog_B) - \min(Xlog_B)}{scale}$ $\quad B := Bfit\left(\log\left(\dfrac{L_e}{r_w}\right)\right)$



NESCO

CALCULATION SHEET

PROJECT:	Shop-N-Fill #35	PROJECT NO.:	21-439c
CALCULATED BY:	ARS	CHECKED BY:	
DATE:	2/4/00	DATE:	
TOPIC:	Slug Test Data Calculations - PW-1	SHEET 5 OF 5	

Known Constants

Input the following values:

$r_c := 1 \cdot in$

$r_w \equiv 2 \cdot in$ $\quad L_w := 23.39 \cdot ft$

$L_e \equiv 10.0 \cdot ft$ $\quad H := 30 \cdot ft$

$A = 3.32$ $\quad B = 0.641$

From the least squares curve fit above:

$y_0 = 2.098$

$y_t = 0.2$

$\tau := t_2 \cdot sec$ $\quad \tau = 78.247\ sec$

Defining Functions -- Modified Bouwer and Rice Slug Test Equations

$$\ln Re := \left[\frac{1.1}{\ln\left(\frac{L_w}{r_w}\right)} + \frac{A + B \cdot \ln\left(\frac{H - L_w}{r_w}\right)}{\left(\frac{L_e}{r_w}\right)} \right]^{-1}$$

$$K := \frac{r_c^2 \cdot \ln Re}{2 \cdot L_e} \cdot \left(\frac{1}{\tau}\right) \cdot \ln\left(\frac{y_0}{y_t}\right)$$

Solution Block, K in terms of ft/day and cm/sec

$$K = 2.8 \cdot \frac{ft}{day}$$

$$K = 1 \cdot 10^{-3} \cdot \frac{cm}{sec}$$

APPENDIX E

FATE AND TRANSPORT MODELING DATA

BIOSCREEN Natural Attenuation Decision Support System

NESCO Inc.

Benzene

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 or 0.02 — Enter Value directly, or Calculate by filling in grey cells below (or restore formulas in input on below)

Variable — Data set directly by model; Value is calculated by model (Do not enter any data)

20

1. HYDROGEOLOGY

Seepage Velocity*	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	13.8	(ft)
Transverse Dispersivity*	alpha y	1.4	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor*	R	1.6	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	81	(l/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coef*	Lambda	5.0E+1	(per yr)
or		or	
Solute Half-Life	t1/2	0.014	(year)
Other Miscellaneous Reaction Mode			
[illegible]	[illegible]	4.6	[illegible]
[illegible]	[illegible]	1.22	[illegible]
[illegible]	[illegible]	27.1	[illegible]
[illegible]	[illegible]	2.3	[illegible]
[illegible]	[illegible]	18	[illegible]

5. GENERAL

Modeled Area Length	400	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat. Zone* 20 (ft)

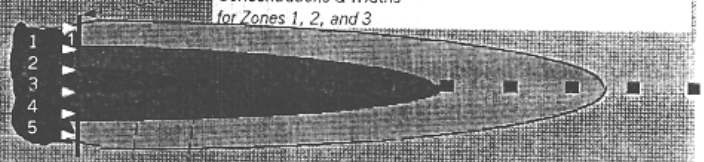
Source Zones

Width (ft)	Concn (mg/L)
0	0
0	0
40	226
0	0
0	0

Source Halflife (see Help)

>1000	>1000 (yr)
Inst'l Reaction	1st Order
Soluble Mass	50000 (Kg)
In Source NAPL Soil	

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells - If No Data Leave Blank or Enter "0"

7. FIELD DATA FOR COMPARISON

Distance from Source (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

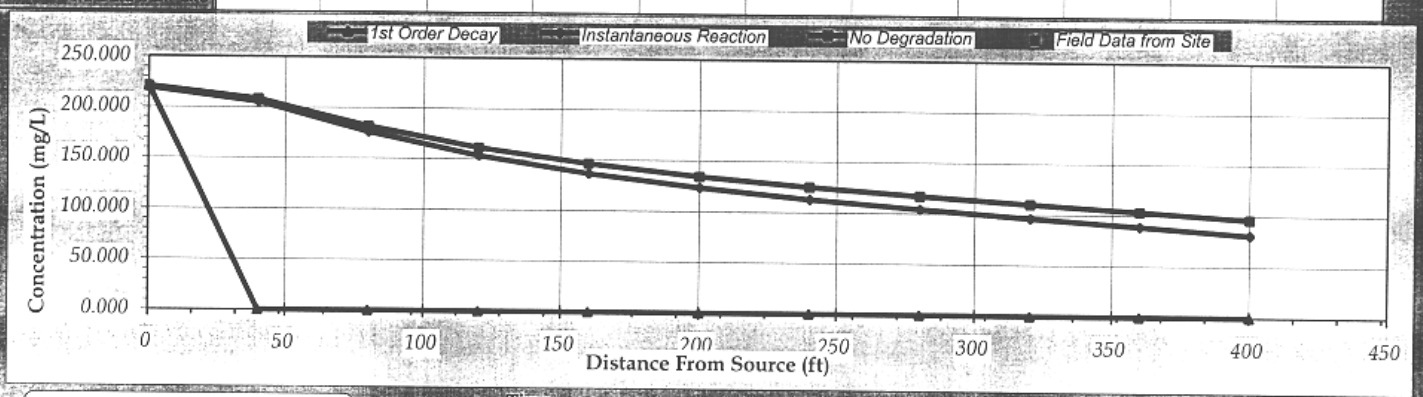
Restore Formulas for Vs, Dispersivities, R, lambda, other

Benzene
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	40	80	120	160	200	240	280	320	360	400
No Degradation	220.551	208.234	181.657	161.211	146.028	134.330	124.935	117.039	110.013	103.288	96.305
1st Order Decay	220.551	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	219.207	205.527	175.948	153.193	136.297	123.282	112.830	104.047	96.232	88.750	80.977
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

Benzene
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 or 0.02 — 1. Enter value directly, or 2. Calculate by filling in grey cells below (complex input or defaults)

Variable — Grassed dimensions model

20 — Value calculated by model (Do not enter any data)

1. HYDROGEOLOGY

Seepage Velocity	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient		0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity	alpha x	13.8	(ft)
Transverse Dispersivity	alpha y	1.4	(ft)
Vertical Dispersivity	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation factor	R	1.9	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	133	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff	lambda	6.3E+1	(per yr)
or		or	
Solute Half Life	t half	0.011	(year)
Other Attenuation - Retardation Model			
[illegible]	[illegible]	4.6	[illegible]
[illegible]	[illegible]	1.22	[illegible]
[illegible]	[illegible]	27.1	[illegible]
[illegible]	[illegible]	2.3	[illegible]
[illegible]	[illegible]	18	[illegible]

5. GENERAL

Modeled Area Length	400	(ft)
Modeled Area Width	40	(ft)
Simulation Time	90	(yr)

6. SOURCE DATA

Source Thickness in Sat Zone: 20 (ft)

Source Zones: Width (ft)	Conc (mg/L)
0	0
0	0
40	301
0	0
0	0

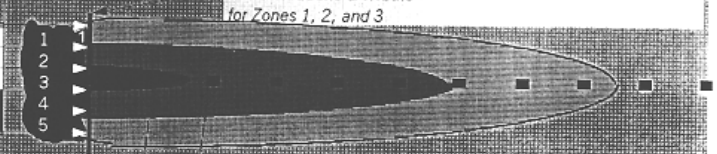
Source Halflife (see Help): >1000 | >1000 (yr)

Inst React | 1st Order

Soluble Mass: 50000 (kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells (If No Data, Leave Blank or Enter "0")

Distance from Source (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

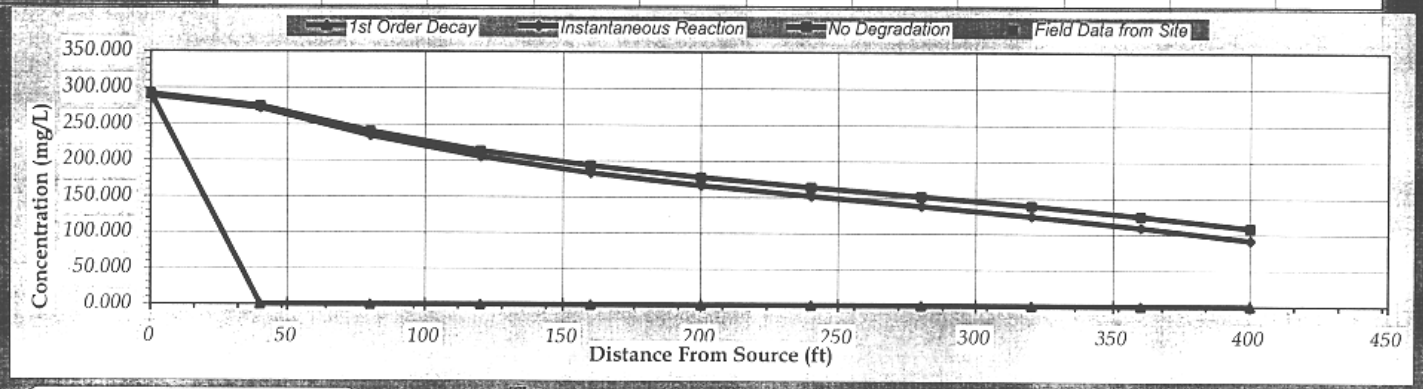
Restore Formulas for Vs, Dispersivities, R, lambda, other

Toluene
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	40	80	120	160	200	240	280	320	360	400
No Degradation	291.373	275.368	240.438	213.510	193.380	177.548	164.171	151.773	139.053	124.930	108.768
1st Order Decay	291.373	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	289.618	272.321	234.472	205.295	183.487	166.337	151.848	138.415	124.627	109.305	91.761
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

Toluene
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO Inc.

Ethylbenzene

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:
1. Enter value directly for or Calc/Water by filling in grey cells below. To restore formulas (and/or restore default data) click on Help.
Variable: Data set entered by user
20 → Value calculated by model (Don't enter anything here)

1. HYDROGEOLOGY

Seepage Velocity	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity	alpha x	13.8	(ft)
Transverse Dispersivity	alpha y	1.4	(ft)
Vertical Dispersivity	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor*	R	2.2	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	176	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	8.7E+1	(per yr)
or		or	
Soil Half Life	thalf	0.008	(year)
Delta Method for Source Model			
[illegible]	[illegible]	4.6	[illegible]
[illegible]	[illegible]	1.22	[illegible]
[illegible]	[illegible]	27.1	[illegible]
[illegible]	[illegible]	2.3	[illegible]
[illegible]	[illegible]	18	[illegible]

5. GENERAL

Modeled Area Length*	400	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat Zone: 20 (ft)

Source Zones

Width (ft)	Conc. (mg/L)
0	0
0	0
30	280
0	0
0	0

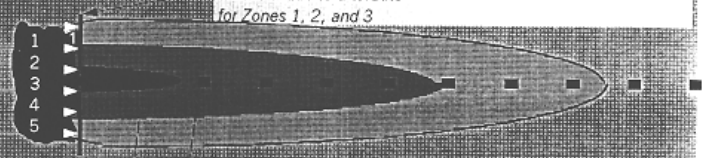
Source Halflife (see Help)

Infinite	Infinite	(yr)
Inst. React.	1st Order	

Soluble Mass: Infinite (kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells (If No Data, Leave Blank or Enter 0)

Distance from Source (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

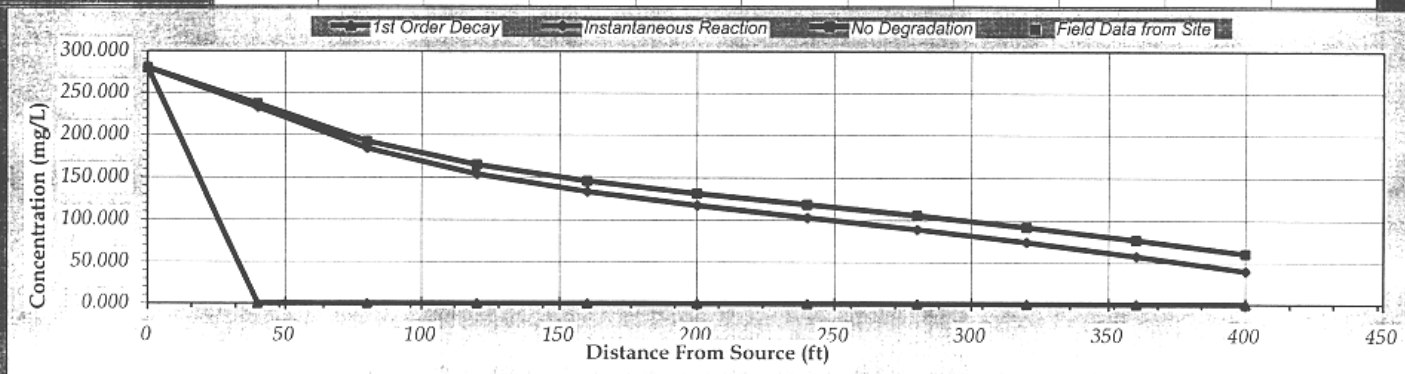
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	40	80	120	160	200	240	280	320	360	400
No Degradation	280.000	236.843	192.117	164.722	145.818	131.167	118.337	105.645	91.953	76.817	60.652
1st Order Decay	280.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	280.000	232.754	183.792	153.802	133.107	117.068	103.023	89.129	74.140	57.570	39.874
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

Ethylbenzene
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Xylenes

Data Input Instructions:

115 or 0.02 — Enter value directly or calculate by multiplying grey cell below by conversion formula (in cell to the right)

Variable — Value used in the model

20 — Value calculated by model (Do not enter anything here)

1. HYDROGEOLOGY

Seepage Velocity	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.15E-04	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity	alpha x	13.8	(ft)
Transverse Dispersivity	alpha y	1.4	(ft)
Vertical Dispersivity	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor*	R	5.3	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	639	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	3.6E+1	(per yr)
or		or	
Half-Life	thalf	0.19	(year)
Other Parameters for Chain Model			
Parameter		4.6	(mg/L)
Parameter		1.22	(mg/L)
Parameter		27.1	(mg/L)
Parameter		2.3	(mg/L)
Parameter		18	(mg/L)

5. GENERAL

Modeled Area Length*	400	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat Zone* 20 (ft)

Source Zones Width* (ft)	Conc. (mg/L)
0	0
0	0
30	278
0	0
0	0

Source Halflife (see Help)

>1000	>1000

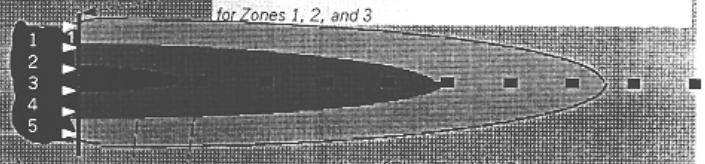
(yr)

Inst. Reaction — 1st Order

Soluble Mass 50000 (kg)

In Source NAPL — Sol

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data, Leave Blank or Enter '0'

7. FIELD DATA FOR COMPARISON

Distance from Source* (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration* (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

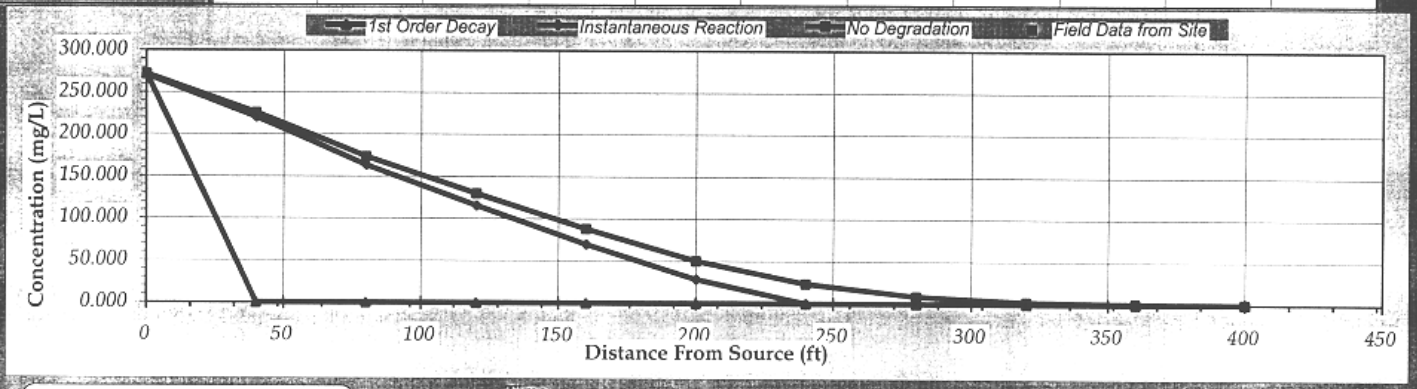
Xylenes
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	40	80	120	160	200	240	280	320	360	400
No Degradation	271.810	225.475	173.314	129.705	87.738	50.271	23.296	8.470	2.362	0.498	0.078
1st Order Decay	271.810	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	270.581	220.052	163.101	115.456	69.564	28.544	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



Calculate Animation

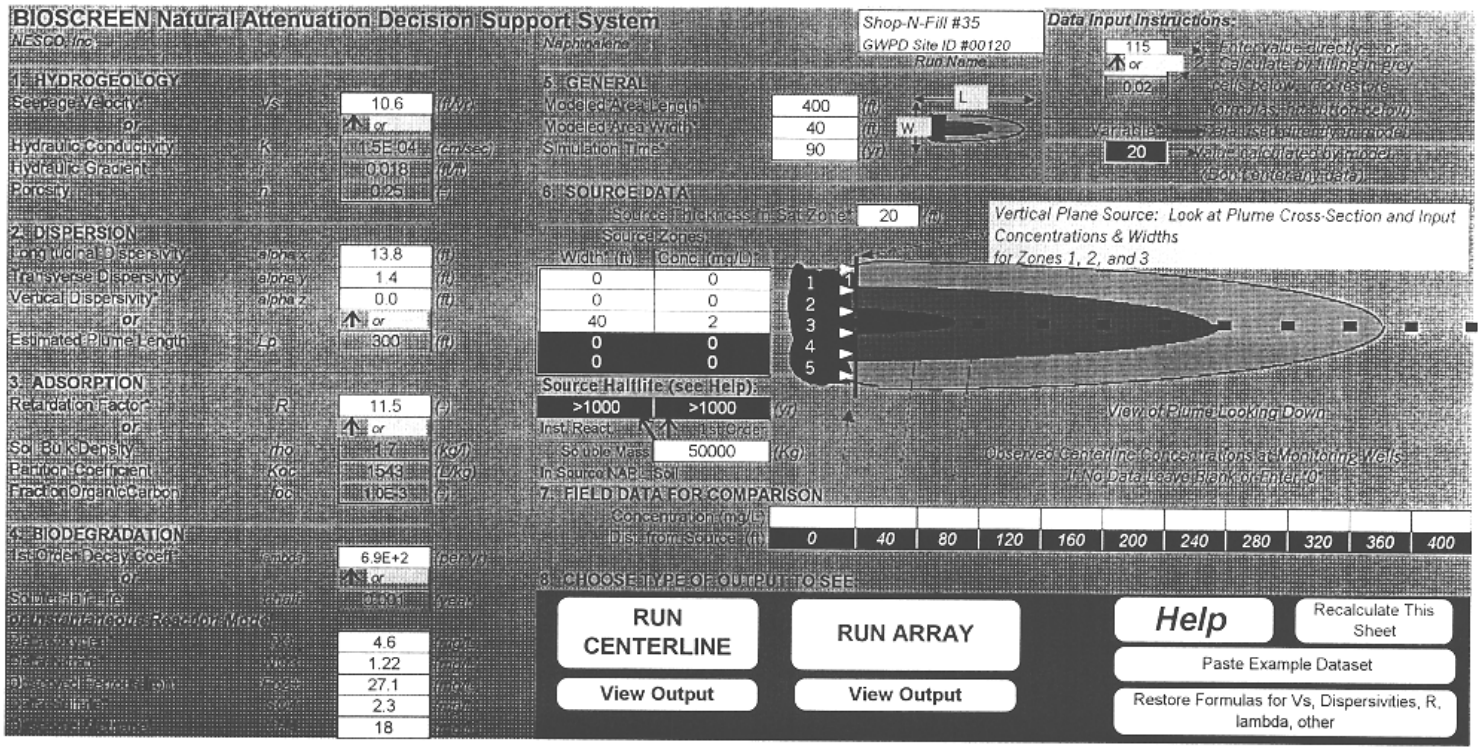
Time: 90 Years

Return to Input

Recalculate This Sheet

Xylenes
Shop-N-Fill #35

02/23/2000

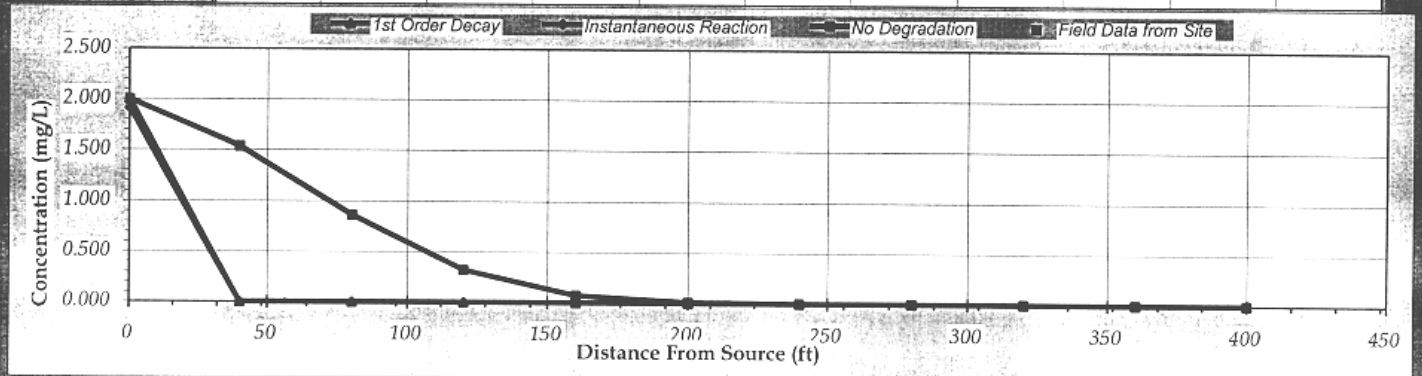


Naphthalene
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	40	80	120	160	200	240	280	320	360	400
No Degradation	2.000	1.537	0.862	0.320	0.071	0.009	0.001	0.000	0.000	0.000	0.000
1st Order Decay	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	1.912	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Field Data from Site											



Calculate Animation

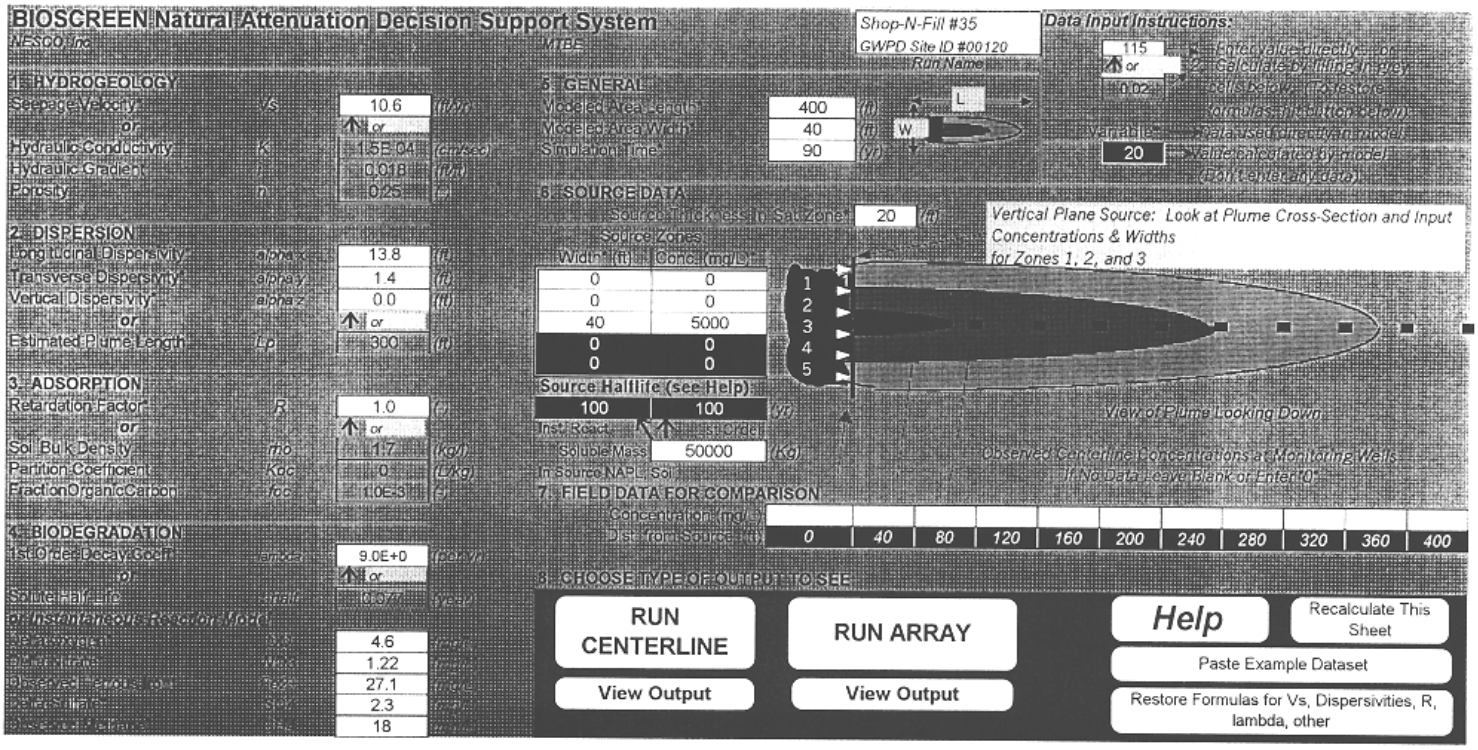
Time: 90 Years

Return to Input

Recalculate This Sheet

Naphthalene
Shop-N-Fill #35

02/23/2000

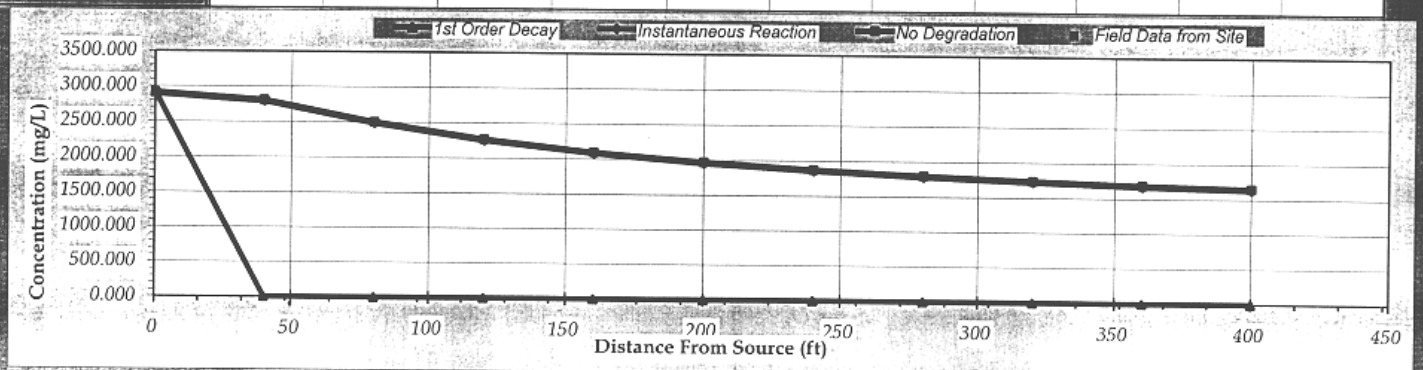


MTBE
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	40	80	120	160	200	240	280	320	360	400
No Degradation	2913.846	2809.674	2503.262	2268.897	2099.287	1973.170	1876.622	1800.968	1740.622	1691.825	1651.901
1st Order Decay	2913.846	0.534	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Instantaneous Reaction	2894.401	2790.314	2483.422	2248.705	2078.874	1952.628	1856.014	1780.338	1720.005	1671.246	1631.381
Field Data from Site											



Calculate Animation

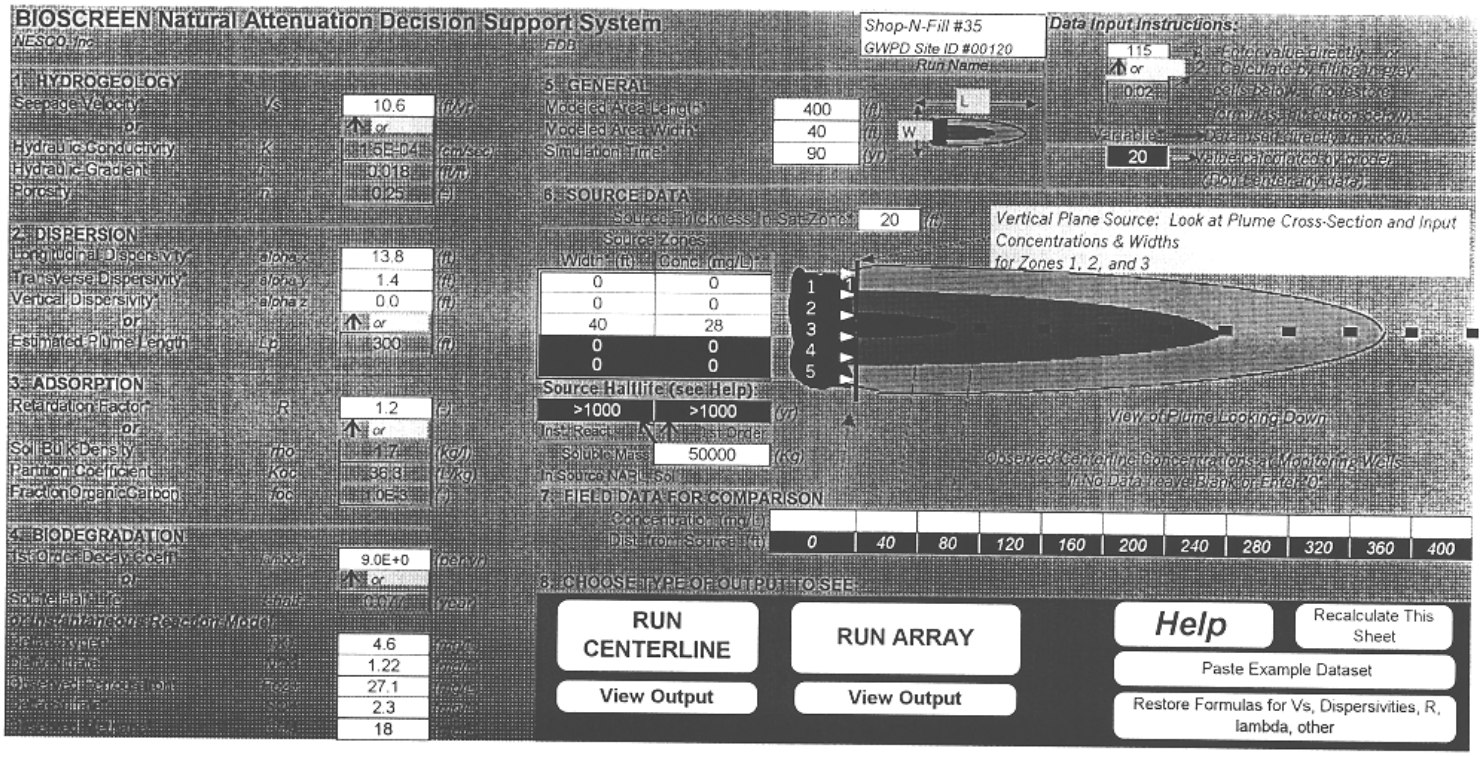
Time: 90 Years

Return to Input

Recalculate This Sheet

MTBE
Shop-N-Fill #35

02/23/2000

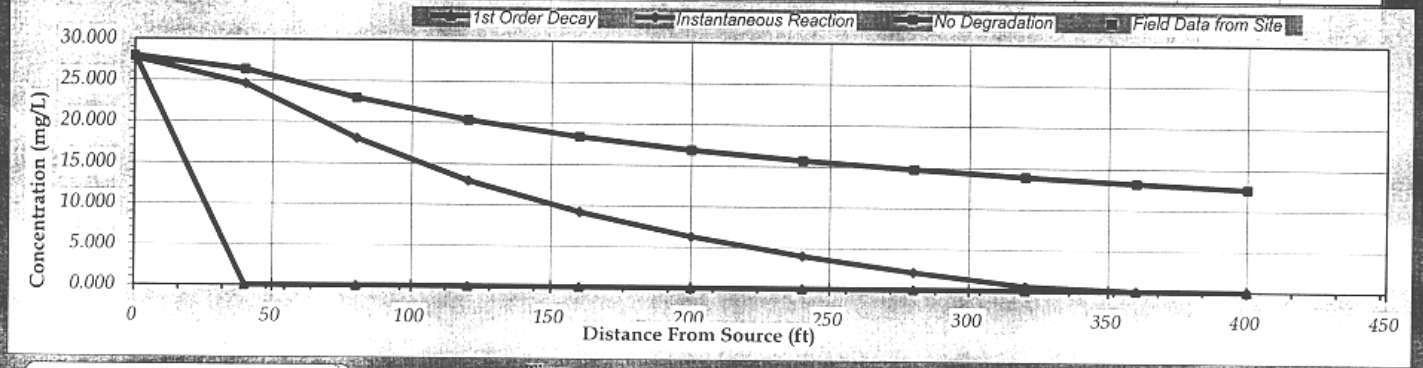


EDB
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	40	80	120	160	200	240	280	320	360	400
No Degradation	27.915	26.319	22.927	20.319	18.382	16.893	15.708	14.735	13.916	13.205	12.567
1st Order Decay	27.915	0.002	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	27.680	24.588	18.008	12.947	9.190	6.302	4.003	2.118	0.529	0.000	0.000
Field Data from Site											



Calculate Animation

Time:
90 Years

Return to Input

Recalculate This Sheet

EDB
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

Benzene

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 — Enter value directly — or — or calculate by filling in grey cells below (Leave blank or enter 0 in cells below to use calculated value)

0.02 — Variable — Data based on hydraulics

20 — Value calculated by model (Contentionary data)

1. HYDROGEOLOGY

Seepage Velocity	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	13.8	(ft)
Transverse Dispersivity*	alpha y	1.4	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor	R	1.6	(-)
or		or	
Soil Bulk Density	rho	1.7	(Kg/l)
Partition Coefficient	Koc	81	(L/Kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff	lambda	5.0E+1	(per yr)
or		or	
Solute Half-Life	t1/2	0.014	(yrs)
or Instantaneous Reaction Model			
Electron Acceptor	EA	4.6	(mg/L)
Electron Donor	ED	1.22	(mg/L)
Electron Acceptor Used	EAu	27.1	(mg/L)
Electron Donor Used	EDu	2.3	(mg/L)
Electron Donor Formed	EDf	18	(mg/L)

5. GENERAL

Modeled Area Length*	685	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat. Zone* 20 (ft)

Source Zones: Width* (ft)	Conc. (mg/L)*
0	0
0	0
40	226
0	0
0	0

Source Halflife (see Help)

>1000	>1000

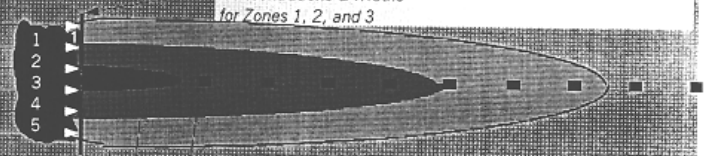
(yr)

Inst. React. or 1st Order

Soluble Mass 50000 (Kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells (If No Data Leave Blank or Enter 0)

7. FIELD DATA FOR COMPARISON

Dist. from Source (ft)	Concentration (mg/L)
0	
69	
137	
206	
274	
343	
411	
480	
548	
617	
685	

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

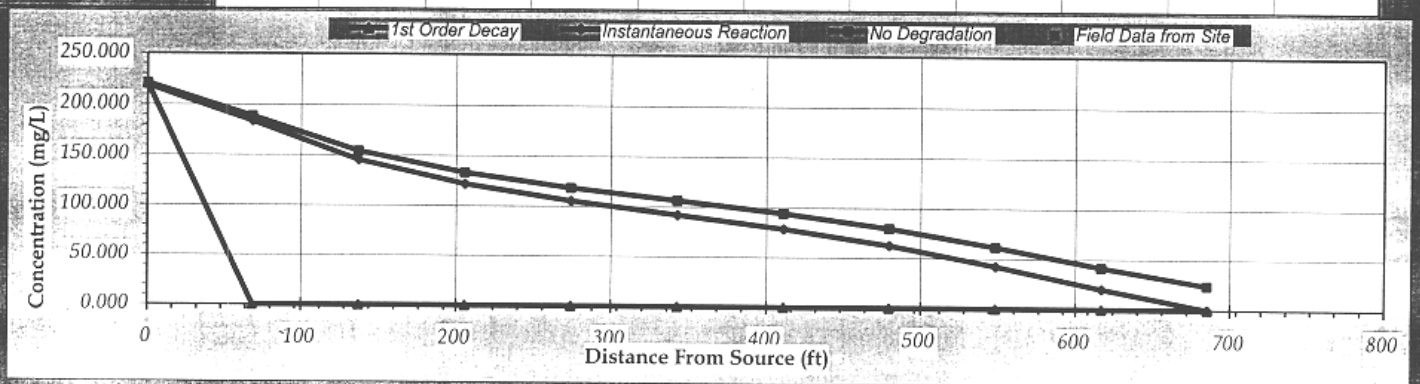
Restore Formulas for Vs, Dispersivities, R, lambda, other

Benzene Max
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	69	137	206	274	343	411	480	548	617	685
No Degradation	220.551	188.778	154.233	132.923	118.153	106.230	94.269	79.743	61.617	41.662	23.702
1st Order Decay	220.551	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	219.207	183.874	145.427	121.716	105.287	92.023	78.709	62.522	42.303	20.029	0.000
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

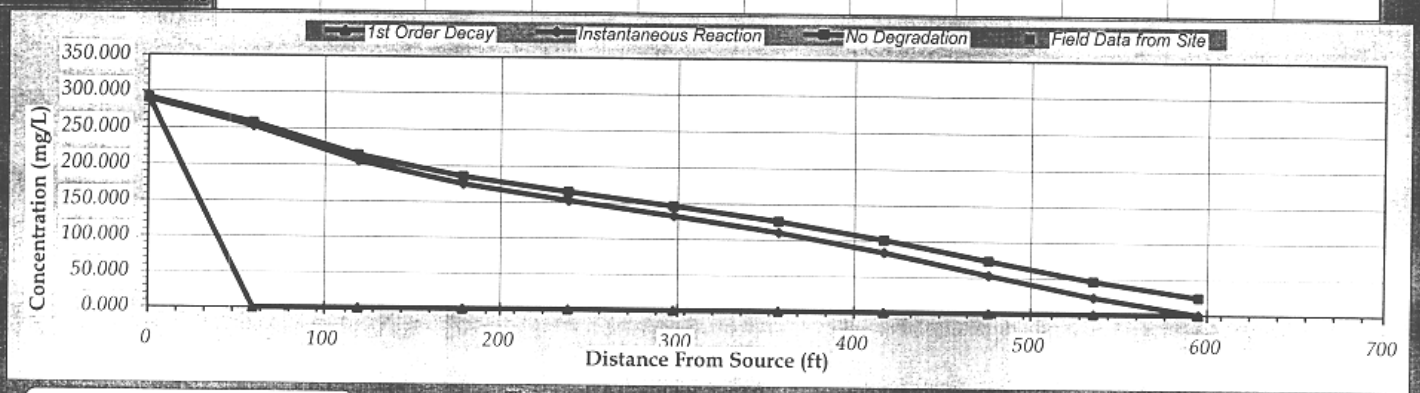
Recalculate This Sheet

Benzene Max
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	60	119	179	238	298	357	417	476	536	595
No Degradation	291.373	257.633	214.088	185.647	164.805	146.319	126.055	101.498	73.408	45.908	24.137
1st Order Decay	291.373	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Instantaneous Reaction	289.618	253.105	205.922	175.110	152.535	132.503	110.527	83.865	53.342	23.430	0.000
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

Toluene Max
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO Inc.

Ethylbenzene

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:
1. enter value directly — or
2. calculate by filling in grey cells below and clicking "or"
Variable — Data used (input or calculated)
Value calculated by model (Don't enter data here)

1. HYDROGEOLOGY

Seepage Velocity	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity	alpha x	13.8	(ft)
Transverse Dispersivity	alpha y	1.4	(ft)
Vertical Dispersivity	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor	R	2.2	(-)
or		or	
Soil Bulk Density	rho b	117	(Kg/l)
Partition Coefficient	Koc	176	(l/Kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff	lambda	8.7E+1	(per yr)
or		or	
Source Half Life	t1/2	0.008	(year)
Other Attenuation Reaction Model			
[illegible]	[illegible]	4.6	[illegible]
[illegible]	[illegible]	1.22	[illegible]
[illegible]	[illegible]	27.1	[illegible]
[illegible]	[illegible]	2.3	[illegible]
[illegible]	[illegible]	18	[illegible]

5. GENERAL

Modeled Area Length	500	(ft)
Modeled Area Width	40	(ft)
Simulation Time	90	(yr)

6. SOURCE DATA

Source: mg/L mass in Sat Zone: 20 (ft)

Source Zones: Width (ft)	Conc. (mg/L)
0	0
0	0
30	280
0	0
0	0

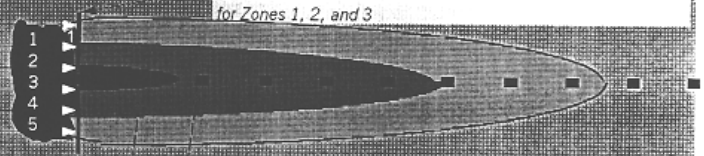
Source Halflife (see Help):

Infinite	Infinite	(yr)
Inst. React.	or	1st Order

Source Mass: Infinite (Kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells
If No Data, Leave Blank or Enter 0's

Concentrations (mg/L)											
Dist. from Source (ft)	0	50	100	150	200	250	300	350	400	450	500

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

Xylenes

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 or 0.02 — Enter value directly, or Calculate by filling in grey cells below. (To restore formulas, see section below).

Variable — Data used in calculation

20 — Value calculated by model. (Don't enter any data)

1. HYDROGEOLOGY

Seepage Velocity*	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	4.5E-04	(cm/sec)
Hydraulic Gradient		0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	13.8	(ft)
Transverse Dispersivity*	alpha y	1.4	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor*	R	5.3	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	639	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coef*	lambda	3.6E+1	(yr^-1)
or		or	
Source Half-Life	thalf	0.019	(yrs)
or Instantaneous Reaction (yes/no)			
Other Output		4.6	(mg/L)
Other Output		1.22	(mg/L)
Observed Source Conc		27.1	(mg/L)
Observed Other		2.3	(mg/L)
Observed Other		18	(mg/L)

5. GENERAL

Modeled Area Length*	239	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Each Zone: 20 (ft)

Source Zones: Width (ft)	Conc. (mg/L)
0	0
0	0
30	278
0	0
0	0

Source Halflife (see Help)

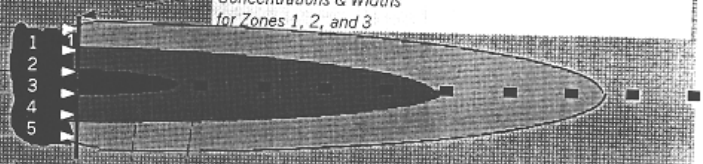
Inst. React.	1st Order
>1000	>1000

(yr)

Soluble Mass: 50000 (Kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells (If No Data Leave Blank or Enter 0)

Distance from Source (ft)	0	24	48	72	96	120	143	167	191	215	239
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

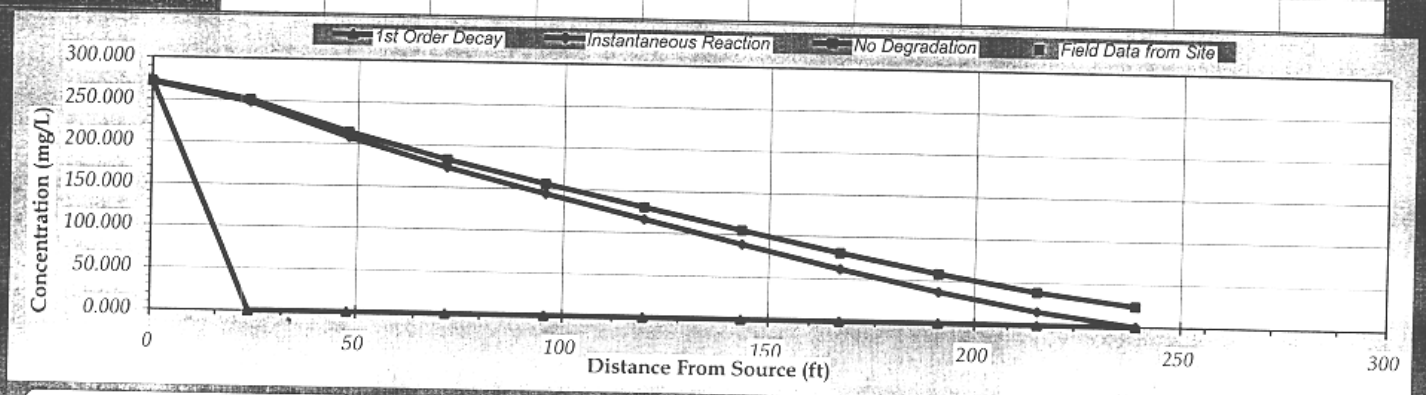
Restore Formulas for Vs, Dispersivities, R, lambda, other

Xylenes-Max
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	24	48	72	96	120	143	167	191	215	239
No Degradation	271.810	251.319	213.936	182.981	155.943	130.238	104.920	80.396	57.806	38.620	23.816
1st Order Decay	271.810	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	270.581	248.262	207.455	173.658	144.127	116.039	88.358	61.532	36.797	15.782	0.000
Field Data from Site											



Calculate Animation

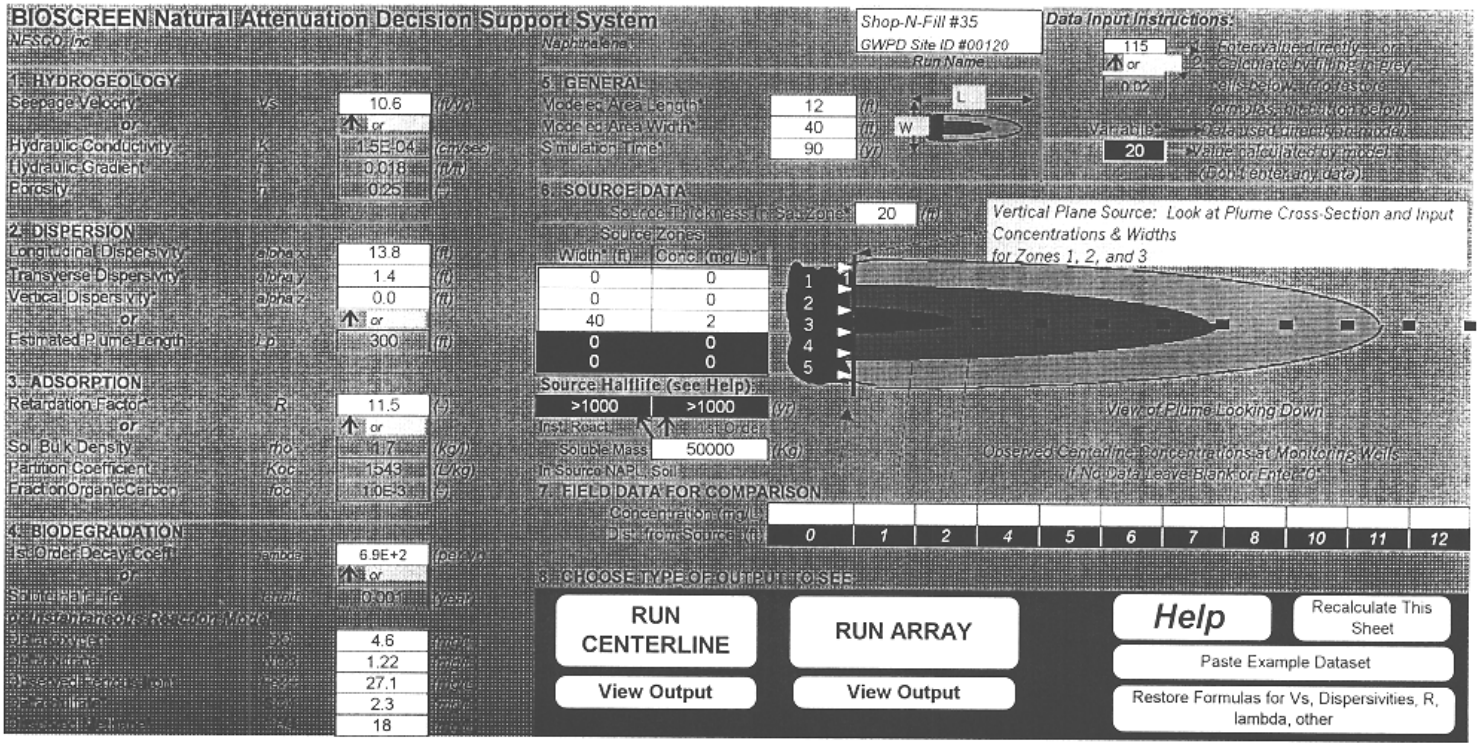
Time: 90 Years

Return to Input

Recalculate This Sheet

Xylenes-Max
Shop-N-Fill #35

02/23/2000



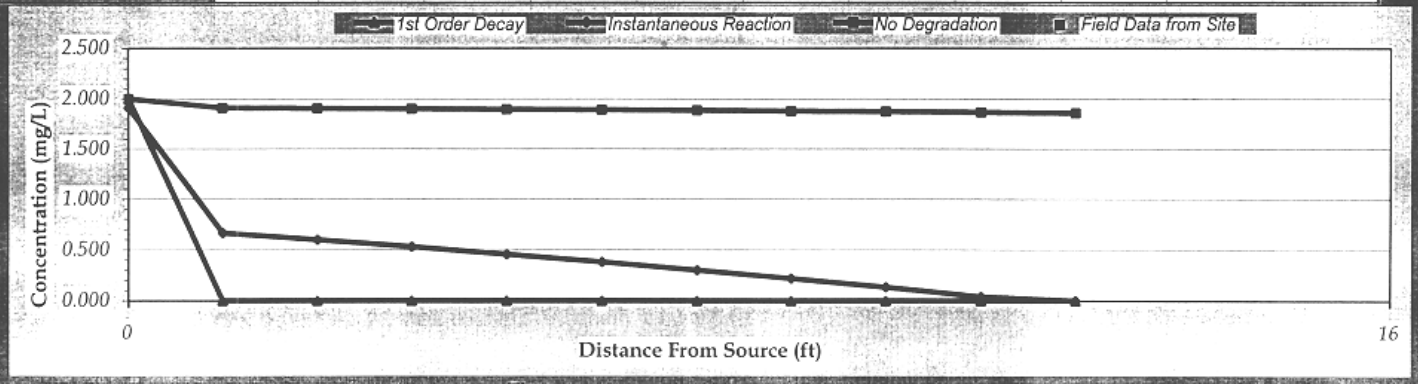
Naphthalene-Max
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	1	2	4	5	6	7	8	10	11	12
No Degradation	2.000	1.912	1.907	1.902	1.897	1.891	1.886	1.880	1.874	1.867	1.860
1st Order Decay	2.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Instantaneous Reaction	1.912	0.664	0.598	0.528	0.456	0.381	0.302	0.220	0.133	0.040	0.000
Field Data from Site											



Calculate Animation

Time:
90 Years

Return to Input

Recalculate This Sheet

Naphthalene-Max
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

MTBE

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 — 1. Enter value directly or
or — 2. Calculate by filling in grey
0.02 — cells below. (To restore formulas, hit button below)

Variable — Data used directly in model
20 — Value calculated by model (not from entry data)

1. HYDROGEOLOGY

Seepage Velocity*	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	I	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	13.8	(ft)
Transverse Dispersivity*	alpha y	1.4	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor*	R	1.0	(-)
or		or	
Soil Bulk Density	rho	117	(kg/l)
Partition Coefficient	Koc	0	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Const*	lambda	9.0E+0	(per yr)
or		or	
Source Half-life	half	0.07	(yrs)
Instantaneous Reaction Mod.			
Reactant Const.	Kr	4.6	(mg/l)
Electron Acceptor	Ke	1.22	(mg/l)
Dissolved Fe(II)	Fe2+	27.1	(mg/l)
Dissolved Sulfate	SO4	2.3	(mg/l)
Dissolved Oxygen	DO	18	(mg/l)

5. GENERAL

Modeled Area Length*	1288	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat Zone* 20 (ft)

Source Zones

Width* (ft)	Concn (mg/L)*
0	0
0	0
40	5000
0	0
0	0

Source Halflife (see Help)

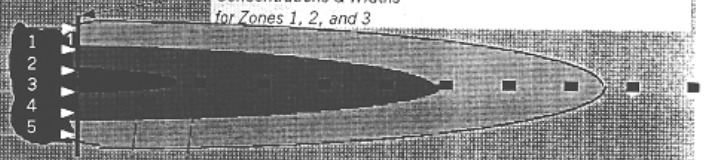
100	100
1st React.	1st Order

(yr)

Soluble Mass 50000 (kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells (If No Data, Leave Blank or Enter "0")

Dist. from Source (ft)	0	129	258	386	515	644	773	902	1030	1159	1288
Concentration (mg/l)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

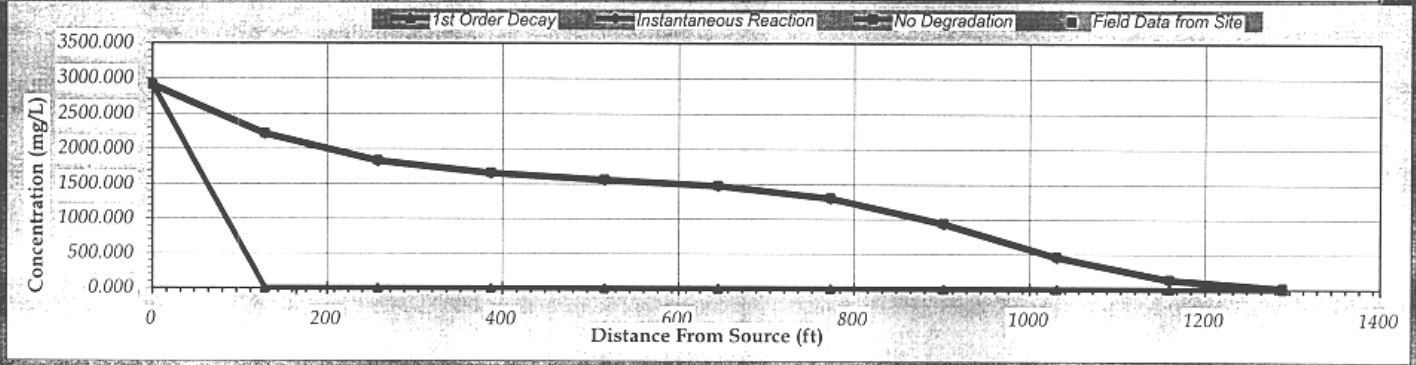
MTBE-Max
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	129	258	386	515	644	773	902	1030	1159	1288
No Degradation	2913.846	2226.881	1841.144	1664.616	1568.842	1485.208	1309.894	945.981	465.864	142.588	26.130
1st Order Decay	2913.846	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	2894.401	2206.630	1820.522	1644.074	1548.564	1465.174	1289.603	924.326	441.812	116.821	0.000
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

MTBE-Max
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

EDB

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 or 0.02 — 1. Enter value directly ... or 2. Calculate by filling in grey cells below (to restore formula, see instruction below).

Variable — Calculated Dispersivity (model)

20 — Value calculated by model (Don't enter any data)

1. HYDROGEOLOGY

Seepage Velocity	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity	alpha x	13.8	(ft)
Transverse Dispersivity	alpha y	1.4	(ft)
Vertical Dispersivity	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor	R	1.2	(-)
or		or	
Soil Bulk Density	rho	117	(kg/l)
Partition Coefficient	Koc	86.3	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff	lambda	9.0E+0	(per yr)
or		or	
Solute Half Life	thalf	0.077	(year)
or Instantaneous Reaction Model			
Electron Acceptor		4.6	(mg/L)
Electron Donor		1.22	(mg/L)
Electron Equivalents		27.1	(mg/L)
Stoichiometric Ratio		2.3	(-)
Biomass Limit		18	(mg/L)

5. GENERAL

Modeled Area Length*	335	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

L

W

6. SOURCE DATA

Source Thickness in Sat Zone* 20 (ft)

Source Zones

Width* (ft)	Conc. (mg/L)*
0	0
0	0
40	28
0	0
0	0

Source Halflife (see Help)

>1000	>1000

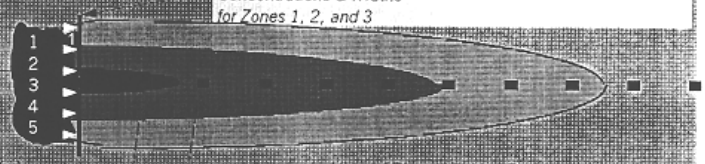
(yr)

Inst. React. — 1st Order

Soluble Mass 50000 (Kg)

In Source NAPL — Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells
If No Data, Leave Blank or Enter '0'

7. FIELD DATA FOR COMPARISON

Concentration* (mg/L)											
Dist. from Source* (ft)	0	34	67	101	134	168	201	235	268	302	335

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

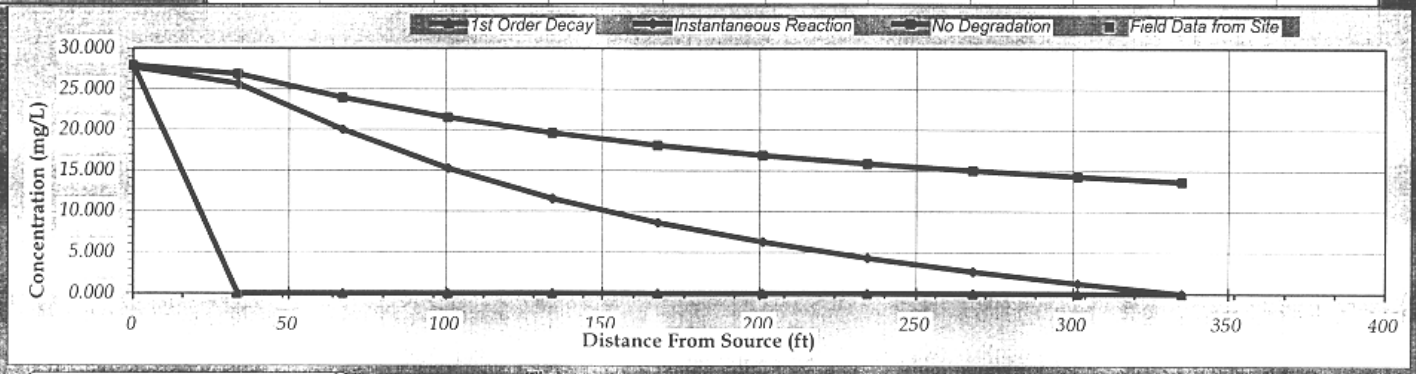
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	34	67	101	134	168	201	235	268	302	335
No Degradation	27.915	26.864	23.960	21.490	19.578	18.074	16.860	15.856	15.009	14.279	13.639
1st Order Decay	27.915	0.008	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	27.680	25.644	20.011	15.220	11.510	8.592	6.238	4.292	2.648	1.233	0.000
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

APPENDIX F

SSTL CALCULATION DATA

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

Benzene

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 or 0.02 — 1. Enter value directly -- or 2. Calculate by filling in grey cells below (do not store formulas for button below)

Vs (ft/yr) — Value used (input or calculated)

20 — Value calculated by model (Don't enter any data)

1. HYDROGEOLOGY

Seepage Velocity	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	I	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity	alpha x	13.8	(ft)
Transverse Dispersivity	alpha y	1.4	(ft)
Vertical Dispersivity	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor	R	1.6	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	81	(l/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st-Order Decay Coeff.	lambda	5.0E+1	(per yr)
or		or	
Solute Half-Life	t-half	0.014	(year)
or Instantaneous Reaction Model			
Initial Oxygen	[O2]	4.6	(mg/l)
Initial Nitrate	[NO3]	1.22	(mg/l)
Observed Reduced Iron	[Fe2+]	27.1	(mg/l)
Initial Sulfate	[SO4]	2.3	(mg/l)
Observed Methane	[CH4]	18	(mg/l)

5. GENERAL

Modeled Area Length*	400	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat. Zone* 20 (ft)

Source Zones: Width* (ft)	Conc. (mg/l)*
0	0
0	0
40	31
0	0
0	0

Source Halflife (see Help)

>1000	>1000

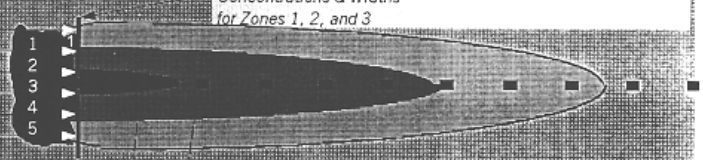
(yr)

Inst. React. — 1st Order

Soluble Mass 50000 (Kg)

In Source NAPL Sol

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells (If No Data Leave Blank or Enter 0)

7. FIELD DATA FOR COMPARISON

Distance from Source (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration (mg/l)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

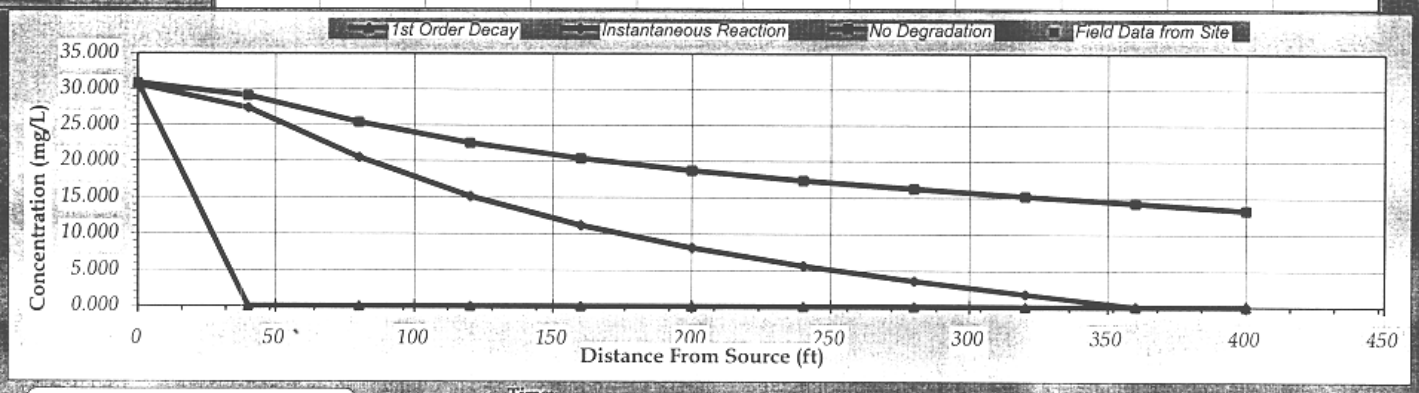
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft) 0	40	80	120	160	200	240	280	320	360	400
No Degradation	30.896	29.131	25.378	22.491	20.345	18.690	17.359	16.239	15.244	14.292	13.308
1st Order Decay	30.896	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	30.644	27.388	20.451	15.115	11.149	8.090	5.631	3.563	1.724	0.000	0.000
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

Benzene-SSTL
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

Toluene

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 → 1. Enter value directly ... or
or
0.02 → 2. Calculate by filling in grey cells below, or restore formulas, in section below.
Variable → Data used directly in model
20 → Value calculated by model (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	I	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	13.8	(ft)
Transverse Dispersivity*	alpha y	1.4	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor*	R	1.9	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	133	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	6.3E+1	(per yr)
or		or	
Soluble Half-Life	t1/2	0.011	(year)
or Instantaneous Reaction Model			
Electron Acceptor	[EA]	4.6	(mg/L)
Electron Donor	[ED]	1.22	(mg/L)
Observed Reduction	[BP]	27.1	(mg/L)
Other Biomass	[OB]	2.3	(mg/L)
Biomass of Interest	[BI]	18	(mg/L)

5. GENERAL

Modeled Area Length*	400	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness In Sat Zone* 20 (ft)

Source Zones Width* (ft)	Conc. (mg/L)*
0	0
0	0
40	35
0	0
0	0

Source Halflife (see Help):

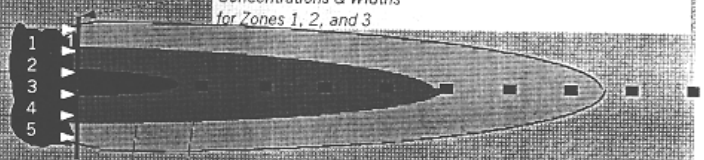
>1000	>1000
1st React	1st Order

(yr)

Soluble Mass 50000 (Kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells
If No Data, Leave Blank or Enter '0'.

Dist. from Source* (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE:

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

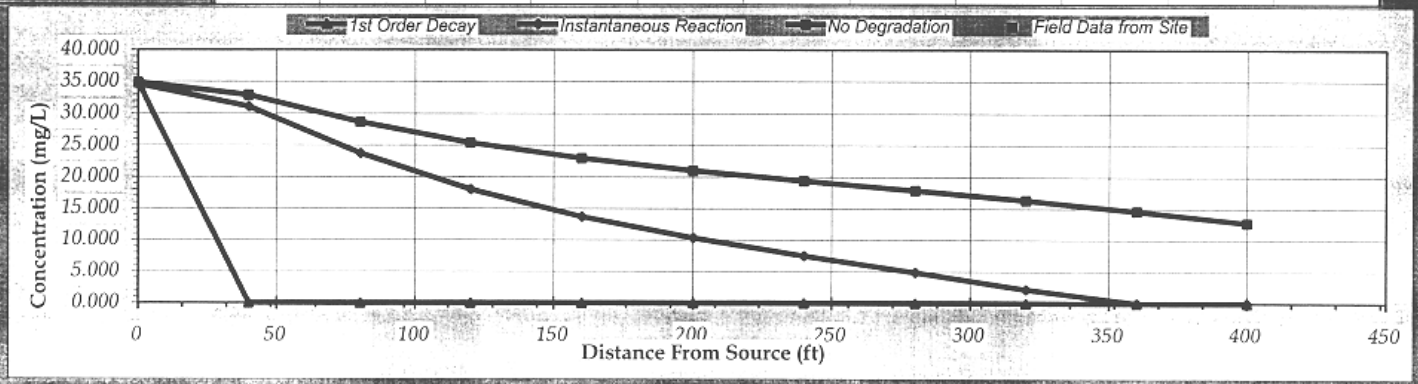
Toluene-SSTL
Shop-N-Fill #35

02/23/2000

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	40	80	120	160	200	240	280	320	360	400
No Degradation	34.868	32.877	28.641	25.375	22.930	21.004	19.377	17.873	16.338	14.645	12.721
1st Order Decay	34.868	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	34.593	31.116	23.701	17.984	13.705	10.335	7.488	4.854	2.165	0.000	0.000
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

Toluene-SSTL
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

WESCO Inc.

Ethylbenzene

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 or 0.02 — Enter value directly — or calculate by filling in grey cells below. (Click restore formulas button below.)

Variable — Parameter Cited by Modeler

20 — Value Calculated by Model (Do not enter any data)

1. HYDROGEOLOGY

Seepage Velocity*	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient		0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	13.8	(ft)
Transverse Dispersivity*	alpha y	1.4	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor	R	2.2	(-)
or		or	
Soil Bulk Density	rho	1.74	(kg/l)
Partition Coefficient	Koc	176	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff.	lambda	8.7E+1	(per yr)
or		or	
Source Half Life	t half	0.008	(yrs)
or Instantaneous Reaction (Yes)			
[illegible]	[illegible]	4.6	[illegible]
[illegible]	[illegible]	1.22	[illegible]
[illegible]	[illegible]	27.1	[illegible]
[illegible]	[illegible]	2.3	[illegible]
[illegible]	[illegible]	18	[illegible]

5. GENERAL

Modeled Area Length*	400	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat. Zone* 20 (ft)

Source Zones Width* (ft)	Conc. (mg/L)*
0	0
0	0
30	65
0	0
0	0

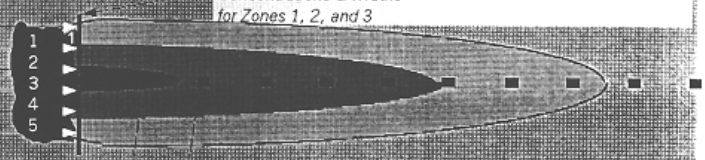
Source Halflife (see Help)

Inst. React.	1st Order
Infinite	Infinite (yr)

Soluble Mass Infinite (Kg)

In Source NAPL + Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

Observed Centerline Concentrations at Monitoring Wells (If No Data Leave Blank or Enter 0)

7. FIELD DATA FOR COMPARISON

Dist. from Source (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

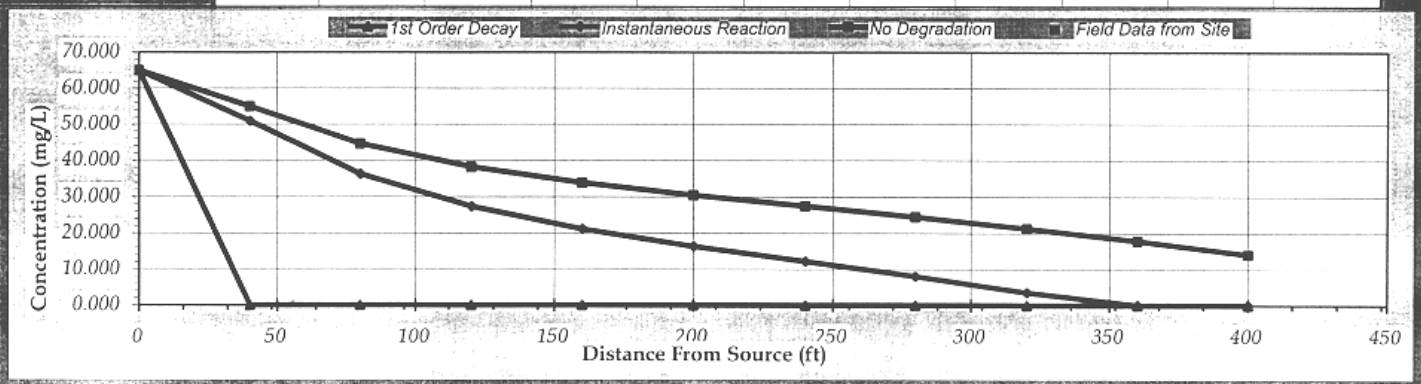
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft) 0	40	80	120	160	200	240	280	320	360	400
No Degradation	65.000	54.981	44.599	38.239	33.851	30.449	27.471	24.525	21.346	17.832	14.080
1st Order Decay	65.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Inst. Reaction	65.000	50.893	36.274	27.319	21.140	16.351	12.157	8.009	3.533	0.000	0.000
Field Data from Site											



Calculate Animation

Time: 90 Years

Return to Input

Recalculate This Sheet

Ethylbenzene-SSTL
Shop-N-Fill #35

02/23/2000

BIOSCREEN Natural Attenuation Decision Support System

NESCO, Inc.

MTBE

Shop-N-Fill #35
GWPD Site ID #00120
Run Name

Data Input Instructions:

115 or 0.02 — 1. Enter value directly, or 2. Calculate by filling in grey cells below. (To restore formulas, see instruction below)

Variable → Data used directly in model

20 — Value calculated by model (Do not enter any data)

1. HYDROGEOLOGY

Seepage Velocity*	Vs	10.6	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.5E-04	(cm/sec)
Hydraulic Gradient	i	0.018	(ft/ft)
Porosity	n	0.25	(-)

2. DISPERSION

Longitudinal Dispersivity	alpha x	13.8	(ft)
Transverse Dispersivity*	alpha y	1.4	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	300	(ft)

3. ADSORPTION

Retardation Factor	R	1.0	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	0	(L/kg)
Fraction Organic Carbon	foc	1.0E-3	(-)

4. BIODEGRADATION

1st Order Decay Coeff	lambda	9.0E+0	(per yr)
or		or	
Soluble Half Life	thalf	0.077	(years)
or Instantaneous Reaction Model			
[illegible]	[illegible]	4.6	[illegible]
[illegible]	[illegible]	1.22	[illegible]
[illegible]	[illegible]	27.1	[illegible]
[illegible]	[illegible]	2.3	[illegible]
[illegible]	[illegible]	18	[illegible]

5. GENERAL

Modeled Area Length*	400	(ft)
Modeled Area Width*	40	(ft)
Simulation Time*	90	(yr)

6. SOURCE DATA

Source Thickness in Sat Zone: 20 (ft)

Source Zones

Width (ft)	Conc. (mg/L)
0	0
0	0
40	24
0	0
0	0

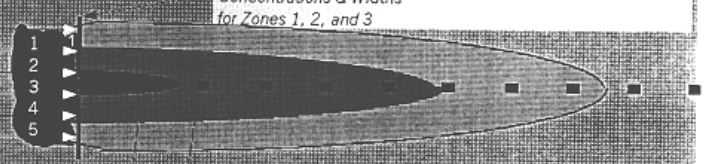
Source Halflife (see Help)

>1000	>1000	(yr)
Inst. React.	1st Order	

Soluble Mass: 50000 (Kg)

In Source NAPL Soil

Vertical Plane Source: Look at Plume Cross-Section and Input Concentrations & Widths for Zones 1, 2, and 3



View of Plume Looking Down

7. FIELD DATA FOR COMPARISON

Observed Centerline Concentrations at Monitoring Wells. If No Data, leave Blank or Enter "0"

Distance from Source (ft)	0	40	80	120	160	200	240	280	320	360	400
Concentration (mg/L)											

8. CHOOSE TYPE OF OUTPUT TO SEE

RUN CENTERLINE — View Output

RUN ARRAY — View Output

Help

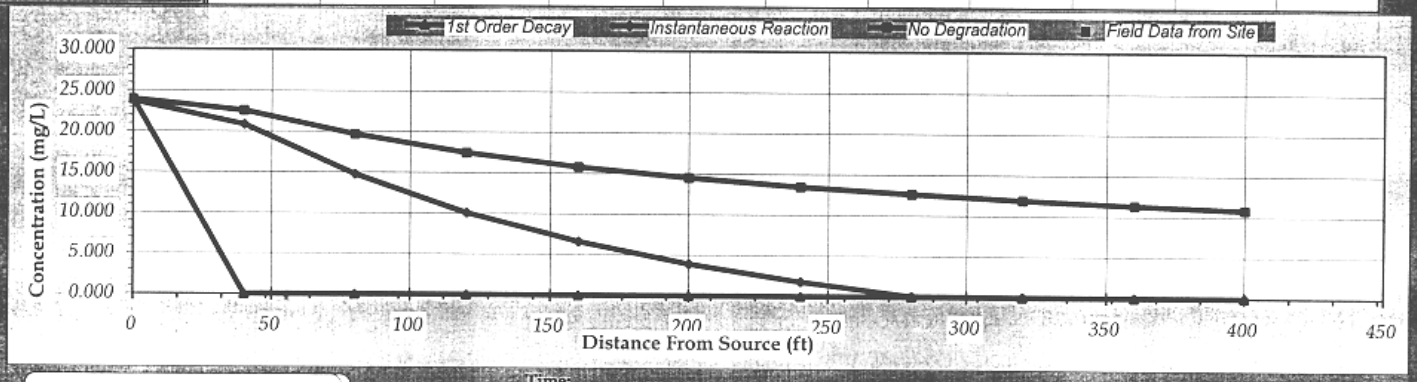
Recalculate This Sheet

Paste Example Dataset

Restore Formulas for Vs, Dispersivities, R, lambda, other

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	40	80	120	160	200	240	280	320	360	400
No Degradation	23.938	22.568	19.659	17.421	15.760	14.483	13.467	12.637	11.941	11.348	10.833
1st Order Decay	23.938	0.004	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
Instantaneous Reaction	23.725	20.855	14.753	10.059	6.574	3.896	1.767	0.025	0.000	0.000	0.000
Field Data from Site											



Calculate Animation

Time:
90 Years

Return to Input

Recalculate This Sheet

MTBE-SSTL
Shop-N-Fill #35

02/23/2000

APPENDIX G

COMPREHENSIVE SURVEY

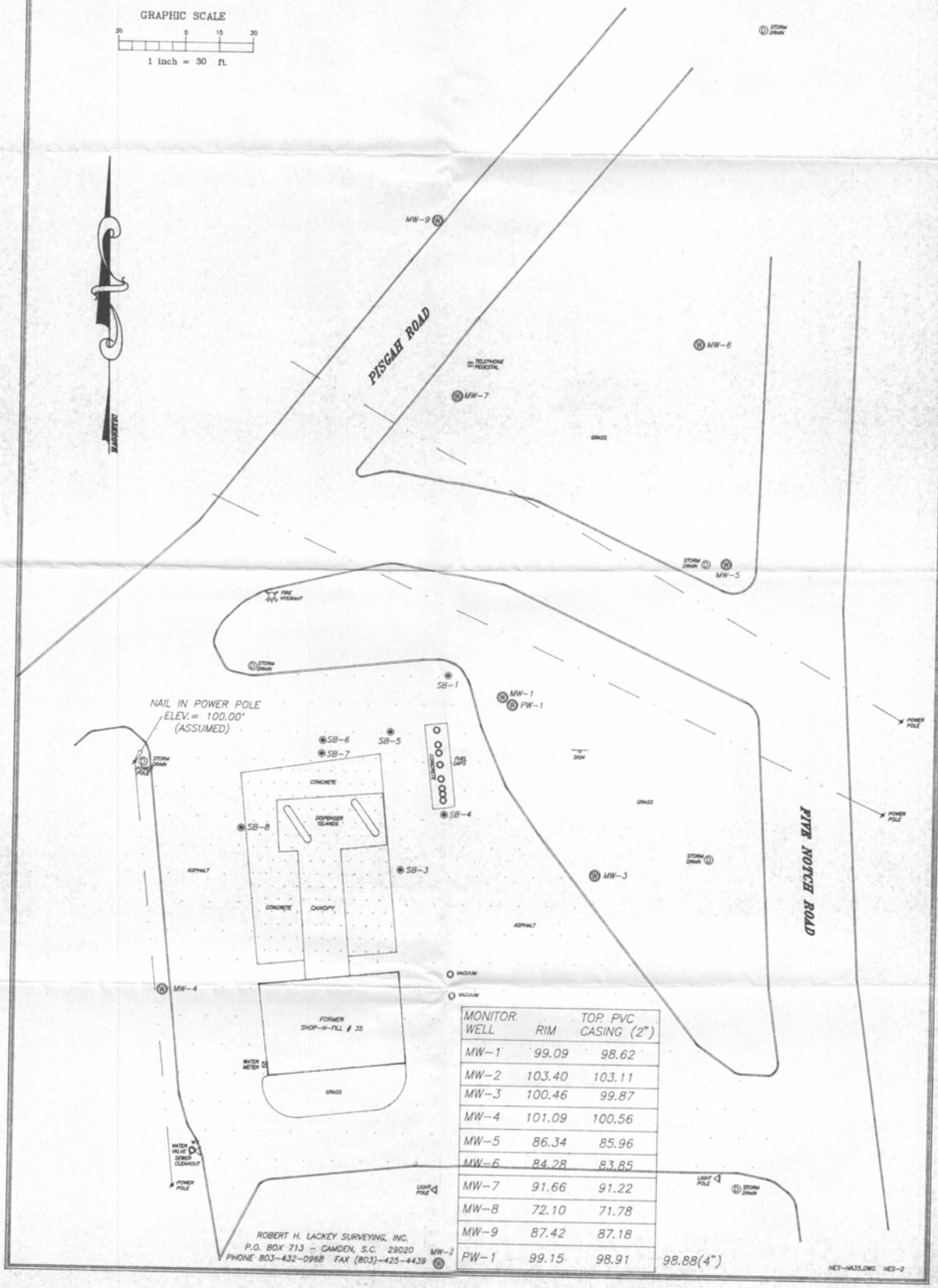
SHOP-N-FILL #35
NORTH AUGUSTA, SC

SITE MAP

PREPARED FOR

NESCO

January 7, 2000



MONITOR. WELL	RIM	TOP PVC CASING (2")
MW-1	99.09	98.62
MW-2	103.40	103.11
MW-3	100.46	99.87
MW-4	101.09	100.56
MW-5	86.34	85.96
MW-6	84.28	83.85
MW-7	91.66	91.22
MW-8	72.10	71.78
MW-9	87.42	87.18
PW-1	99.15	98.91

98.88(4")

ROBERT H. LACKEY SURVEYING, INC.
P.O. BOX 713 - CAMDEN, S.C. 29020
PHONE 803-432-0968 FAX (803)-425-4439

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 **Fax (803) 898-4330**

MAY 16 2000

Jackson Petroleum Company
Attention: Mr. Buzz Jackson
102 Williamsburg Street South East
Aiken, South Carolina 29801

Re: Eagle Express 5, 2031 Pigsah Road, North Augusta, South Carolina
UST Permit #00120 reported November 7, 1997
SUPERB Qualification
Aiken County

Dear Mr. Jackson:

The Bureau of Underground Storage Tank Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the file for the referenced facility and determined that a release of petroleum hydrocarbons has occurred. To proceed with qualification process for the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the following information is required:

- Written confirmation of the existence or non-existence of an environmental insurance policy or financial responsibility mechanism for this site. This information must be signed by the responsible party and a notary public. For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement.

- Please complete and return the enclosed Owner/Operator Information Sheet. Note, all rehabilitation activities associated with a UST Release must be performed by a SCDHEC certified site rehabilitation contractor as requested by R.61-98. A list of contractors that have provided services to customers is also enclosed for your convenience. If you wish, the South Carolina Department of Health and Environmental Control (SCDHEC) can directly procure the services of a site rehabilitation contractor on your behalf. If you would like more information on this method of implementing the necessary scope of work, please contact me within 10 days of this letter. Submittal of the enclosed Owner/Operator Information Sheet is not required if you select this method. If you choose this option, additional forms will be forwarded to you for SCDHEC and it's contractor to access the property.

The requested information should be submitted to my attention on or before March 18, 2000. Qualification for SUPERB Funds cannot occur until this information is submitted.

On all correspondence regarding this site, please reference UST Permit # 03724, Release # 2 and cost agreement #10578. If you have any questions concerning this correspondence, please contact me at (803) 898-4336 or (800) 826-5435 (within South Carolina only).

Sincerely,

James A. DeVore, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Bureau of Underground Storage Tank Management

Enc: Insurance Form

CC: Technical/Read Files

OGRAM
NG # 67T

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4339 Fax (803) 8984330

CERTIFIED MAIL

Jackson Petroleum
Mr. W. C. Jackson, Jr.
P. O. Box 861
Aiken, SC 29802-0861

MAY 20 1999

Re: Shop-N-Fill #35
UST Permit #00120, Release #1
Notice of Violation
Aiken County

Dear Mr. Jackson:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete a Rapid Assessment Plan in August 1998 with the plan due in September 1998. To date the required plan has not been received. In accordance with Section 280.65 II-B(3)(a) of the South Carolina Underground Storage Tank Regulations the assessment must be conducted as documented chemicals of concern are above the risk-based-screening levels.

Implementation of this scope of work should proceed upon receipt of this correspondence. **The Rapid Assessment Plan must be submitted within 15 days from the date of this letter, if the plan is not received in accordance with this schedule, enforcement procedures will be initiated.**

On all correspondence regarding this site, please reference UST Permit # **00120.** If you have any questions concerning this correspondence, please call Chuck Williams at (803) 898-4339 or 1-800-826-5435(within South Carolina only).

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Charles J. Williams, III, Hydrogeologist

Christopher S. Doll, P.G., Manager

cc: Technical File
Read File

GRAM
G # 68F

SCDHEC/UST/SLS/CJW//051899

NESCO

For Practical Solutions

FAX TRANSMITTAL FORM

521 Clemson Road
Columbia, SC 29229
Tel: (803) 699-1976
Fax: (803) 699-9863

TO: Tony Devore
ATTENTION:
FAX NUMBER: 898-4330
FROM: Connie
SUBJECT: Ship N Fill #35

Page 1 of 4 (including this page)
DATE: 9-26-00
PROJECT NUMBER:
Hard copy to be mailed: Yes ☐ No ☐

ATTENTION: The information contained in this fax is privileged and/or confidential, intended only for the individual/entity named above. Please forward it to the recipient immediately. If there are any difficulties with this facsimile transmission or you have received this fax in error, please telephone (803) 699-1976 or fax (803) 699-9863.

Site ID # ~~000~~ 00120
CP # 8372

RECEIVED
SEP 26 2000
of Underground
Storage Tank Management

DOCKETING # 69I

SF
Inv ID 21-594
Job # 21-439c

LADSON H. BEACH, JR.
Attorney at Law

1220 Broughton Street
Post Office Drawer 5004
Orangeburg, South Carolina 29116-5004
Telephone (803) 531-3029
Fax (803) 531-0921

FACSIMILE TRANSMISSION COVER SHEET

NOTICE - CONFIDENTIAL INFORMATION

THE INFORMATION CONTAINED IN THIS FAX MESSAGE IS PRIVILEGED AND CONFIDENTIAL INFORMATION INTENDED SOLELY FOR THE PERSON OR ENTITY NAMED BELOW. IF YOU ARE NOT THE INTENDED RECIPIENT, YOU ARE HEREBY NOTIFIED THAT ANY DISSEMINATION, DISCLOSURE, DISTRIBUTION OR COPYING OF THIS COMMUNICATION IS STRICTLY PROHIBITED. IF YOU HAVE RECEIVED THIS COMMUNICATION IN ERROR, PLEASE NOTIFY US BY TELEPHONE IMMEDIATELY AND MAIL THE ORIGINAL FAX TO US. YOU WILL BE REIMBURSED FOR ANY EXPENSE.

DATE: 8-4-00
TIME: _____
NUMBER OF PAGES: 2 (including cover sheet)

ATTN: BETTY

PLEASE DELIVER TO: Blake Burgess or Thad Munnerlin
NESCO
521 Clemson Road
Columbia, SC 29229

TELEPHONE: Off: (803) 699-1976
Fax: (803) 699-9863

REFERENCE: NESCO v. William C. Jackson, Jackson Petroleum Company, Inc. and George O. McKie, Jr.
Amount of Debt: $25,750.00
Foreclosure of Mechanic's Lien

DOCUMENTS ATTACHED: Verified Statement of Account

COMMENTS: The deadline for filing the pleadings for the foreclosure of the mechanic's lien in the above-referenced matter is Monday, August 7, 2000. We need the attached document to accompany the pleadings, which will be prepared and filed by Aiken County attorney M. Anderson Griffith. Please have the enclosed Verified Statement of Account signed by the appropriate company official and notarized. The original signed and notarized document should be forward via US Mail today to Aiken County counsel at the following address:

RECEIVED
SEP 2 6 2000
Bureau of Underground Storage Tank Management

M. Anderson Griffith, Esq.
Busbee, Hunter and Griffith
PO Drawer 2009
Aiken, SC 29802-2009

cc: M. Anderson Griffith

END COVER SHEET

STATE OF SOUTH CAROLINA,)
)
COUNTY OF RICHLAND.)

VERIFIED STATEMENT OF ACCOUNT

PERSONALLY appeared before me the undersigned, who being duly sworn, deposes and states the following: The undersigned is the Office Administrator of the Columbia, South Carolina office of the Plaintiff corporation in this action; she is duly authorized to execute this Verified Statement of Account; she is familiar with the facts alleged in the previously filed Notice and Certificate of Mechanic's Lien filed against the debtor(s) and landowner(s) in this case, as well as the attached Invoice(s) and/or Statement of Account; and that the matters and facts alleged in the Notice and Certificate of Mechanic's Lien, and the dates, amounts and itemization of work performed listed in the attached Invoice(s) and/or Statement of Account are true of her own personal knowledge, information or belief.

NESCO OF SOUTH CAROLINA f/k/a
National Environmental Service
Company

By: Connie Hornsby
Connie Hornsby
Office Administrator

SWORN to before me this 4th
day of August, 2000.

Betty J. Cyler
Notary Public for South Carolina
My Commission Expires: 4/4/2006

NESCO

National Environmental Service Company

INVOICE

Jackson Petroleum
PO Box 861
Aiken, SC 29802-0861
Attn: Mr. W.C. Jackson

28-Feb-00
Nesco Project # 21-439C
Customer No: 21-14652.4
Invoice No: 21594

Shop-N-Fill #35

Completion of Rapid Assessment according to SCDHEC Guidelines	$	25,000.00
Invoice Total	**$**	**25,000.00**

Remit to:

521 Clemson Road
Columbia, SC 29229
(803) 699-1976 Phone
(803) 699-9863 Fax

Midlands
Environmental
Consultants, Inc.

April 1, 2009

UST
APR 0 6 2009
PROGRAM

Mr. Brian Dolphin, Hydrogeologist
Assessment Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

UST
DOCKET
77

Subject: Aggressive Fluid Vapor Recovery Report
Four Seasons Food and Fuel
North Augusta, South Carolina
SCDHEC Site ID # 00120; CA #35551
MECI Project Number 09-2191

Dear Mr. Dolphin,

Midlands Environmental Consultants, Inc. (MECI) is pleased to submit the attached Aggressive Fluid Vapor Recovery Report for the referenced site. This describes the aggressive fluid vapor recovery activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control (SCDHEC) guidelines.

AGGRESSIVE FLUID VAPOR RECOVERY

A site visit was conducted at Four Seasons Food and Fuel on March 13, 2009 to locate/gauge monitoring wells and evaluate site conditions. MECI personnel conducted an Aggressive Fluid Vapor Recovery (AFVR) event at Four Seasons Food and Fuel on March 27, 2009. The event was conducted on monitoring well MW-12 to reduce dissolved CoC concentrations. Free phase petroleum product was not detected in monitoring well MW-14 prior to the AFVR event. The event was conducted continuously for eight hours by MECI personnel utilizing a vacuum extraction unit. Free phase petroleum product was not detected in the well immediately following the event.

MECI treated the off gas produced during the AFVR event using an activated carbon filter system. Calculated total petroleum hydrocarbons removed from the well were 6.05 pounds or approximately 1.05 equivalent gallons. The average rate of removal for the hydrocarbons was calculated to be 0.76 pounds per hour. Concentrations of off gas produced during the event were recorded from 99.1 parts per million by volume (PPM) to 952 PPM. Measurements were obtained from vapors prior to entering off gas treatment. Vacuum readings were recorded at a range of 12.0 to 21.0 inches of mercury throughout the event. A complete compilation of measurements recorded is presented in attached Table 1.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Differential pressures and groundwater levels were measured and recorded for selected site monitoring wells at regular intervals. This data is summarized in the attached Table 2. Monitoring well locations are depicted on attached Figure 1.

A total of 90 gallons of liquid was removed from MW-14 during this event. Free Phase Petroleum product was not observed in the holding tank at the end of the event. The fluids produced were transported to Crandall Corporation of Lexington, S.C. for disposal. A disposal manifest for these fluids is attached at the end of this report.

QUALIFICATIONS OF REPORT

The activities and evaluative approaches used in this assignment are consistent with those normally employed in enhanced fluid recovery events and waste management projects of this type. Contents of this report are intended for the use by MECI and the South Carolina Department of Health and Environmental Control, under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

Midlands Environmental appreciates the opportunity to offer our professional environmental related services to you on this project. Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

Sincerely,
Midlands Environmental Consultants, Inc.

John W. Womack
Staff Biologist

Jeff L. Coleman
Project Scientist

Attachments:

TABLE 1
AFVR MONITORING DATA
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 09-2191
SCDHEC SITE ID NUMBER 00120

Extraction Well	Date	Time (hh:mm)	Differential Time (hr)	Extraction Well Head Vacuum (in. Hg)	Off Gas Measurements				
					Concentration (PPM)	Offgas Velocity Ft/Min	Flow Rate CFM	Removal Rate Lbs/Hr	Interval Removal Lbs
MW-14	03/27/09	5:30	0.50	13.0	107	3180	286.20	0.37	0.18
	03/27/09	6:00	0.50	12.0	99.1	3160	284.40	0.34	0.17
	03/27/09	6:30	0.50	15.0	120	2630	236.70	0.34	0.17
	03/27/09	7:00	0.50	15.0	134	2460	221.40	0.36	0.18
	03/27/09	7:30	0.50	15.0	124	2640	237.60	0.35	0.18
	03/27/09	8:00	0.50	17.0	151	2200	198.00	0.36	0.18
	03/27/09	8:30	0.50	17.0	128	2240	201.60	0.31	0.15
***	03/27/09	9:00	0.50	17.0	154	2060	185.40	0.34	0.17
	03/27/09	9:30	0.50	17.0	156	2080	187.20	0.35	0.18
	03/27/09	10:00	0.50	17.0	154	2100	189.00	0.35	0.17
	03/27/09	10:30	0.50	17.0	149	2180	196.20	0.35	0.18
	03/27/09	11:00	0.50	20.0	771	1550	139.50	1.29	0.65
	03/27/09	11:30	0.50	20.0	784	1530	137.70	1.30	0.65
	03/27/09	12:00	0.50	21.0	935	1410	126.90	1.42	0.71
	03/27/09	12:30	0.50	21.0	940	1400	126.00	1.42	0.71
	03/27/09	13:00	0.50	21.0	952	1390	125.10	1.43	0.71
	03/27/09	13:30	0.50	21.0	950	1390	125.10	1.43	0.71
									TOTAL
									6.05

Well Data:			Pre AFVR Event			Post AFVR Event			Corrected Depth to Water Change (ft)
Well No.	Diameter (in)	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	
MW-14	2"	9-24	***	16.34	***	***	17.50	***	1.16

Vacuum Truck Information		Well ID	Stinger Depth
Subcontractor:	MECI	MW-14	17.00
Truck Operator:	B. Longtime		
Stack I.D. (feet)	0.33 feet		

*** Changed stinger length to 18.00

Recovery / Disposal Information		
Hydro carbons Removed (vapor):	6.05	Pounds
Hydro carbons Removed (liquid):	0	Gallons
Total Hydrocarbons Removed:	1.05	Equivilant Gallons
Molecular Weight Utilized:	75	g / mole
Disposal Facility	Crandall Corporation	
Total Liquids Removed:	90	Gallons

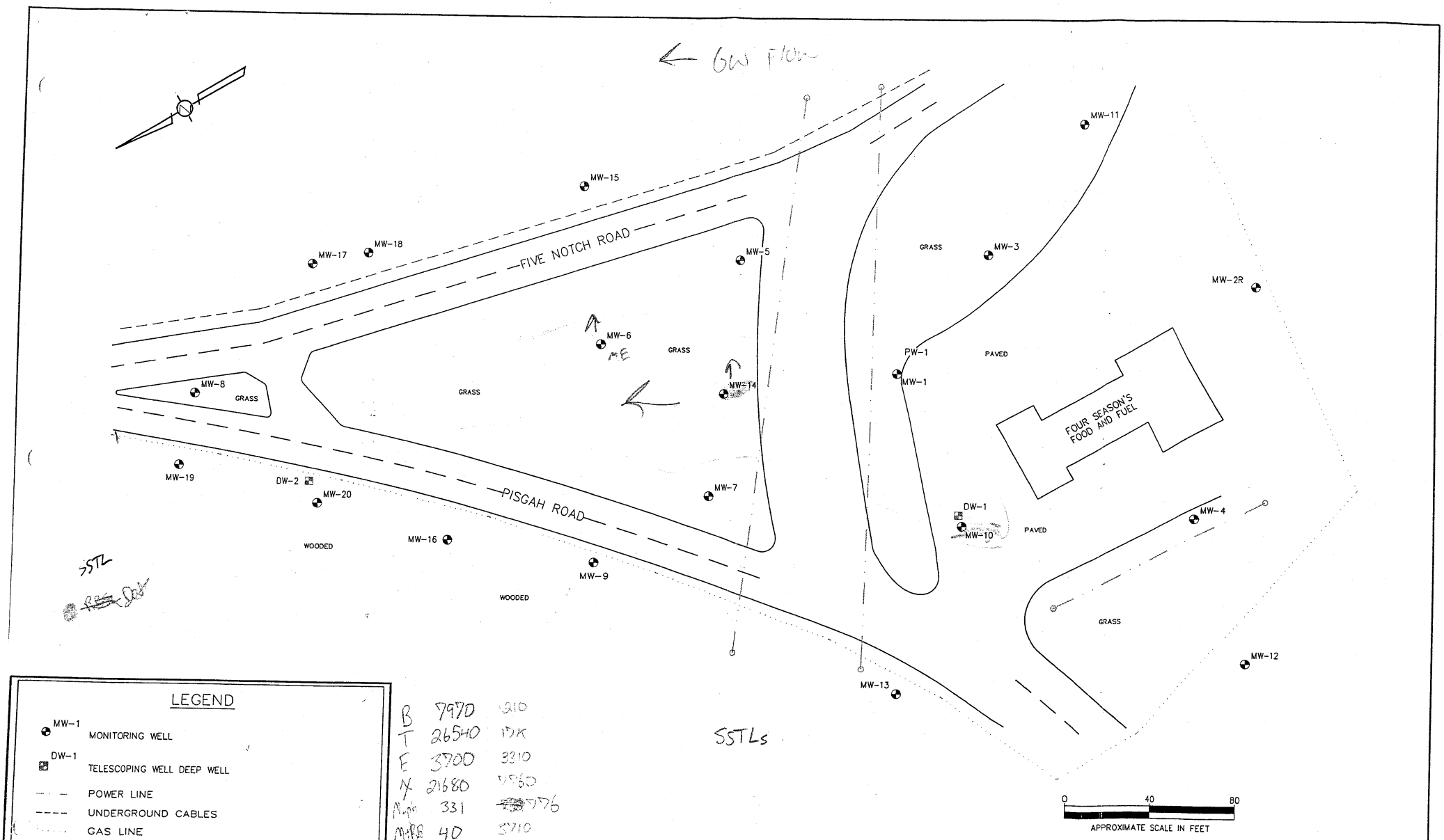
TABLE 2
DIFFERENTIAL PRESSURE AND GROUNDWATER DRAWDOWN DATA
FOUR SEASONS FOOD AND FUEL
NORTH AUGUSTA, SOUTH CAROLINA
MECI PROJECT NUMBER 09-2191
SCDHEC SITE ID NUMBER 00120

DIFFERENTIAL PRESSURE DATA

		Well Designation:		
		MW-5	**MW-6**	**MW-7**
Nearest Extraction Well:		MW-14	MW-14	MW-14
Approximate Distance:		62 ft	61 ft	48 ft
Time	**Elapsed Time**	**Differential Pressure Readings (inches of water)**		
5:30	0.0	0	0	0
6:00	0.5	0	0	0
6:30	1.0	0	0	0
7:00	1.5	0	0	0
7:30	2.0	0	0	0
8:00	2.5	0	0	0
8:30	3.0	0	0	0
9:00	3.5	0	0	0
9:30	4.0	0	0	0
10:00	4.5	0	0	0
10:30	5.0	0	0	0
11:00	5.5	0	0	0
11:30	6.0	0	0	0
12:00	6.5	0	0	0
12:30	7.0	0	0	0
13:00	7.5	0	0	0
13:30	8.0	0	0	0
Maximum Change:		**0**	**0**	**0**

GROUNDWATER DRAWDOWN DATA

		Well Designation:		
		MW-5	**MW-6**	**MW-7**
Nearest Extraction Well:		MW-14	MW-14	MW-14
Approximate Distance:		62 ft	61 ft	48 ft
Time	**Elapsed Time**	**Depth to Liquid (feet below of casing):**		
Prior toAFVR		12.99	12.53	17.91
9:30	4 hours	13.03	12.56	17.93
13:30	8 hours	13.05	12.59	17.94
Maximum Change:		-0.06	-0.06	-0.03



LEGEND

- MW-1 MONITORING WELL
- DW-1 TELESCOPING WELL DEEP WELL
- POWER LINE
- UNDERGROUND CABLES
- GAS LINE

B	7970	1210
T	26540	17K
E	3700	3310
X	21680	7760
Nph	331	776
MBB	40	3710

CONSULTECH ENVIRONMENTAL, INC.

Environmental Consulting and Engineering © 1999

Delivering innovative solutions to today's environmental concerns

DRAWN: CJH	DATE: 11/06/05
REVISION #	
PROJECT: FOUR SEASONS FOOD AND FUEL	
PROJECT No.: C-06-08-045	
LOCATION: North Agusta, South Carolina	

FIGURE 2
SITE PLAN MAP

Site 00120

C 143028

Crandall

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: . . . . . .
Manifest Document No.: 37550
2. Page 1 of 1

GENERATOR

3. Generator's Name and Mailing Address: Midlands Environmental
1144 Old Two Notch
Lexington, SC 29073
4. Generator's Phone ( ) (803) 808-2043

5. Transporter 1 Company Name: Crandall Corporation
6. US EPA ID Number: SCD981864499
A. Transporter's Phone: (803) 791-4800

7. Transporter 2 Company Name:
8. US EPA ID Number:
B. Transporter's Phone:

9. Designated Facility Name and Site Address: Crandall Corporation
100 Rich-Lex Drive
Lexington, SC 29072
10. US EPA ID Number: SCD981864499
C. Facility's Phone: (803) 791-4800

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt./Vol.
a. Non - Hazardous Waste, Waste Water	01.	TT	2,920.	G
b.				
c.				
d. •Bay Creek-18662-150gals. •Burnett's Cleaners-160gals •Mixson 14739-275gals. •Greenwave Amoco-250gals. •Handy Pantry-04733-25gals •Ridgeway-03144-0gals.				

D. Additional Descriptions for Materials Listed Above
•Greenwave Amoco-12097-250gals. •Frm. Ford Spe.-00487-5gals.
•Greenwave Amoco-12097-10gals. •Smith's Gulf-00466-20gals.
•Mack's Camp-01253-320gals. •Hughes Well-00358-150gals.
•Refrigeration Service-19337-60gals. •Anderson Patrol-09769-20gals

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
•Richland Landfill-11808-25gals. •Richland CPW-11805-550gals.
Service Call ID: GLB0137550
•4 Seasons F+F-00120-90gals.
•Sportsman Corner-12151-90gals. •Bay Creek Villas-18662-150gals.
•Quick Pantry #12-06926-100gals. •Brum Bros-04145-150gals
Emergency Response: Infotrac - 800-535-5053 •Burtons BP-12299-60gals.
Caller must ID Crandall as registrant
•Greenwave Amoco-12097-100gals

TRANSPORTER

16. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.

Printed/Typed Name	Signature	Month	Day	Year
John Womack	[signature]	04	01	09

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Chad Justice	Chad Justice	04	01	09

18. Transporter 2 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year

FACILITY

19. Discrepancy Indication Space

20. Facility Owner or Operator: Certification of receipt of waste materials covered by this manifest except as noted in item 19.

Printed/Typed Name	Signature	Month	Day	Year

GENERATOR COPY

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Phone (803) 898-4350 Fax (803) 898-4330

Jackson Petroleum Company, Inc.
Attention: Mr. Buzz Jackson
102 Williamsburg Street Southeast
Aiken, South Carolina 29801-0456

MAR 15 2001

RE: Eagle Express 5, 2031 Pigsah Road, North Augusta, South Carolina
UST Permit # 00120
Availability of SUPERB Funding
Aiken County

Dear Mr. Jackson:

The Underground Storage Tank Program has reviewed the departmental file, and currently, the release reported on at the referenced site has a priority classification of 2A. Therefore, funds from the State Underground Petroleum Environmental Response Bank (SUPERB) are available to implement the next scope of work. The scope of work to be implemented is a **comprehensive ground water sampling event.**

Our records show that you have not selected a contractor to perform assessment activities at the site. Please have your contractor complete and submit an Assessment Component Cost Proposal form within thirty days of the date of this letter. Every component may not be necessary to complete the above scope of work. The SUPERB allowable cost for each component is included on the Assessment Component Cost Proposal form.

In addition, please complete and return the enclosed Owner/Operator Information Sheet. Note, all rehabilitation activities associated with a UST Release must be performed by a SCDHEC certified site rehabilitation contractor as requested by R.61-98. A list of contractors that have provided services to customers is also enclosed for your convenience. If you wish, the SCDHEC can directly procure the services of a site rehabilitation contractor on your behalf. If you would like more information on this method of implementing the necessary scope of work, please contact me within 10 days of receiving this letter. Submittal of the enclosed Owner/Operator Information sheet is not required if you select this method. If you choose this option, additional forms will be forwarded to you for SCDHEC and it's contractor to access the property.

To proceed with the qualification process for the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the following information is required:

- Written confirmation of the existence or non-existence of an environmental insurance policy for this facility. This information must be signed by the responsible party and a notary public. For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement.

On all correspondence or inquiries regarding this project, please reference **UST Permit #00120**. If you have any further questions, please feel free to contact me at (803) 898-4336 or (800) 826-5435 (within South Carolina only).

Sincerely,

James A. DeVore, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division
Underground Storage Tank Program

Enc: Assessment Component Cost Proposal Form
Owner Operator Info Sheet
SUPERB Qualification Form

CC: Technical/Read File

SITE NO. 10T

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-896-6240

MEMORANDUM

TO: James Wilson, Consultech Environmental

FROM: Debra L. Thoma, State Lead & Field Services

RE: **NOTICE TO PROCEED**

Facility Name: Four Seasons Food & Fuel 5

Permit Number: 00120

County: Aiken

Work previously completed: Tier II Assessment was received February 2002

enc: Permission Form, EFIS Utility Report, Tier II excerpts

Need ROE from property owner
- Four Seasons
Beverly Smith
803-642-4103

Set up additional assessment under Recoverable ✓

write letter to Consultech

UST Program
DOCKETING # 71T

TIER II ASSESSMENT PLAN

SOUTH CAROLINA
Department of Health and Environmental Control
Underground Storage Tank Program

UST Permit # 00120 **County** Aiken **Facility Name** Former Shop-n-fill #35
Facility Address 2031 Pisgah Rd, North Augusta, SC
Responsible Party Jackson Petroleum **Address:** PO Box 10343, Greensboro, NC
No. USTs 4 **removed?** 3 (1/6/99) (date) **replaced?** _____ (date)

Current Use of facility/property: Four Seasons Food & Fuel Store 5
Current property owner name: Four Seasons Food & Fuel Stores
Current property owner address: PO Box 6680, Aiken, SC, 29804

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

1,000 feet of field screening to delineate extent of petroleum

Permanent Monitoring Wells (Estimate number and total completed depth)

# shallow wells	10	total depth	300
# deep wells	1	total depth	50

Comments, if warranted: 10 monitoring wells exist from previous assessment activities.

Analyses

List the analytical parameters (e.g. BTEX, MTBE) and estimated number

21 monitoring wells for BTEX, Naphthalene, MTBE (8260), EDB (8011), Nitrate, Sulfate, & Ferrous Iron
2 surface water samples

Implementation Schedule

Start-up date _____ Completion Date _____
Report Submittal Date _____

TIER II ASSESSMENT PLAN

SOUTH CAROLINA
Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

UST Permit # 00120 **Facility Name:** Former Shop-n-Fill #35

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location

2. Prepare a site base map. This map must be accurately scaled, but does not need to surveyed. The map must include the following

North Arrow	Legend with facility name, address, Permit #, date, and bar scale
Location of Property lines	Streets or highways (indicate names and numbers)
Location of buildings	Identifiaction of located buildings
Paved ares on or adjacent to site	Location of all present and former ASTs and USTs
Previous soil sampling locations	Underground and above ground utilities on or adjacent to site
Previous monitoring well locations	Location of any other potential receptors

Aquifer Characterization

Pump Test _____ Slug Tests 2

Slug Tests were previously conducted on MW-3, MW-6, & PW-1

Small Volume Disposal Type and Method

Additional Comments

MW-1 contained free phase product in 2000.

SUPERB RECOVERABLE COST AGREEMENT CHECKLIST

!!! Update payment code, task screen, punch list, status, etc. in tracking system !!!

UST Permit Name: Four Seasons Food & Fuel 5 ID# 00120

Date Release Reported 11/7/1997 Release # 1 Project Manager Debra L Thoma

Priority Class (Circle) Emergency / 1 2A 2B 3A 3B 4A 4B 5

Category Assessment ■ ACA (8___) ☐ MNA (901) ☐

Description of Work Tier II Assessment

Cost Agreement # 19945:P Amount Approved: $18,942.42

Cost Agreement Type

Recoverable by SUPERB (RS) ■

SUPERB Paying Deductible (R25) ☐

Prior toward $25K:

To complete $25K: $25,000.00

Over $25K: $0.00

Payment above $25K: RS DS WS

(circle one)

Cost Agreement Duration

■ 4 Months (120 Days) ☐ 2 Months (60 Days)

☐ Other _____

Payee & Address:

Consultech Environmental, Inc.

1800 MacLeod Drive, Suite F

Lawrenceville, GA 30043

Contractor Certification #: 65

Rate Schedule:

State Lead

☐ IGWA PO# 228368

☐ Tier I PO# 292862

■ Tier II PO# 435927

☐ Analytical PO# 179220

☐ Sampling PO# 247174

☐ GAC PO# 252493

☐ Other _____

Project Manager: _____ Date _____

Accountant: _____ Date: _____

Financial Supervisor: _____ Date: _____

Technical Supervisor: _____ Date: _____

Consultech

ASSESSMENT COMPONENT COST AGREEME

Consultech Environmental SB-20673-9/26/02-EMW

South Carolina Department of Health and Environmental Control
Underground Storage Tank Program
State Underground Petroleum Environmental Response Bank

Site Name **Four Seasons Food & Fuel 5**

Site ID # **00120** CA# **19945:P**

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1 Plan*				
A. Plan Preparation		x	$50.00	$0.00
B. Tax Maps	1	x		
2. Receptor Survey*	1	x	$50.00	$50.00
3. Comprehensive Survey	1	x	$600.00	$600.00
4. Mob/Demob				
A. Equipment	2	x	$50.00	$100.00
B. Personnel	4	x	$30.00	$120.00
5. Soil Borings		feet x	$6.12	$0.00
6. Field Screening*	(includes collection and quantification)			
	1000	feet x	$6.12	$6,120.00
7. Soil Leachability Model		x	$150.00	$0.00
8. Abandonment* (separate from #5 and #6)		feet x		
9. Well Installation*	(includes drilling costs)			
A.		feet x		
B. Water Table	300	feet x	$13.00	$3,900.00
C. Telescoping	50	feet x	$23.00	$1,150.00
D. Rock Drilling		feet x	$21.10	$0.00
10. Ground-water sample collection	23	samples x	$30.00	$690.00
11. Analyses-Groundwater	(See RA Guidance for site specific analyses)			
A. BTEX+Napth.+MTBE	23	samples x	$44.00	$1,012.00
B. BTEX+Napth.+MTBE **RUSH Analysis**		samples x	$44.00	$0.00
C. BTEX+napth.+MTBE Trimethylbenzene		samples x		
D. PAH's		samples x	$66.00	$0.00
E. Lead		samples x	$6.60	$0.00
F. EDB	23	samples x	$44.00	$1,012.00
G. 8 RCRA Metals		samples x	$55.00	$0.00
H.TPH (9070)		samples x	$44.00	$0.00
I. pH		samples x		
J. BOD		samples x		
K. Nitrate	21	samples x	$20.00	$420.00
L. Sulfate	21	samples x	$13.20	$277.20
M. Ferrous Iron	21	samples x	$8.80	$184.80
N. Methane		samples x	$49.50	$0.00
O. Organic Lead		samples x		
P. 8 Oxygenates		samples x	$66.00	$0.00
Analyses-Soil				
Q. BTEX + Napth.		samples x	$44.00	$0.00
R. PAH's		samples x	$66.00	$0.00
S. 8 RCRA Metals		samples x	$55.00	$0.00
T. TPH (9071)		samples x	$44.00	$0.00
U. TPH (3550)		samples x	$49.50	$0.00
V. TPH(5035)		samples x	$44.00	$0.00
W. Grain size / hydrometer	1	samples x	$50.00	$50.00
X. Total Organic Carbon		samples x	$35.00	$0.00
12. Aquifer Characterization*				
A. Pumping Test		hours x	$30.00	$0.00
B. Slug test	2	tests x	$30.00	$60.00
13. Free Product Recovery Rate Test*	1	tests x	$30.00	$30.00
14. Fate & Transport Modeling				
A. Mathematical Model		models x	$0.00	$0.00
B. Computer Model		models x	$250.00	$0.00
15. Risk Evaluation				
A. Tier I		x	$0.00	$0.00
B. Tier II	1	x	$150.00	$150.00
16. Subsequent Survey*		x	$100.00	$0.00
17. Disposal				
A. Wastewater				
1. Purging/Sampling	15	drums x	$90.00	$1,350.00
2. Pumping test		gallons x	$0.20	$0.00
B. Free Product		drums x	$40.00	$0.00
C. Soil (Treatment/Disposal)*		tons x		
	25	drums x	$50.00	$1,250.00
18. Miscellaneous				
Mobilization: Adverse Terrain		x	$50.00	$0.00
Monitoring Well Gauging	3	x	$15.00	$45.00
supply well/surface water sample		x	$15.00	$0.00
Additional copies of report		x	$25.00	$0.00
19. Report/Project Management and Coordination	0.02	x	(SUBTOTAL) $18,571.00	$371.42
20. **Total**				**$18,942.42**

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 896-6245

AUG 25 2003

SHERRI STABEL
PACE ANALYTICAL SERVICES
9800 KINCEY AVE STE 100
HUNTERSVILLE NC 28078

Re: Laboratory Analyses
Bid # SB-19780-6/11/02-EMW, PO # 416276

Dear Ms. Stabel:

Under the terms and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. The facility has been assigned an individual Cost Agreement (CA) number as listed below. Please reference the CA number and Purchase Order #416276 on the appropriate invoice submitted for payment against the facility. SCDHEC personnel will perform the sampling on August 25, 2003.

UST Permit #	County	Analyses-Groundwater	CA #	Bottles (Y/N)	Date Needed
00120	Aiken	1-BTEX, Naph, MTBE, EDB, PAH **(RUSH Analysis)**	19941	N	N/A

If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division

Enc: Approved Cost Agreement 19825

cc: Technical/Read File

UST Docket 72I

Approved Cost Agreement 19945

Facility: 00120 FOUR SEASONS FOOD & [illegible] 5
THOMADL
PO Number: 416276-682

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	1.0000	30.00	30.00
		B	RUSH BTEX ANALYSIS	1.0000	135.00	135.00
		D	GW PAH'S	1.0000	65.00	65.00
		F	EDB	1.0000	40.00	40.00
				Total Amount		270.00

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
Phone (803) 898-4350 Fax (803) 898-4330

CERTIFIED MAIL
7001 0360 0002 0811 4735
AUG 2 2 2003

WILLIAM C JACKSON
JACKSON PETROLEUM
PO BOX 10343
GREENSBORO NC 27404

Re: Four Seasons Food & Fuel 5, 2031 Pisgah Rd., N. Augusta, SC
UST Permit #00120
Release reported November 7, 1997
Tier II Plan Request
Aiken County

Dear Mr. Jackson:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the technical file for the referenced facility. To determine what risk the release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the scope of work as outlined in the enclosed Tier II Assessment document is necessary. The Program requests that a Tier II Assessment Plan be submitted within 30 days. **When developing your plan, please note that if the UST System was in operation prior to 1991, Lead and EDB analyses is required. Also, all water wells and other potential receptors (i.e., drainage ditch, creek, pond, etc.) within 1,000 feet of the former UST must be sampled. Please be advised that only EPA Method 8260B will be accepted for purgeable aromatics.**

If this release becomes qualified for funding through the State Underground Petroleum Environmental Response Bank (SUPERB) Act, eligible costs exceeding the $25,000 deductible (according to Section 44-2-40 D of the SUPERB Act) can be compensated. As the responsible party, Jackson Petroleum is liable for the first $25,000 of actual costs incurred for rehabilitation activities from your financial responsibility mechanism or other financial means. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. To insure any expenditure you make do apply towards the deductible, the UST Program must pre-approve any such costs along with your technical plan of action.

To proceed with the qualification process for the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the following information is required:

- Written confirmation of the existence or nonexistence of an environmental insurance policy for this site. **The responsible party and a notary public must sign this information.** For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement. **Please complete and return the enclosed insurance information form within 14 days from the date of this letter.**

Upon receipt of the signed Tier II Invoice, Tier II Report, and a copy of your canceled check (front and back) or a notarized statement from the contractor verifying payment for this scope of work, it may be applied toward your deductible, as appropriate. **Should it be determined that the tanks at this facility were not in substantial compliance with the UST Regulations at the time of discovery and reporting of release, you will be denied SUPERB access for this release.**

Please complete and return the enclosed Owner/Operator Information Sheet within 14 days from the date of this letter (note that all rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98). A cost proposal number will be established to track the allowable costs associated with this Tier II.

On all correspondence regarding this site and scope of work, please reference UST Permit #00120. If you have any questions concerning this correspondence, please contact me at (803) 896-6397.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
State Lead & Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program

enc: Contractor Choice Information Sheet
Certified Contractors List
Insurance Statement Form

cc: W.C. Jackson Jr., 114 Williamsburg St. SE, Aiken, SC, 29801 (w/ enc.)
William Jackson, PO Box 10343, Greensboro, NC, 27404 (w/ enc.)
Beverly Smith, Four Seasons Food & Fuel Stores, PO Box 6680, Aiken, SC, 29804
Technical/Read File

#00120

From: Tabatha G. Corley
To: Millings, Victor E. (Ted); Strickland, Tanya Y.
Date: 9/4/03 9:51AM
Subject: Phillips 66 Results

Due to ongoing problems with LIMS, we can't get an official print-out of the results. So, here they are--

Site 001
6.15 Benzene 0.00615 mg/L
150 Toluene 0.150 mg/L
Ethyl Benzene 0.00779 mg/L

Site 002
No detections for this location.

Field Blanks
No detections.

Tabatha

UST Docket 73T

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
Phone (803) 896-6240 Fax (803) 896-6245

CERTIFIED MAIL
7001 0360 0002 0811 4742

SEP 2 3 2003

UST Docket 14T

WILLIAM C JACKSON
JACKSON PETROLEUM
PO BOX 10343
GREENSBORO NC 27404

Re: **Notice of Violation**
Four Seasons Food & Fuel 5, 2031 Pisgah Rd., N. Augusta, SC
UST Permit #00120
Release reported November 7, 1997
Tier II Plan Request
Aiken County

Dear Mr. Jackson:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control directed you to complete a submit a Tier II Assessment Plan on or before September 22, 2003. To date the required information has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as chemicals of concern are above the risk-based-screening levels. Additionally, the UST Program has confirmed the presence of petroleum chemicals in a stream downgradient of the facility.

Submission of the Tier II Plan is required as an environmental impact has occurred. **The Tier II Plan must be submitted before October 10, 2003. If the plan is not received, enforcement procedures will be initiated.**

On all correspondence regarding this site, please reference UST Permit #00120. If you have any questions concerning this correspondence, please contact me at (803) 896-6397 or (800) 826-5435(within South Carolina only).

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
State Lead & Field Services Section
Assessment and Corrective Action Division

cc: W.C. Jackson Jr., 114 Williamsburg St. SE, Aiken, SC, 29801
William Jackson, PO Box 10343, Greensboro, NC, 27404
✓Technical File

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

July 28, 2006

JOE GHIOLD
CONSULTECH ENVIRONMENTAL
PO BOX 5306
CARY NC 27512-5306

UST Docket 15T

Re: Tier II Assessments
Contract SB-26281-10/26/04-EMW, Purchase Order # 557699
Telephone Conversation on July 27, 2006
Cancellation of Tier II Request

Dear Mr. Ghiold:

In accordance with the referenced contract, the Underground Storage Tank Program requests the Tier II plan for the following facilities:

Site name	ID #	County	Priority	Project Manager
Four Season Food and Fuel 5	00120	Aiken	1	Minda Johnson-Schmiedel
New Zion Dog Food Center	02460	Clarendon	1	Minda Johnson-Schmiedel

As outlined in our conversation, please submit the Tier II Assessment Plan and Assessment Component Cost Agreement to my attention within thirty (30) days from the date of this correspondence. Plan implementation shall not commence prior to receipt of written technical and financial approval from the Department. The reports must be submitted to my attention within 90 days subsequent to the date of the approval letter. As the facility was recently sold, the project manager is in the process of getting Right if Entry (ROE) to the gasoline facility.

Tier II Assessment Plan, Implementation and Report submittal shall be performed in accordance with the referenced contract. Per Section 12, Special Conditions, a late fee of $100.00/day may be levied for each report submitted after the deadline established in the Notice to Proceed. On all correspondence, please reference the pertinent UST Permit number.

Sincerely,

Arthur Shrader, Hydrogeologist
Assessment Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Enc: Notice to Proceed for Four Season Food and Fuel 5, UST Permit #00120
Notice to Proceed for New Zion Dog Food Center, UST Permit #02460

cc: Technical Files

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

AUG 26 2006

JOE GHIOLD
CONSULTECH ENVIRONMENTAL
PO BOX 5306
CAREY NC 27512-5306

Re: Four Seasons Food & Fuel, 2031 Pisgah Road, North Augusta, SC
UST Permit # 00120; CA# 27717; MWA# UMW-20201
Bid Specification SB-26861-10/26/04-EMW; PO #557699
Tier II Plan received August 14, 2006
Aiken County

Dear Mr. Ghiold:

The Underground Storage Tank (UST) Program has reviewed the Tier II Assessment Plan and associated Cost Agreement for the referenced site. Assessment activities should begin immediately upon receipt of this letter.

Cost agreement number 27717 has been approved in the amount shown on the enclosed cost agreement spreadsheet and will be kept on file so that compensation can begin. **The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with bid number SB-26861-10/26/04-EMW.** Further, SCDHEC reserves the right to question and/or reject costs if deemed unreasonable. The SCDHEC reserves the right to audit project records at any time during the project or after completion of the work. **The Tier II Assessment Report (1 hardcopy and 1 electronic copy) and invoice should be submitted within 60 days from the date of this correspondence.** Please note the following adjustments to the submitted cost agreement:

- Analyses of two surface water samples have been added for a sample to be collected at the groundwater discharge point and a sample to be collected downstream of the discharge point.

A copy of the approved assessment cost agreement is enclosed for your information. Consultech Environmental, Incorporated can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Future invoices and/or other criteria included therein must comply with current SUPERB criteria per Section 44-2-20(2). Please reference cost agreement number 27717 on all pertinent invoices and correspondence. Please note that Sections 44-2-110(4) and 44-2-130(B) of the SUPERB Statute state that no costs will be allowed (considered for payment) unless prior approval from the Department is obtained. If for any reason there is a change in this cost agreement, any associated changes must be pre-approved by this Department in order for Consultech Environmental, Inc. to seek future cost compensation.

Any item(s) not clearly or completely addressed in the report (SC certified driller's number, disposal manifest for soil cuttings, disposal manifests for generated ground water, etc.) WILL NOT be compensated by the SUPERB Account. As agreed to in the referenced contract, the owner/operator of the referenced facility will not be responsible for any costs associated with this assessment.

DOCKETING # 76T

Monitoring well approval for fifteen permanent monitoring wells is enclosed for your records. Please note that all applicable South Carolina certification requirements regarding laboratory analyses, well installation, and report preparation must be met.

The Department grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the COC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater on site. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

On all correspondence regarding this site, please reference the UST Permit # 00120 and Cost Agreement # 27717. If you have questions concerning this correspondence, or would like to submit additional information, please contact me at (803) 896-6395, fax me at (803) 896-6245, or e-mail me at johnsoms@dhec.sc.gov.

Sincerely,

Minda Johnson

Minda Johnson , Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management

enc: Approved Cost Agreement
Monitoring Well Approval

Cc: Four Seasons Food & Fuel, 1046 Toolbeck Road, Aiken, SC (w/o enc.)
George O. McKie, Jr., 1025 Martintown Road, N. Augusta, SC 29841 (w/o enc.)
Technical File (w/ enc.)

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

Monitoring Well Installation Approval Form

Approval is hereby granted to:	Consultech Environmental, Incorporated
Facility:	Four Seasons Food & Fuel, 2031 Pisgah Road, N. Augusta, SC
UST Permit Number:	00120
County:	Aiken

This approval is for the installation of thirteen shallow and two deep permanent monitoring wells. The monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.

2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.

3. A Water Well Record Form or other form provided or approved by the Department shall be completed and submitted to the Department within 30 days after well completion or abandonment unless another schedule has been approved by the Department. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f

4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Department within 30 days of receipt of laboratory results unless another schedule has been approved by the Department as required by R.61-71.H.1.d.

5. If any of the information provided to the Department changes, notification to Minda Johnson (tel: (803) 896-9365 or e-mail: johnsoms@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.

6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.

7. Monitoring wells shall have Department approval prior to abandonment as required by R.61-71.H.1.a. A copy of this approval should be on the site during well installation.

Date of Issuance: ***August 18, 2006*** ***Approval #:*** ***UMW-20201***

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

Approved Cost Agreement [illegible]717

Facility: 00120 FOUR SEASONS FOOD & FUEL 5
JOHNSOMS
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		A PLAN PREPARATION	1.0000	50.00	50.00
		B TAX MAPS	1.0000	50.00	50.00
02 RECEPTOR SURVEY					
		RECEPTOR SURVEY	1.0000	50.00	50.00
03 COMPREHENSIVE SURVEY					
		COMPREHENSIVE SURVEY	1.0000	600.00	600.00
04 MOB/DEMOB					
		A EQUIPMENT	2.0000	137.50	275.00
		B PERSONNEL	4.0000	33.00	132.00
06 SOIL BORINGS (DRILLED)					
		A SOIL BORINGS & FLD SCREENING	1,000.0000	10.00	10,000.00
09 WELL INSTALLATION					
		B WATER TABLE (DRILLED)	390.0000	25.00	9,750.00
		C TELESCOPING	120.0000	30.00	3,600.00
10 SAMPLE COLLECTION					
		A GROUND WATER	23.0000	30.00	690.00
		C WATER SUPPLY	4.0000	15.00	60.00
		E GAUGE WELL ONLY	9.0000	15.00	135.00
11 ANALYSES					
	GW GROUNDWATER	A BTEX+NAPTH+MTBE	27.0000	31.50	850.50
		B RUSH BTEX ANALYSIS	6.0000	63.00	378.00
		E LEAD	25.0000	6.50	162.50
		F EDB	25.0000	30.50	762.50
		K NITRATE	23.0000	16.00	368.00
		L SULFATE	23.0000	13.50	310.50
		M FERROUS IRON	23.0000	8.50	195.50
		N METHANE	23.0000	37.00	851.00
		P 8 OXYGENATES	25.0000	63.00	1,575.00
17 DISPOSAL					
		A1 WASTEWATER - PURGING/SAMPLING	10.0000	90.00	900.00
		C SOIL (TREATMENT/DISPOSAL)	27.0000	50.00	1,350.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.0300	33,095.50	992.87
			Total Amount		34,088.37

To Mindi
Johnson

UST PROGRAM
DOCKETING # 777

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

DEC 05 2006

Mr. Raj Shah
Consultech Environmental, Inc.
PO Box 5306
Cary, NC 27512

Re: Four Seasons Food & Fuel
Facility# 00120 CA# 27717
Invoice Number 0608045-06.01
Aiken County

Dear Mr. Shah:

The S.C. Department of Health and Environmental Control (SCDHEC) has reviewed invoice number 0608045-06.01 for the referenced facility in the amount of $28,088.62.

The invoice has been approved for the amount of $22,654.85. A check for this amount will be processed and sent to Consultech Environmental, Inc. in approximately three weeks. The total amount of $5,433.77 has been denied. This amount represents the following adjustments:

- $1,240.00 less for 124 feet of soil borings and field screening. According to the project manager, only 640 feet was documented in the report.

- $1,850.00 less for 74 feet of water table; only 189 feet was documented in the report.

- $510.00 less for 17 ~~feet~~ of groundwater sample collection; only six were documented in the report.

- $94.50 less for 3 ~~feet~~ of BTEX+Napth.+MTBE ~~sample collection~~; only 26 samples were documented in the report. analyzed

- $156.00 less for 3 ~~feet~~ of PAH's ~~sample collection~~; only 20 were documented in the report. 20 analyzed

- $19.50 less for 3 feet of Lead ~~sample collection~~; only 20 were documented in the report. analyzed

- $91.50 less for 3 feet of EDB ~~sample collection~~; only 20 were documented in the report. analyzed

$48.00 less for 3 ~~feet~~ of Nitrate ~~sample collection~~ analyzed; only 20 were documented in the report.

$40.50 less for 3 ~~feet~~ of Sulfate ~~sample collection~~ analyzed; only 20 were documented in the report.

$25.50 less for 3 ~~feet~~ of Ferrous Iron ~~sample collection~~ analyzed; only 20 were documented in the report.

$111.00 less for 3 ~~feet~~ of Methane ~~sample collection~~ analyzed; only 20 were documented in the report.

$189.00 less for 3 ~~feet~~ of 8 Oxygenates ~~sample collection~~ analyzed; only 20 were documented in the report.

$900.00 less for 10 drums of wastewater purging/sample disposal. According to the project manager, a disposal manifest was not documented in the report.

$158.27 less for report project management; this cost is not allowed on denied items.

You have 30 days from the date of receipt of this correspondence to submit a request for review of any denied item(s). The date of receipt shall be considered effective 5 days from the date of this letter. A response will be provided within 30 days of receipt of your request. Please refer to the enclosed form for additional information. This will close cost agreement number 27717.

If you have any questions, feel free to call me at (803) 896-6586.

Sincerely,

Michelle Dennison

Michelle Dennison
Senior Accountant
Financial Section
Bureau of Land & Waste Management

md/00120cei-d

enc: Request for Review

cc: Financial Section

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

2600 Bull Street
Columbia SC 29201-1708

FAX MESSAGE

Date: 8/25/03

Number of Pages Including Cover Sheet: 2

Please Deliver This Fax Message

TO:

Beverly Smith
Name

Four Seasons
Organization/Department

803-643-1031
Fax Number

803-642-4103
Phone Number

FROM: Debra Thoma

Bureau of Land & Waste Management
Underground Storage Tank Program

(803) 896-6245
Fax Number

(803) 896-6240 or (800)-826-5435 in SC only!
Phone Number

SUBJECT/COMMENT:

Right-of-Entry form for UST Permit #00120

UST PROGRAM
DOCKETING # 78T

Four Seasons

FOOD & FUEL

TO: Debra Thomas

FAX NUMBER:

FROM: Beverly Smith

FAX NUMBER:

PHONE NUMBER:

COMMENTS:

RECEIVED
AUG 25 2003
Underground Storage Tank Program

1307 EAST PINELOG ROAD, AIKEN SC 29803
PO BOX 6680, AIKEN SC 29803
PHONE 1-803-642-4103 FAX 1-803-643-1031

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

PROPERTY OWNER

RIGHT OF ENTRY - UST Permit #00120

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

I, _____, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (SCDHEC), or a contractor selected by SCDHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility **Four Seasons Food & Fuel 5** Phone: 803-819-1836

Street Address of Facility **2031 Pisgah Rd.**

Town, City, District, Suburb **North Augusta, SC 29841**

Name of nearest intersecting street, road, highway, alley Five Notch Rd

Is this facility within the city limits? (yes or no) Yes

Is this facility serviced by a public water or sewer utility? (yes or no) Yes, if no, please provide the name of a person we can contact that can assist in the location of private water and septic tank lines
Name _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) Yes(3), if yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____, Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____, if yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.

NAME of property owner (Please Print): _____

Phone Number (home)_____ (work)_____

Current Mailing Address _____

Signature of Property Owner: _____

Witness:_____

Date:_____ Month _____ Day _____ Year

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

PROPERTY OWNER

RIGHT OF ENTRY - UST Permit #00120

If you are the Property Owner or are the authorized representative for that person, but did not own the former or existing underground storage tanks at the time the release was reported, please complete this form.

I, Lynn Porter, certify that I am the legal owner of the property identified below or serve as the authorized representative for the property owner. I authorize the South Carolina Department of Health and Environmental Control (SCDHEC), or a contractor selected by SCDHEC, to enter this property at reasonable times only to conduct assessment and corrective action activities, as required. The contractor will be designated as the contractor for the UST owner or operator for only the required environmental site rehabilitation activities. Compensation to the contractor will be from the SUPERB Account and I will have no obligation to pay the contractor. I understand that SCDHEC will notify me of all activities that are necessary prior to their initiation and will promptly provide to me a summary of the data upon request.

Name of Facility Four Seasons Food & Fuel 5 Phone: 803-819-1836

Street Address of Facility 2031 Pisgah Rd.

Town, City, District, Suburb North Augusta, SC 29841

Name of nearest intersecting street, road, highway, alley Five Notch Rd

Is this facility within the city limits? (yes or no) Yes

Is this facility serviced by a public water or sewer utility? (yes or no) Yes, if no, please provide the name of a person we can contact that can assist in the location of private water and septic tank lines
Name _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) Yes(3), if yes, please provide the name of a person we can contact that can assist in the location of the former underground storage tank excavation _____, Phone number _____

Is the property currently leased or rented to someone? (yes or no) _____, if yes, please provide their name _____ and phone number _____ and let them know about the pending assessment activities. If vehicles or other mobile structures are parked over the former or existing underground storage tanks, they should be moved before SCDHEC's contractor gets to the site.

NAME of property owner (Please Print): George McKie

Phone Number (home) _____ (work) 803-642-4103

Current Mailing Address PO Box 6680 Aiken, S.C 29804

Signature of Property Owner: [signature]

Witness: Beverly Smith

Date: 8 Month 25 Day 03 Year

RECEIVED
AUG 25 2003
Underground Storage Tank Program

From: Minda Johnson
To: Creel, Mark
Date: 10/9/2006 10:45:54 AM
Subject: Re: Four Seasons, North Augusta

I am in agreement with the well locations. I'm sorry I didn't get back to you on Friday.....technical difficulties got in the way. I hope you had a great weekend. (I didn't catch any fish, but still had fun.)

>>> "Mark Creel" <mcreel@consultechenv.com> 10/9/2006 8:46 AM >>>
Minda,

I have not heard form you concerning the well placement so I am assuming that you are in agreement. Please contact me on this matter at your earliest convenience, as we are moving forward with this project, and drilling the deep wells.

Talk to you soon,

Mark Creel
Consultech Env.

919-861-4319 Ext. 213

--
No virus found in this outgoing message.
Checked by AVG Free Edition.
Version: 7.1.407 / Virus Database: 268.13.1/466 - Release Date: 10/7/2006

KETING # 79T

Midlands
Environmental
Consultants, Inc.

April 28, 2009

RECEIVED
APR 2 9 2009
UNDERGROUND STORAGE
TANK PROGRAM

Ms. Debra Thoma, Hydrogeologist
Northeastern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Subject: Report of Groundwater Sampling
Four Seasons Food & Fuel 5
Aiken, South Carolina
SCDHEC Site ID Number 00120, CA # 35552
MECI Project Number 09-2237

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Sampling for the referenced site.

On April 16, 2009, ten monitoring wells (MW-5, MW-6, MW-9, MW-10, MW-13, MW-14, MW-20, DW-1, DW-2 and PW-1) were sampled. Three monitoring wells (DW-1, DW-2 and PW-1) were purged prior to sampling. Three monitoring wells (MW-1, MW-7 and MW-16) were gauged and determined to be dry at the time of sampling. Groundwater samples obtained were transported to Pace Analytical Services, Inc. of Huntersville, NC for analysis.

Purge water produced by the purging process was treated on-site utilizing a granular activated carbon unit. A total of 22.0 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is attached at the end of this report.

If you have any question or comments please feel free to contact us at 803-808-2043.

Sincerely,
Midlands Environmental Consultants, Inc.

Brendon P. Kelly
Staff Scientist

Jeff L. Coleman
Project Scientist

UST
DOCKET
8 tech

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

Site Activity Summary

UST Permit #: 00120
Facility Name: Four Seasons Food & Fuel 5
County: Aiken
Field Personnel: Brian Owen

Midlands Environmental Consultants, Inc.
235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-1	N	4/16/09		15-29	***	DRY	***	***	DRY
MW-5	Y	4/16/09	12:50	10-20	***	12.34	***	***	No Odor
MW-6	Y	4/16/09	13:05	9-19	***	12.19	***	***	Odor
MW-7	N	4/16/09		10-20	***	DRY	***	***	DRY
MW-9	Y	4/16/09	12:15	10-20	***	14.95	***	***	No Odor
MW-10	Y	4/16/09	13:50	15-30	***	22.36	***	***	Odor
MW-13	Y	4/16/09	13:30	15-30	***	19.37	***	***	No Odor
MW-14	Y	4/16/09	12:40	9-24	***	15.73	***	***	No Odor
MW-16	N	4/16/09		4-14	***	DRY	***	***	DRY
MW-20	Y	4/16/09	11:30	5-15	***	7.34	***	***	No Odor
DW-1	Y	4/16/09	14:05	55-60	***	26.40	***	3.0	Slight Odor
DW-2	Y	4/16/09	11:45	53-58	***	7.01	***	8.00	No Odor
PW-1	Y	4/16/09	14:45	36-46	***	23.71	***	11.0	No Odor
								22.0	**TOTAL GALLONS PURGED**

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 4/16/2009

Field Personnel: Brian Owen

General Weather Conditions: Sunny

Ambient Air Temperature: 65.0 °F

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** DW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	26.40			feet
Total Well Depth (TWD)	60			feet
Length of the water column (LWC=TWD-DGW)			33.6	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	5.48	gallons
3 casing volume (3 X CV)=		3	16.43	gallons

Total Volume of Water Purged Before Sampling 3 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:55							
pH (s.u.)	5.98							
Specific Conductivity (µmhos/cm)	127.4							
Water Temperature (°C)	22.6							
Dissolved Oxygen	0.63							
PID readings, if required								

Remarks: Sample Time: 14:05 Dry @ 3.0 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 4/16/2009

Field Personnel: Brian Owen

General Weather Conditions: Sunny

Ambient Air Temperature: 65.0 °F

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** DW-2

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): $3.14 \times (D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:				feet
Depth to Free Product (DFP)				feet
Depth to Ground Water (DGW)	7.01			feet
Total Well Depth (TWD)	58			feet
Length of the water column (LWC=TWD-DGW)			50.99	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	8.31	gallons
3 casing volume (3 X CV)=		3	24.93	gallons

Total Volume of Water Purged Before Sampling 8 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:35	11:40						
pH (s.u.)	6.98	7.10						
Specific Conductivity (µmhos/cm)	483	333.3						
Water Temperature (°C)	18.2	19.9						
Dissolved Oxygen	0.27	0.20						
PID readings, if required								

Remarks: Sample Time: 11:45 Dry @ 8.0 Gallons

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 4/16/2009

Field Personnel: Brian Owen

General Weather Conditions: Sunny

Ambient Air Temperature: 65.0 °F

Quality Assurance

pH Meter	YSI Model 550A	Conductivity Meter	
serial no.	02A0831	serial no.	02A0831
pH=4.0		standard	X
pH=7.0	X	standard	
pH=10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Four Seasons Food & Fuel 5

Site ID#: 00120 **Monitoring Well #** PW-1

Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2 inches

Conversion Factor (C): 3.14 x $(D/2)^2$ for a 2 inch well C=0.163
for a 4 inch well C=0.652

* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	23.71		feet
Total Well Depth (TWD)	46		feet
Length of the water column (LWC=TWD-DGW)		22.29	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	3.63	gallons
3 casing volume (3 X CV)=	3	10.90	gallons

Total Volume of Water Purged Before Sampling 11 gals.

*If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Inital	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:30	14:35	14:40	14:45				
pH (s.u.)	5.77	5.36	4.62	4.33				
Specific Conductivity (µmhos/cm)	60.2	57.1	53.7	54.1				
Water Temperature (°C)	21.9	22.0	21.3	21.1				
Dissolved Oxygen	4.96	5.92	5.92	5.71				
PID readings, if required								

Remarks: Sample Time: 11:45 Dry @ 8.0 Gallons

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1305936

Section A Required Client Information:	Section B Required Project Information:	Section C Invoice Information:
Company: SCDHEC-UST	Report To: D. Thoma	Attention: FINANCE (D. Thoma)
Address: 2600 Bull St.	Copy To:	Company Name: SCDHEC-UST
Columbia, SC 29201		Address:
Email To:	Purchase Order No.: 719459	Pace Quote Reference:
Phone: 803-896-6240 Fax: 803-896-6245	Project Name: Four Seasons Food & Fuel 5	Pace Project Manager: Renee Spencer
Requested Due Date/TAT:	Project Number: 00120/35553	Pace Profile #:

REGULATORY AGENCY

- ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
- ☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, Naph, MtBE (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	~~WT~~	~~G~~			~~4/16~~			~~6~~				~~6~~						~~X~~	~~X~~		DRY
2	MW-5	WT	G			4/16	1250		6				6						X	X		No Odor
3	MW-6						1305															ODOR
4	MW-7																					DRY
5	MW-9						1215															No Odor
6	MW-10						1350															ODOR
7	MW-13						1330															No Odor
8	MW-14						1240															No Odor
9	MW-16																					DRY
10	MW-20						1130															No Odor
11	DW-1						1405															Slight Odor
12	DW-2						1145															No Odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report J Values	Megan Roland	4/17/09	10:20	[signature] / Pace	4/17/9	1040	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 4-16-09

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

2

...late charges of 1.5% per month for any invoices not paid within 30 days.

F-ALL-Q-020rev.07, 15-May-2007

Pace Analytical®
www.pacelabs.com

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 2

1305937

Section A Required Client Information:

Company:	SCDHEC-UST
Address:	2600 Bull St. Columbia, SC 29201
Email To:	
Phone:	803-896-6240
Fax:	803-896-6245
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	719459
Project Name:	Four Seasons Food & Fuel 5
Project Number:	00120/35553

Section C Invoice Information:

Attention:	FINANCE (D. Thoma)
Company Name:	SCDHEC-UST
Address:	
Pace Quote Reference:	
Pace Project Manager:	Renee Spencer
Pace Profile #:	

REGULATORY AGENCY

- [ ] NPDES
- [ ] GROUND WATER
- [ ] DRINKING WATER
- [x] UST
- [ ] RCRA
- [ ] OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE

Drinking Water	DW
Water	WT
Waste Water	WW
Product	P
Soil/Solid	SL
Oil	OL
Wipe	WP
Air	AR
Tissue	TS
Other	OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COLLECTED COMPOSITE START TIME	COLLECTED COMPOSITE END/GRAB DATE	COLLECTED COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, NaPth, MtBE (8260 B)		EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	PW-1	WT	G			4-16	1445		6				6						X				No ODOR
2																			X		X		
3																							
4																							
5																							
6																							
7																							
8																							
9																							
10																							
11																							
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
Report J Values	Megan Roland	4/17/09	10:20	[signature] Pace	4/17/9	1040	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 4-16-09

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

2

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

F-ALL-Q-020rev.07, 15-May-2007

Midlands
Environmental
Consultants, Inc.

April 28, 2009

Re: Treatment of Purge Water
Four Seasons Food & Fuel 5
Aiken, South Carolina
SCDHEC Site ID Number 00120
MECI Project Number 09-2237

To Whom It May Concern;

Midlands Environmental Consultants, Inc. is providing the following letter as certification that treatment of the referenced purge water complied with the conditions of "Proposed Conditions for Use of Portable Activated Carbon Units for the Treatment of Small Volumes of Petroleum Hydrocarbon Contaminated Groundwater", as described in the following:

Applicability:

Groundwater treated was obtained as a result development of wells and sampling.

Conditions:

1. The purge/bail water from all wells is mixed before usage of the Activated Carbon Unit.

2. No free-product was detected in any of the purge water drums.

3. Analytical results of from well sampling show average concentrations of petroleum hydrocarbon constituents less than 5000 parts per billion (ppb) Benzene and less than 20,000 ppb total BTEX.

4. The existing carbon pack will be replaced/reactivated every 5,000 gallons.

5. Record of usage is maintained by Contractor.

6. Any and all recommendations and conditions issued by the Manufacturer have been adhered to.

7. Any and all recommendations and conditions (even on a site by site basis) issued by the SCDHEC must be adhered to.

All purge waters were treated on-site using an up-flow treatment drum loaded with 30 pounds of activated carbon. Carbon will be loaded to a maximum of 3 pounds of total organic compounds or 5,000 gallons of development/purge water, whichever occurs first.

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
Telephone: (803) 808-2043 • fax: (803) 808-2048

A total of 22.0 gallons were treated on April 16, 2009 at the referenced site.

Midlands Environmental also tracks cumulative organic compounds adsorbed on the activated carbon to ensure the capacity of carbon mass is not over-charged. This data is available upon request.

Should you have any questions or comments, please contact the undersigned.

Sincerely,
Midlands Environmental Consultants, Inc.

Brendon P. Kelly
Staff Scientist

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April 23, 2009

UST
APR 27 2009
PROGRAM

Ms. Debra Thoma
SCDHEC
UST Program
2600 Bull Street
Columbia, SC 29201

RE: Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on April 17, 2009. The results relate only to the samples included in this report. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

Inorganic Wet Chemistry and Metals analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Huntersville laboratory unless otherwise footnoted. All Microbiological analyses were performed at the laboratory where the samples were received.

If you have any questions concerning this report, please feel free to contact me.

Sincerely,

Renee Spencer

Renee Spencer

renee.spencer@pacelabs.com
Project Manager

Enclosures

REPORT OF LABORATORY ANALYSIS

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CERTIFICATIONS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Charlotte Certification IDs

West Virginia Certification #: 357
Virginia Certification #: 00213
Tennessee Certification #: 04010
South Carolina Drinking Water Cert. #: 990060003
South Carolina Certification #: 990060001
Pennsylvania Certification #: 68-00784
Connecticut Certification #: PH-0104
North Carolina Field Services Certification #: 5342
North Carolina Drinking Water Certification #: 37706
New Jersey Certification #: NC012
Louisiana/LELAP Certification #: 04034
Kentucky UST Certification #: 84
Florida/NELAP Certification #: E87627
North Carolina Wastewater Certification #: 12

Asheville Certification IDs

West Virginia Certification #: 356
Virginia Certification #: 00072
Connecticut Certification #: PH-0106
Florida/NELAP Certification #: E87648
Tennessee Certification #: 2980
South Carolina Certification #: 99030001
South Carolina Bioassay Certification #: 99030002
Pennsylvania Certification #: 68-03578
North Carolina Wastewater Certification #: 40
North Carolina Drinking Water Certification #: 37712
North Carolina Bioassay Certification #: 9
New Jersey Certification #: NC011
Massachusetts Certification #: M-NC030
Louisiana/LELAP Certification #: 03095

Eden Certification IDs

North Carolina Wastewater Certification #: 633
Virginia Drinking Water Certification #: 00424
North Carolina Drinking Water Certification #: 37738

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SAMPLE SUMMARY

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9242404001	**MW-5**	Water	04/16/09 12:50	04/17/09 14:45
9242404002	**MW-6**	Water	04/16/09 13:05	04/17/09 14:45
9242404003	**MW-9**	Water	04/16/09 12:15	04/17/09 14:45
9242404004	**MW-10**	Water	04/16/09 13:50	04/17/09 14:45
9242404005	**MW-13**	Water	04/16/09 13:30	04/17/09 14:45
9242404006	**MW-14**	Water	04/16/09 12:40	04/17/09 14:45
9242404007	**MW-20**	Water	04/16/09 11:30	04/17/09 14:45
9242404008	**DW-1**	Water	04/16/09 14:05	04/17/09 14:45
9242404009	**DW-2**	Water	04/16/09 11:45	04/17/09 14:45
9242404010	**PW-1**	Water	04/16/09 14:45	04/17/09 14:45

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SAMPLE ANALYTE COUNT

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9242404001	MW-5	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404002	MW-6	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404003	MW-9	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404004	MW-10	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404005	MW-13	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404006	MW-14	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404007	MW-20	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404008	DW-1	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404009	DW-2	EPA 8011	CAH	2
		EPA 8260	MCK	12
9242404010	PW-1	EPA 8011	CAH	2
		EPA 8260	MCK	12

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: MW-5 **Lab ID: 9242404001** Collected: 04/16/09 12:50 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	04/21/09 17:08	04/21/09 21:27	106-93-4	
1-Chloro-2-bromopropane (S)	75	%	60-140		1	04/21/09 17:08	04/21/09 21:27	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		04/20/09 17:36	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		04/20/09 17:36	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		04/20/09 17:36	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		04/20/09 17:36	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		04/20/09 17:36	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		04/20/09 17:36	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		04/20/09 17:36	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		04/20/09 17:36	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		1		04/20/09 17:36	460-00-4	
Dibromofluoromethane (S)	90	%	85-115		1		04/20/09 17:36	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120		1		04/20/09 17:36	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		04/20/09 17:36	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: MW-6 **Lab ID: 9242404002** Collected: 04/16/09 13:05 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	04/21/09 17:08	04/21/09 21:41	106-93-4	
1-Chloro-2-bromopropane (S)	69	%	60-140		1	04/21/09 17:08	04/21/09 21:41	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**396**	ug/L	250	60.0	50		04/20/09 14:27	71-43-2	
Ethylbenzene	**424**	ug/L	250	55.0	50		04/20/09 14:27	100-41-4	
Methyl-tert-butyl ether	**1770**	ug/L	250	100	50		04/20/09 14:27	1634-04-4	
Naphthalene	ND	ug/L	250	145	50		04/20/09 14:27	91-20-3	
Toluene	**4780**	ug/L	250	90.0	50		04/20/09 14:27	108-88-3	
Xylene (Total)	**2250**	ug/L	500	135	50		04/20/09 14:27	1330-20-7	
m&p-Xylene	**1570**	ug/L	500	135	50		04/20/09 14:27	1330-20-7	
o-Xylene	**683**	ug/L	250	85.0	50		04/20/09 14:27	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		50		04/20/09 14:27	460-00-4	
Dibromofluoromethane (S)	91	%	85-115		50		04/20/09 14:27	1868-53-7	
1,2-Dichloroethane-d4 (S)	93	%	79-120		50		04/20/09 14:27	17060-07-0	
Toluene-d8 (S)	99	%	70-120		50		04/20/09 14:27	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: MW-9 **Lab ID: 9242404003** Collected: 04/16/09 12:15 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	04/21/09 17:08	04/21/09 21:54	106-93-4	
1-Chloro-2-bromopropane (S)	85	%	60-140		1	04/21/09 17:08	04/21/09 21:54	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		04/20/09 17:54	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		04/20/09 17:54	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		04/20/09 17:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		04/20/09 17:54	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		04/20/09 17:54	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		04/20/09 17:54	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		04/20/09 17:54	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		04/20/09 17:54	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109		1		04/20/09 17:54	460-00-4	
Dibromofluoromethane (S)	92	%	85-115		1		04/20/09 17:54	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%	79-120		1		04/20/09 17:54	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		04/20/09 17:54	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: MW-10 **Lab ID: 9242404004** Collected: 04/16/09 13:50 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.87**	ug/L	0.019	0.019	1	04/21/09 17:08	04/21/09 22:08	106-93-4	
1-Chloro-2-bromopropane (S)	92	%	60-140		1	04/21/09 17:08	04/21/09 22:08	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**5070**	ug/L	500	120	100		04/21/09 13:19	71-43-2	
Ethylbenzene	**972**	ug/L	500	110	100		04/21/09 13:19	100-41-4	
Methyl-tert-butyl ether	**366J**	ug/L	500	200	100		04/21/09 13:19	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		04/21/09 13:19	91-20-3	
Toluene	**67800**	ug/L	2500	900	500		04/22/09 14:36	108-88-3	
Xylene (Total)	**4800**	ug/L	1000	270	100		04/21/09 13:19	1330-20-7	
m&p-Xylene	**3300**	ug/L	1000	270	100		04/21/09 13:19	1330-20-7	
o-Xylene	**1500**	ug/L	500	170	100		04/21/09 13:19	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		100		04/21/09 13:19	460-00-4	
Dibromofluoromethane (S)	88	%	85-115		100		04/21/09 13:19	1868-53-7	
1,2-Dichloroethane-d4 (S)	92	%	79-120		100		04/21/09 13:19	17060-07-0	
Toluene-d8 (S)	99	%	70-120		100		04/21/09 13:19	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: MW-13 **Lab ID: 9242404005** Collected: 04/16/09 13:30 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	04/21/09 17:08	04/21/09 22:22	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140		1	04/21/09 17:08	04/21/09 22:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		04/20/09 18:12	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		04/20/09 18:12	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		04/20/09 18:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		04/20/09 18:12	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		04/20/09 18:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		04/20/09 18:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		04/20/09 18:12	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		04/20/09 18:12	95-47-6	
4-Bromofluorobenzene (S)	102	%	87-109		1		04/20/09 18:12	460-00-4	
Dibromofluoromethane (S)	88	%	85-115		1		04/20/09 18:12	1868-53-7	
1,2-Dichloroethane-d4 (S)	94	%	79-120		1		04/20/09 18:12	17060-07-0	
Toluene-d8 (S)	99	%	70-120		1		04/20/09 18:12	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: MW-14 **Lab ID: 9242404006** Collected: 04/16/09 12:40 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.064**	ug/L	0.020	0.020	1	04/21/09 17:08	04/21/09 22:35	106-93-4	
1-Chloro-2-bromopropane (S)	94	%	60-140		1	04/21/09 17:08	04/21/09 22:35	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**442J**	ug/L	500	120	100		04/21/09 13:38	71-43-2	
Ethylbenzene	**554**	ug/L	500	110	100		04/21/09 13:38	100-41-4	
Methyl-tert-butyl ether	**1040**	ug/L	500	200	100		04/21/09 13:38	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		04/21/09 13:38	91-20-3	
Toluene	**11600**	ug/L	500	180	100		04/21/09 13:38	108-88-3	
Xylene (Total)	**3930**	ug/L	1000	270	100		04/21/09 13:38	1330-20-7	
m&p-Xylene	**2460**	ug/L	1000	270	100		04/21/09 13:38	1330-20-7	
o-Xylene	**1460**	ug/L	500	170	100		04/21/09 13:38	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		100		04/21/09 13:38	460-00-4	
Dibromofluoromethane (S)	96	%	85-115		100		04/21/09 13:38	1868-53-7	
1,2-Dichloroethane-d4 (S)	101	%	79-120		100		04/21/09 13:38	17060-07-0	
Toluene-d8 (S)	101	%	70-120		100		04/21/09 13:38	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: MW-20 **Lab ID: 9242404007** Collected: 04/16/09 11:30 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.020	0.020	1	04/21/09 17:09	04/21/09 22:49	106-93-4	
1-Chloro-2-bromopropane (S)	106	%	60-140		1	04/21/09 17:09	04/21/09 22:49	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	ND	ug/L	5.0	1.2	1		04/20/09 18:30	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		04/20/09 18:30	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		04/20/09 18:30	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		04/20/09 18:30	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		04/20/09 18:30	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		04/20/09 18:30	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		04/20/09 18:30	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		04/20/09 18:30	95-47-6	
4-Bromofluorobenzene (S)	101	%	87-109		1		04/20/09 18:30	460-00-4	
Dibromofluoromethane (S)	86	%	85-115		1		04/20/09 18:30	1868-53-7	
1,2-Dichloroethane-d4 (S)	94	%	79-120		1		04/20/09 18:30	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		04/20/09 18:30	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: DW-1 **Lab ID: 9242404008** Collected: 04/16/09 14:05 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	**0.067**	ug/L	0.020	0.020	1	04/21/09 17:09	04/21/09 23:02	106-93-4	
1-Chloro-2-bromopropane (S)	89	%	60-140		1	04/21/09 17:09	04/21/09 23:02	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**274J**	ug/L	500	120	100		04/21/09 13:56	71-43-2	
Ethylbenzene	**441J**	ug/L	500	110	100		04/21/09 13:56	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	500	200	100		04/21/09 13:56	1634-04-4	
Naphthalene	ND	ug/L	500	290	100		04/21/09 13:56	91-20-3	
Toluene	**12500**	ug/L	500	180	100		04/21/09 13:56	108-88-3	
Xylene (Total)	**3530**	ug/L	1000	270	100		04/21/09 13:56	1330-20-7	
m&p-Xylene	**2320**	ug/L	1000	270	100		04/21/09 13:56	1330-20-7	
o-Xylene	**1210**	ug/L	500	170	100		04/21/09 13:56	95-47-6	
4-Bromofluorobenzene (S)	99	%	87-109		100		04/21/09 13:56	460-00-4	
Dibromofluoromethane (S)	89	%	85-115		100		04/21/09 13:56	1868-53-7	
1,2-Dichloroethane-d4 (S)	91	%	79-120		100		04/21/09 13:56	17060-07-0	
Toluene-d8 (S)	100	%	70-120		100		04/21/09 13:56	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: DW-2 **Lab ID: 9242404009** Collected: 04/16/09 11:45 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.030	0.030	1	04/21/09 17:09	04/21/09 23:16	106-93-4	
1-Chloro-2-bromopropane (S)	98	%	60-140		1	04/21/09 17:09	04/21/09 23:16	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
Benzene	**1.3J**	ug/L	5.0	1.2	1		04/20/09 18:49	71-43-2	
Ethylbenzene	ND	ug/L	5.0	1.1	1		04/20/09 18:49	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		04/20/09 18:49	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		04/20/09 18:49	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		04/20/09 18:49	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		04/20/09 18:49	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		04/20/09 18:49	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		04/20/09 18:49	95-47-6	
4-Bromofluorobenzene (S)	103	%	87-109		1		04/20/09 18:49	460-00-4	
Dibromofluoromethane (S)	90	%	85-115		1		04/20/09 18:49	1868-53-7	
1,2-Dichloroethane-d4 (S)	96	%	79-120		1		04/20/09 18:49	17060-07-0	
Toluene-d8 (S)	98	%	70-120		1		04/20/09 18:49	2037-26-5	

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ANALYTICAL RESULTS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

Sample: PW-1 **Lab ID: 9242404010** Collected: 04/16/09 14:45 Received: 04/17/09 14:45 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8011 GCS EDB and DBCP	Analytical Method: EPA 8011 Preparation Method: EPA 8011								
1,2-Dibromoethane (EDB)	ND	ug/L	0.019	0.019	1	04/21/09 17:09	04/21/09 23:30	106-93-4	
1-Chloro-2-bromopropane (S)	77	%	60-140		1	04/21/09 17:09	04/21/09 23:30	301-79-56	
8260 MSV Low Level	Analytical Method: EPA 8260								
Benzene	ND	ug/L	1.0	0.25	1		04/22/09 15:32	71-43-2	
Ethylbenzene	ND	ug/L	1.0	0.30	1		04/22/09 15:32	100-41-4	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		04/22/09 15:32	1634-04-4	
Naphthalene	**0.39J**	ug/L	1.0	0.24	1		04/22/09 15:32	91-20-3	
Toluene	**3.8**	ug/L	1.0	0.26	1		04/22/09 15:32	108-88-3	
Xylene (Total)	**1.5J**	ug/L	2.0	0.66	1		04/22/09 15:32	1330-20-7	
m&p-Xylene	**1.0J**	ug/L	2.0	0.66	1		04/22/09 15:32	1330-20-7	
o-Xylene	**0.44J**	ug/L	1.0	0.23	1		04/22/09 15:32	95-47-6	
4-Bromofluorobenzene (S)	97	%	87-109		1		04/22/09 15:32	460-00-4	
Dibromofluoromethane (S)	101	%	85-115		1		04/22/09 15:32	1868-53-7	
1,2-Dichloroethane-d4 (S)	100	%	79-120		1		04/22/09 15:32	17060-07-0	
Toluene-d8 (S)	100	%	70-120		1		04/22/09 15:32	2037-26-5	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

QC Batch: OEXT/6497 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9242404001, 9242404002, 9242404003, 9242404004, 9242404005, 9242404006, 9242404007, 9242404008, 9242404009, 9242404010

METHOD BLANK: 266150 — Matrix: Water
Associated Lab Samples: 9242404001, 9242404002, 9242404003, 9242404004, 9242404005, 9242404006, 9242404007, 9242404008, 9242404009, 9242404010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	04/21/09 18:44	
1-Chloro-2-bromopropane (S)	%	105	60-140	04/21/09 18:44	

LABORATORY CONTROL SAMPLE & LCSD: 266151 266152

Parameter	Units	Spike Conc.	LCS Result	LCSD Result	LCS % Rec	LCSD % Rec	% Rec Limits	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	.28	0.34	0.32	120	114	60-140	7	20	
1-Chloro-2-bromopropane (S)	%				93	92	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 266153 266154

Parameter	Units	9242398008 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.29	0.33	104	118	60-140	13	20	
1-Chloro-2-bromopropane (S)	%						82	92	60-140			

SAMPLE DUPLICATE: 266155

Parameter	Units	9242398009 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	756	767	2	20	
1-Chloro-2-bromopropane (S)	%		0	0		S4

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

QC Batch: MSV/6735 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9242404001, 9242404003, 9242404005, 9242404007, 9242404009

METHOD BLANK: 265714 Matrix: Water
Associated Lab Samples: 9242404001, 9242404003, 9242404005, 9242404007, 9242404009

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	04/20/09 11:47	
Ethylbenzene	ug/L	ND	5.0	04/20/09 11:47	
m&p-Xylene	ug/L	ND	10.0	04/20/09 11:47	
Methyl-tert-butyl ether	ug/L	ND	5.0	04/20/09 11:47	
Naphthalene	ug/L	ND	5.0	04/20/09 11:47	
o-Xylene	ug/L	ND	5.0	04/20/09 11:47	
Toluene	ug/L	ND	5.0	04/20/09 11:47	
Xylene (Total)	ug/L	ND	10.0	04/20/09 11:47	
1,2-Dichloroethane-d4 (S)	%	86	79-120	04/20/09 11:47	
4-Bromofluorobenzene (S)	%	101	87-109	04/20/09 11:47	
Dibromofluoromethane (S)	%	90	85-115	04/20/09 11:47	
Toluene-d8 (S)	%	101	70-120	04/20/09 11:47	

LABORATORY CONTROL SAMPLE: 265715

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.2	104	78-128	
Ethylbenzene	ug/L	50	53.8	108	80-127	
m&p-Xylene	ug/L	100	107	107	82-127	
Methyl-tert-butyl ether	ug/L	50	46.9	94	71-130	
Naphthalene	ug/L	50	51.2	102	52-136	
o-Xylene	ug/L	50	52.6	105	83-124	
Toluene	ug/L	50	52.3	105	76-126	
Xylene (Total)	ug/L	150	159	106	83-125	
1,2-Dichloroethane-d4 (S)	%			80	79-120	
4-Bromofluorobenzene (S)	%			101	87-109	
Dibromofluoromethane (S)	%			88	85-115	
Toluene-d8 (S)	%			99	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 265716 265717

Parameter	Units	9242409011 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	2.7J	50	50	67.1	61.2	129	117	74-136	9	30	
Toluene	ug/L	ND	50	50	64.0	57.2	128	114	73-131	11	30	
1,2-Dichloroethane-d4 (S)	%						95	93	79-120			
4-Bromofluorobenzene (S)	%						102	104	87-109			
Dibromofluoromethane (S)	%						90	92	85-115			
Toluene-d8 (S)	%						99	97	70-120			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

QC Batch: MSV/6738 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV
Associated Lab Samples: 9242404004, 9242404006, 9242404008

METHOD BLANK: 265782 Matrix: Water
Associated Lab Samples: 9242404004, 9242404006, 9242404008

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	04/21/09 09:58	
Ethylbenzene	ug/L	ND	5.0	04/21/09 09:58	
m&p-Xylene	ug/L	ND	10.0	04/21/09 09:58	
Methyl-tert-butyl ether	ug/L	ND	5.0	04/21/09 09:58	
Naphthalene	ug/L	ND	5.0	04/21/09 09:58	
o-Xylene	ug/L	ND	5.0	04/21/09 09:58	
Toluene	ug/L	ND	5.0	04/21/09 09:58	
Xylene (Total)	ug/L	ND	10.0	04/21/09 09:58	
1,2-Dichloroethane-d4 (S)	%	89	79-120	04/21/09 09:58	
4-Bromofluorobenzene (S)	%	104	87-109	04/21/09 09:58	
Dibromofluoromethane (S)	%	90	85-115	04/21/09 09:58	
Toluene-d8 (S)	%	98	70-120	04/21/09 09:58	

LABORATORY CONTROL SAMPLE: 265783

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.5	105	78-128	
Ethylbenzene	ug/L	50	53.1	106	80-127	
m&p-Xylene	ug/L	100	108	108	82-127	
Methyl-tert-butyl ether	ug/L	50	46.7	93	71-130	
Naphthalene	ug/L	50	49.4	99	52-136	
o-Xylene	ug/L	50	53.1	106	83-124	
Toluene	ug/L	50	52.3	105	76-126	
Xylene (Total)	ug/L	150	161	107	83-125	
1,2-Dichloroethane-d4 (S)	%			93	79-120	
4-Bromofluorobenzene (S)	%			102	87-109	
Dibromofluoromethane (S)	%			87	85-115	
Toluene-d8 (S)	%			98	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 265784 265785

Parameter	Units	9242409014 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	61.4	60.1	123	120	74-136	2	30	
Toluene	ug/L	ND	50	50	61.7	62.3	123	125	73-131	.9	30	
1,2-Dichloroethane-d4 (S)	%						86	92	79-120			
4-Bromofluorobenzene (S)	%						102	102	87-109			
Dibromofluoromethane (S)	%						90	92	85-115			
Toluene-d8 (S)	%						97	100	70-120			

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

QC Batch: MSV/6719
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV
Associated Lab Samples: 9242404002

METHOD BLANK: 265061
Matrix: Water
Associated Lab Samples: 9242404002

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	5.0	04/20/09 11:47	
Ethylbenzene	ug/L	ND	5.0	04/20/09 11:47	
m&p-Xylene	ug/L	ND	10.0	04/20/09 11:47	
Methyl-tert-butyl ether	ug/L	ND	5.0	04/20/09 11:47	
Naphthalene	ug/L	ND	5.0	04/20/09 11:47	
o-Xylene	ug/L	ND	5.0	04/20/09 11:47	
Toluene	ug/L	ND	5.0	04/20/09 11:47	
Xylene (Total)	ug/L	ND	10.0	04/20/09 11:47	
1,2-Dichloroethane-d4 (S)	%	86	79-120	04/20/09 11:47	
4-Bromofluorobenzene (S)	%	101	87-109	04/20/09 11:47	
Dibromofluoromethane (S)	%	90	85-115	04/20/09 11:47	
Toluene-d8 (S)	%	101	70-120	04/20/09 11:47	

LABORATORY CONTROL SAMPLE: 265062

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	52.2	104	78-128	
Ethylbenzene	ug/L	50	53.8	108	80-127	
m&p-Xylene	ug/L	100	107	107	82-127	
Methyl-tert-butyl ether	ug/L	50	46.9	94	71-130	
Naphthalene	ug/L	50	51.2	102	52-136	
o-Xylene	ug/L	50	52.6	105	83-124	
Toluene	ug/L	50	52.3	105	76-126	
Xylene (Total)	ug/L	150	159	106	83-125	
1,2-Dichloroethane-d4 (S)	%			80	79-120	
4-Bromofluorobenzene (S)	%			101	87-109	
Dibromofluoromethane (S)	%			88	85-115	
Toluene-d8 (S)	%			99	70-120	

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QUALITY CONTROL DATA

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

QC Batch: MSV/6753
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Low Level
Associated Lab Samples: 9242404010

METHOD BLANK: 266836
Matrix: Water
Associated Lab Samples: 9242404010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
Benzene	ug/L	ND	1.0	04/22/09 13:11	
Ethylbenzene	ug/L	ND	1.0	04/22/09 13:11	
m&p-Xylene	ug/L	ND	2.0	04/22/09 13:11	
Methyl-tert-butyl ether	ug/L	ND	1.0	04/22/09 13:11	
Naphthalene	ug/L	ND	1.0	04/22/09 13:11	
o-Xylene	ug/L	ND	1.0	04/22/09 13:11	
Toluene	ug/L	ND	1.0	04/22/09 13:11	
Xylene (Total)	ug/L	ND	2.0	04/22/09 13:11	
1,2-Dichloroethane-d4 (S)	%	101	79-120	04/22/09 13:11	
4-Bromofluorobenzene (S)	%	95	87-109	04/22/09 13:11	
Dibromofluoromethane (S)	%	102	85-115	04/22/09 13:11	
Toluene-d8 (S)	%	99	70-120	04/22/09 13:11	

LABORATORY CONTROL SAMPLE: 266837

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Benzene	ug/L	50	49.8	100	78-128	
Ethylbenzene	ug/L	50	50.4	101	80-127	
m&p-Xylene	ug/L	100	104	104	82-127	
Methyl-tert-butyl ether	ug/L	50	47.6	95	71-130	
Naphthalene	ug/L	50	50.2	100	52-136	
o-Xylene	ug/L	50	49.4	99	83-124	
Toluene	ug/L	50	49.1	98	76-126	
Xylene (Total)	ug/L	150	153	102	83-125	
1,2-Dichloroethane-d4 (S)	%			103	79-120	
4-Bromofluorobenzene (S)	%			100	87-109	
Dibromofluoromethane (S)	%			101	85-115	
Toluene-d8 (S)	%			100	70-120	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 266838 266839

Parameter	Units	9242101007 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
Benzene	ug/L	ND	50	50	53.7	57.1	107	114	74-136	6	30	
Toluene	ug/L	0.27J	50	50	52.5	56.1	104	112	73-131	7	30	
1,2-Dichloroethane-d4 (S)	%						102	104	79-120			
4-Bromofluorobenzene (S)	%						98	98	87-109			
Dibromofluoromethane (S)	%						101	100	85-115			
Toluene-d8 (S)	%						99	98	70-120			

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QUALIFIERS

Project: FOUR SEASONS FOOD 00120
Pace Project No.: 9242404

DEFINITIONS

DF - Dilution Factor, if reported, represents the factor applied to the reported data due to changes in sample preparation, dilution of the sample aliquot, or moisture content.

ND - Not Detected at or above adjusted reporting limit.

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

MDL - Adjusted Method Detection Limit.

S - Surrogate

1,2-Diphenylhydrazine (8270 listed analyte) decomposes to Azobenzene.

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

LCS(D) - Laboratory Control Sample (Duplicate)

MS(D) - Matrix Spike (Duplicate)

DUP - Sample Duplicate

RPD - Relative Percent Difference

NC - Not Calculable.

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

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

ANALYTE QUALIFIERS

S4 Surrogate recovery not evaluated against control limits due to sample dilution.

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CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 1 of 2

1305936

Section A Required Client Information:

Company: SCDHEC UST
Address: 2600 Bull St.
Columbia, SC 29201
Email To:
Phone: 803-896-4240 Fax: 803-896-4245
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Four Seasons Food & Fuel 5
Project Number: 00120/35553

Section C Invoice Information:

Attention: Finance (D. Thoma)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: Renee Spencer
Pace Profile #: 849-2

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC

Section D Required Client Information

Matrix Codes (MATRIX / CODE): Drinking Water DW; Water WT; Waste Water WW; Product P; Soil/Solid SL; Oil OL; Wipe WP; Air AR; Tissue TS; Other OT

ITEM #	SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): BTEX, NaPH, MTBE (8260B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9242404
1	MW-1	~~WT~~	~~G~~			~~4/16~~			~~4~~				~~6~~					~~X~~	~~X~~		DRY ~~001~~ 4/17
2	MW-5	WT	G			4/16	1250		6				6					X	X		No Odor 001
3	MW-6						1305														Odor 002
4	MW-7																				DRY
5	MW-9						1215														No Odor 003
6	MW-10						1350														Odor 004
7	MW-13						1330														No Odor 005
8	MW-14						1240														No Odor 006
9	MW-16																				DRY
10	MW-20						1130														No Odor 007
11	DW-1						1405														Slight Odor 008
12	DW-2						1145														No Odor 009

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS: Temp in °C	Received on Ice (Y/N)	Custody Sealed Cooler (Y/N)	Samples Intact (Y/N)
Report J Values	Megan Leland	4/17/09	16:20	[illegible] / Pace	4/17/09	1040				
	[illegible]	4/17/09	1445	[illegible] / Pace	4/17/09	14:45	4.9	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Brian Owen
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 4-16-09

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

F-ALL-Q-020rev.07, 15-May-2007

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CHAIN-OF-CUSTODY / Analytical Request Document

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1305937

Section A Required Client Information:

Company:	SCDHEC-UST
Address:	2600 Bull St, Columbia, SC 29201
Email To:	
Phone:	803-896-6240
Fax:	803-896-6245
Requested Due Date/TAT:	

Section B Required Project Information:

Report To:	D. Thoma
Copy To:	
Purchase Order No.:	719459
Project Name:	Four Seasons Food & Fuel 5
Project Number:	00120/35553

Section C Invoice Information:

Attention:	FINANCE (D. Thoma)
Company Name:	SCDHEC-UST
Address:	
Pace Quote Reference:	
Pace Project Manager:	Renee Spencer
Pace Profile #:	849-4

REGULATORY AGENCY

☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☒ UST ☐ RCRA ☐ OTHER _____

Site Location STATE: SC

Section D Required Client Information

Matrix Codes MATRIX / CODE: Drinking Water DW, Water WT, Waste Water WW, Product P, Soil/Solid SL, Oil OL, Wipe WP, Air AR, Tissue TS, Other OT

SAMPLE ID (A-Z, 0-9 / ,-) Sample IDs MUST BE UNIQUE

Requested Analysis Filtered (Y/N)

ITEM #	SAMPLE ID	MATRIX CODE (see valid codes to left)	SAMPLE TYPE (G=GRAB C=COMP)	COLLECTED COMPOSITE START DATE	COMPOSITE START TIME	COMPOSITE END/GRAB DATE	COMPOSITE END/GRAB TIME	SAMPLE TEMP AT COLLECTION	# OF CONTAINERS	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N)	Btex, Napth, MtBE (8260 B)	EDB (8011)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9242404
1	PW-1	WT	G			4-16	1445		6				6						X			No ODOR 010
2																						
3																						
4																						
5																						
6																						
7																						
8																						
9																						
10																						
11																						
12																						

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
Report J Values	Megan Reland	4/17/09	10:20	[signature] / Pace	4/17/9	1040				
	[signature] / Pace	4/17/9	1445	[signature] / Pace	4/17/09	14:45	0.9	yes	no	yes

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: BRIAN OWEN

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 4-16-09

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

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

From: Minda Johnson
To: Reynolds, William
Subject: Re: UST #00120 Four Seasons

William,

Thank you for the e-mail. The PAH sample for MW-19 is not very important. Just make a note in the report that the sample was broken during shipment to the lab.

I look forward to seeing the report.

Thank you,
Minda

>>> "William Reynolds" <reynolds@consultechenv.com> 10/23/2006 10:53 AM >>>
Minda,

The lab just called to tell me a few vials broke in shipment for the Four Seasons site in North Augusta. There were backup vials for 3 of them, but not for the PAH bottle for MW-19. I just wanted your opinion on the importance of this sample. If you think it's vital, Van may be able to sample it today but we won't get the results back for at least a couple of weeks which could push the report past the due date. Otherwise, please let me know if you think we can get by without it.

Thanks Minda,

William L. Reynolds
Environmental Scientist
Consultech Environmental, Inc.
P: (919) 861-4319 ext. 216
F: (919) 861-4317
reynolds@consultechenv.com

--
No virus found in this outgoing message.
Checked by AVG Free Edition.
Version: 7.1.408 / Virus Database: 268.13.11/492 - Release Date: 10/23/2006

UST PROGRAM
DOCKETING # 801

From: "Joe Ghiold" <jghiold@consultechenv.com>
To: "Minda Johnson" <JOHNSOMS@dhec.sc.gov>
Date: 12/12/2006 7:36:56 AM
Subject: RE: Four Seasons Invoice CA#27717

Minda,
Thank you for your reply. I look forward speaking to you this morning.

-----Original Message-----
From: Minda Johnson [mailto:JOHNSOMS@dhec.sc.gov]
Sent: Monday, December 11, 2006 4:31 PM
To: jghiold@consultechenv.com
Subject: Fwd: Four Seasons Invoice CA#27717

Joe,

I am forwarding you the e-mail I sent to Mark about Four Seasons' invoice. I have not seen the letter you were sent. All denied costs were based on these concerns and questions. I will try to contact you in the morning to see if you still have questions.

Thank you,
Minda

>>> Minda Johnson 11/30/2006 12:27 PM >>>
Please forward this e-mail to Joe. I have already signed the invoice and a letter with details will be mailed. Thank you.

>>> Minda Johnson 11/27/2006 4:51 PM >>>
Hi, Mark!

I'm sorry I took up so much of your time earlier.....I have finished with the invoice for Four Seasons and I do have some questions:

not drilled

ok 1. I'm missing boring logs for SB-9, 19 and 25. Invoice is for 764'.....logs account for only 640'.
ok 2. Drilled wells-invoice has 263' but logs add up to only 189'.
ok 3. What is sample DW-3?
ok 4. Why were 5 wells gauged and not sampled? Also, invoiced for 9 gauged wells?
5. Were all wells purged prior to sampling? yes
2. 6. I thought there were water supply wells near the site? None were sampled? will explain
7. It didn't look like the disposal manifest itemized water drums but invoiced for 10? NOT DONE. - OK
8. I could not find lab analysis for MW-15, 17, 18, 20, or PW-1. will submit
ok 9. Were surface water samples collected? If so, where?

map submitted

I hope you can help,
Minda

GW1, GW2, GW-3, GW-4, GW-5 + GW-6 for GW grab samples = 764 will send
MW-12, MW15, MW-16 + will send MW-17

no manifest

Submitted
DW-1 = PW-1
DW-2 = DW-1
DW-3 = DW-2

UST PROGRAM
DOCKETING # 8/T

CONSULTECH ENVIRONMENTAL, INC.

November 8, 2006

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UNDERGROUND STORAGE TANK PROGRAM

Ms. Minda Johnson, Hydrogeologist
Assessment Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land & Waste Management
South Carolina DHEC
2600 Bull Street
Columbia, South Carolina 29201

RE: Tier II Assessment Report
Four Seasons Food and Fuel #5
2031 Pisgah Rd
North Augusta, South Carolina
SCDHEC Site ID #00120, CA#27717

UST Docket 82T

Dear Ms. Johnson,

Consultech is pleased to submit this copy of the Tier II Assessment Report, prepared for the above referenced facility in accordance with the Tier II Assessment Plan (Tier II) document dated March 15, 2000, and contract SB-26861-10/26/04-EMW dated November 15, 2004, as authorized by the South Carolina Department of Health and Environmental Control (SCDHEC).

If you should have any questions about this report, please do not hesitate to contact me at (919) 858-5350.

Sincerely,

CONSULTECH ENVIRONMENTAL, INC.

Raj B. Shah, P.E.
Technical Director

cc: File C-05-08-045

P.O. Box 5306 * Cary, NC 27512
919-858-5350 * FAX 919-858-5351

TIER II ASSESSMENT REPORT

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UNDERGROUND STORAGE
TANK PROGRAM

Four Seasons Food and Fuel # 5
2031 Pisgah Rd
North Augusta, South Carolina
UST Permit #00120, CA #27717

Prepared for:

South Carolina Department of Health
And Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

Prepared by:

Consultech Environmental, Inc.
P.O. Box 5306
Cary, North Carolina 27512

Consultech Project No. C-05-08-045

November 2006

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2 Survey Plat
3 Tax Map and Surrounding Property Owners
4 Soil Boring Logs and Monitoring Well Construction Details
5 Waste Disposal Manifest
6 Laboratory Analytical Results
7 Field Data

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TIER II ASSESSMENT CERTIFICATION

Tier II Assessment Report (Tier II) Certification

I hereby certify that the information contained in this plan and the associated attachments are true, accurate, and complete, and the plan satisfies all the criteria and requirements of the tier II assessment guidelines dated March 15, 2000.

I hereby certify that I have directed the fieldwork and preparation of this plan in accordance with State Rules and Regulations. As a professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina Board of Registration for Engineers. All of the information and laboratory data in this plan and in all of the attachments are true, accurate, complete, and in accordance with applicable State Rules and Regulations.

SOUTH CAROLINA REGISTERED PROFESSIONAL ENGINEER 11/09 No. 17794 RAJESH B. SHAH

Raj B. Shah, P.E. (Consultech Environmental, Inc.)
Technical Director

11/9/06
Date

1.0 PROJECT BACKGROUND INFORMATION

This section presents the purpose of the Tier II Assessment Report (Tier II), a description of the site, and the site assessment history.

1.1 Purpose

The purpose of this Tier II assessment is to provide the South Carolina Department of Health and Environmental Control (SCDHEC) with sufficient information to determine if the petroleum release reported in the previous Initial Groundwater Assessment conducted by NESCO, Inc. at Four Seasons Food and Fuel #5 (Four Seasons) poses a potential risk to human health or to the environment. This Tier II specifically provides information outlined in the scope of work as defined in the SCDHEC Tier II Assessment Plan (Tier II) guidance document, dated March 15, 2000. Please reference Consultech's Standard Operating Procedures document, dated December 2004. This report presents the extent of petroleum hydrocarbons released to the environment and an evaluation of the risk of exposure to potential receptors.

1.2 Site Description

The subject property, Four Seasons, is located south of the intersection of Pisgah road and Five Notch Road in Aiken County (Figures 1 and 2). It currently is utilized as a convenience store that had one 12,000-gallon gasoline underground storage tank (UST) currently in use and three 4000 gallon USTs that have been abandoned on January 6, 1999.

1.3 Site Assessment History

Groundwater contaminated with petroleum was discovered by NESCO, Inc., and reported in a Rapid Assessment Report dated February 23, 2000.

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2.0 POTENTIAL RECEPTOR SURVEY

The receptor survey included a private and public groundwater supply well search, a surface water body search in the area of the site, an underground utility survey, and a discussion of current and future uses of the site and downgradient properties.

2.1 Location of Drinking Water Supplies

Two private water supply wells are located approximately 500 ft northwest of the subject site.

2.2 Location of Surface Water Bodies

An area appearing to be a wetland is located approximately 500 feet north of the subject area. A tributary of Pole Branch is located approximately 900 feet north of the site.

2.3 Underground Utility Survey

Gas lines run along Pisgah Road, and to the south of the subject site. Fiber optic lines run along Five Notch Road. The public water supply line runs along Five Notch Road, on the side of the road closest to the site.

2.4 Current and Future Uses of the Site and Downgradient Properties

The site is bordered by undeveloped land to the north, residential properties to the east south and west. Future uses of the surrounding area are likely to remain the same.

3.0 HYDROGEOLOGY AND GEOLOGY

3.1 Regional Geology and Hydrogeology

Aiken County is located within the Upper Coastal Plain Physiographic Province, which consists of unconsolidated deposits of sand, silt, and clay deposited in the upper delta plain depositional environment.

3.2 Site Hydrogeology

For this site, a benchmark was established with an assumed elevation of 100.00 feet above the National Geodetic Vertical Datum (NGVD) at the site. The most recent groundwater elevations were measured on October 11, 2006, in monitoring wells MW-1 through MW-20, DW-1, and DW-2, and PW-1 in order to determine static water levels, to establish the groundwater gradient, and to check for liquid phase hydrocarbons (LPHs). The groundwater elevations in the on-site shallow monitoring wells ranged from 60.53 feet (MW-5) to 77.09 feet (MW-16), with respect to a relative datum elevation of 100.00 feet. LPHs were detected in MW 1 (estimated thickness 0.01'). A summary of the measurement data collected from the monitoring wells is presented in Table 1.

3.3 Site Geology

Soils from borings and the monitoring wells at the site consist predominantly of sand and sandy clay, with clay lenses. Stratagraphic cross-sections A-A' and B-B' (locations shown on Figure 4) are presented on Figures 5 and 6, respectively.

3.4 Site Topography

The elevation at the subject property, as evidenced by the U.S.G.S. 7.5-minute quadrangle topographic map for the area [North Augusta, (SC/GA), Figure 1] appears to be approximately 330 feet above mean sea level. The general direction of surface water drainage in the site vicinity appears to be to the north/northeast. A tributary of Pole Branch is located approximately 900 feet north of the site.

4.0 INVESTIGATIVE METHODS AND SAMPLING

4.1 Field Screening

The soil was collected at five-foot intervals from thirty-three soil borings (SB-01 through SB-31, and DSB-01 and DSB-02) and then scanned with a calibrated Photo Ionization Detector (PID). PID readings up to 576 ppm were detected in soil boring DSB-01. Field screening results are presented in Table 2, on boring logs in Appendix 4, and on a PID field-screening map provided as Figure 7. No soil samples were collected for laboratory analysis. Six groundwater samples (GW-1 through GW-6) were collected from borings during the field screening and were analyzed for the presence of BTEX (Table 4).

4.2 Monitoring Well Installation

Soil types were described on the basis of lithology, color, and texture. Fourteen additional monitoring wells (including a replacement well for MW 2) were installed for this investigation. The shallow monitoring wells, MW-10 through MW-20 are two-inch diameter PVC wells drilled to 14-30 ft bgs with 10-15 feet of screen. Two deep wells were also installed at the site. DW-1 and DW-2 were installed with a six-inch isolation casing cemented at 50 feet bgs. These wells were drilled to a total depth of 60 feet bgs and completed with two inch PVC casing screened from 55 to 60 feet bgs. Well construction diagrams are included with the soil boring logs in Appendix 4. Existing monitoring wells (MW-1, MW-3 through MW 9 and PW-1) installed by previous contractors were also utilized for this investigation.

4.3 Soil Sampling

No soil samples were collected during the screening for laboratory analysis. The soil cuttings generated during Consultech's drilling activities were placed in a roll-off container. One stockpiled soil sample was collected for disposal requirements. The soil cuttings were then disposed of in accordance with local, state and federal laws (Appendix 5).

4.4 Groundwater Sampling

Prior to groundwater sampling, groundwater field parameters including dissolved oxygen, pH, temperature, and conductivity were collected from 23 groundwater monitoring wells at the site. The results are presented in Table 3.

On September 28, 2006, during the field screening, water samples were obtained from borings GW-1 through GW-6 for BTEX. Laboratory analysis results for these samples

are presented in Table 4. Groundwater samples were collected on October 11 and 17, 2006 from shallow monitoring wells MW-2R through MW-20, PW-1, and deep wells DW-1 and DW-2. Monitoring well MW-1 was not sampled due to the presence of LPHs. The monitoring wells were sampled for BTEX, MTBE, 1,2-Dichloroethane (1,2-DCA), napthalene, PAHs, lead, 8 oxygenates, nitrate, sulfate, methane and iron. The laboratory reports are included in Appendix 6 and summarized in Table 4.

5.0 PHYSICAL AQUIFER CHARACTERISTICS

5.1 Hydraulic Conductivity Tests

No hydraulic conductivity tests were conducted for this report. Slug tests and grain size analysis were performed during previous investigations by others.

5.2 Direction and Rate of Groundwater Flow

On October 11, 2006, monitoring wells MW-1 through MW-20, DW-1, and DW-2, and PW-1 were measured and their corresponding elevations are presented in Table 1. All wells were gauged for the presence of LPH using an oil/water interface probe, MW 1 was the only well that showed the presence of LPH , however, the thickness could not accurately be measured and is estimated to be approximately 0.01' thick.

The groundwater elevations taken on October 11, 2006 are illustrated in the groundwater potentiometric map (Figure 8) and indicate that the shallow groundwater flow direction appears to be towards the northeast. Based on the groundwater elevations in monitoring wells MW-3 and MW-8, and the distances between these wells, the average hydraulic gradient (referenced as "i") is estimated to be 0.028 feet per foot (ft/ft).

6.0 HORIZONTAL AND VERTICAL EXTENT OF PETROLEUM HYDROCARBONS

6.1 Extent of Petroleum Contamination in Soil

No soil samples were collected during this investigation for delineation purposes.

6.2 Extent of Petroleum Contamination in Groundwater

Groundwater samples were collected on October 11, 2006 from shallow monitoring wells MW-2R through MW-20, PW 1 and deep wells DW-1 and DW-2. Table 4 presents the

analytical results for BTEX, MTBE, 1,2-DCA, PAHs, and naphthalene in groundwater at the site.

Benzene was detected at levels exceeding the RBSL of 5 µg/l in MW 6 (660 µg/l), MW 7 (120 µg/l), MW 10 (6,100 µg/l), MW 14 (97 µg/l) and DW 2 (11 µg/l). The extent of the benzene shallow groundwater contaminant plume appears to be defined within the network of monitoring wells as shown in Figure 9. The highest analyzed concentration of benzene is in MW 10. Some downward migration of groundwater contaminants has occurred since deeper monitoring wells DW-1 (4.3 µg/l) and DW-2 (11µg/l) are impacted.

Toluene was detected in the groundwater above the RBSL of 1000 µg/l in monitoring wells MW 6 (17,000 µg/l), MW 7 (1,500 µg/l), MW 10 (130,000 µg/l), MW 14 (2,700 µg/l), and DW 1 (1,000 µg/l). Figure 10 presents the lateral distribution of dissolved toluene in the groundwater. Ethylbenzene and Xylenes were detected at levels exceeding their respective RBSLs (ethylbenzene 700µg/l, xylenes 10,000 µg/l) in MW 10 (ethylbenzene 3,100 µg/l and xylenes 12,000 µg/l). Figures 11 and 12 represent the dissolved ethylbenzene and xylenes plumes, which are centered around MW 10.

Naphthalene was detected in the groundwater at a level exceeding the RBSL of 25 µg/l in monitoring wells MW 10 (260µg/l) and MW 14 (70µg/l). The naphthalene plume appears to be delineated (Figure 13) by the existing monitoring wells.

MTBE was detected in the groundwater above the RBSL of 40 µg/l in MW 6 (4,000µg/l), MW 7 (170 µg/l), MW 10 (100 µg/l), and MW 14 (240 µg/l). Figure 14 shows that the horizontal extent of the MTBE has been determined. 1,2-DCA was not detected in the groundwater above the reporting limit of 5.0 ug/l.

Table 5 presents natural attenuation parameters that were measured during the October 11 /17, 2006 sampling event in monitoring wells MW-2 through MW-20, PW 1, DW-1, DW-2.

The concentrations of the eight oxygenates are presented in Table 6 with the total of the eight oxygenates (TO) for each monitoring well are presented in Table 5. Detectable TO concentrations were present in MW 6 (8,700 µg/l) and MW 7 (1,700 µg/l). Figure 15 shows that the eight oxygenates are not present beyond the main contaminant plume.

Natural attenuation will be discussed in section 8.2.

6.3 Extent of LPH Plume

LPHs were detected in MW 1 only. The thickness could not be accurately measured and was estimated to be approximately 0.01'.

7.0 GROUNDWATER MODELING

7.1 Domenico's Model

The Domenico's Model will be utilized by South Caroline DHEC to determine site-specific target levels (SSTLs) for the source area.

7.2 Fate and Transport Modeling

South Carolina DHEC will conduct fate and Transport modeling.

8.0 TIER II SITE EVALUATION

8.1 Site Conceptual Model and Exposure Points

A site conceptual exposure model was completed fro this site which identified exposure pathways using information obtained during this assessment, including facility operations, measured hydrogeologic conditions, potential receptors, type of source, and the identified release. The results of this model are included as Tables 7 and 8 for the source area. A site topographic Map with potential receptors is presented as Figure 3

A release from USTs has resulted in groundwater contamination with concentrations above the RBSLs. The site is commercial with surrounding residential properties, some with potable water supply wells. There exists some risk to downgradient water supply wells.

8.2 Site Specific Point of Compliance

Monitoring wells MW-1 was not sampled due to the presence of LPHs. Dissolved petroleum contaminants were detected at levels exceeding the RBSLs in monitoring wells MW 6, MW 7, MW 10, MW 14, and DW-2. The shallow groundwater dissolved contaminant plume(s) appear to be adequately defined by the existing monitoring wells. Two known water supply wells are located within 1000 ft of the source area. The location of these wells are northwest of the source area, beyond MW 9 and MW 16. Since these two monitoring wells did not reveal any dissolved compounds above the analytical method detection limit, they may be utilized as specific points of compliance.

8.3 Natural Attenuation Parameters Evaluation

Dissolved oxygen (DO) concentrations measured in the monitoring wells ranged from 0.5 in MW 8 to 10.0 in MW 20. A comparison of Tables 3 and 4 does not show any apparent correlation between DO concentrations and the dissolved petroleum compound concentrations.

Tables 4 and 5 are compared to determine if a correlation can be shown between the concentrations of the natural attenuation parameters within and outside of the contaminant plume.

Nitrate was present in the groundwater at concentrations ranging from 0.66 mg/l in MW 7 to 9.1 mg/l in MW 5 (MW 6 was BDL). Depleted levels of Nitrate were noted both within and outside of the contaminant plume, and does not appear to correlate. As such, the dissolved petroleum hydrocarbons are not likely to be biodegraded by denitrification.

Ferrous iron (FI) concentrations ranged from BDL in several monitoring wells (MW 3-5, 8,9, 15, 17-20, PW 1, and DW 1) to 34.3 in DW-2. No correlation was noted in the levels of iron when compared to the petroleum contaminants, therefore, there ferric iron (Fe^{+3}) oxides are probably not being reduced to Ferrous iron (Fe^{+2}) during biodegradation of petroleum hydrocarbons.

Sulfate concentrations ranged from 1.5 mg/l in MW 14 to 99 mg/l in DW 2. There appears to be little correlation between sulfate concentrations and the presence of petroleum hydrocarbons. Therefore, it is unlikely that anaerobic biodegradation of petroleum hydrocarbons is occurring by sulfate reduction.

Methane concentrations ranged from BDL in MWs 3-5, 9, 12-15, 20, PW 1, DW1, and DW 2 to 0.043 mg/l in MW 8. Methane levels do not correlate with the detection and/or levels of petroleum hydrocarbons, therefore, anaerobic biodegradation of petroleum hydrocarbons is not likely occurring by methane reduction.

8.4 Calculation of Site Specific Target Levels

South Carolina DHEC will calculate SSTL's.

8.5 RBCA Site Classification

Based on the SCDHEC document "Risk Based Corrective Action for Petroleum Releases" dated May 15, 2001, Appendix A – RBCA Site Priority Classification System, Consultech classifies this release as a *2b* due to the presence of potable water supply wells within 1000 ft downgradient of the source (velocity has not been determined for this investigation).

9.0 RECOMMENDATIONS

Monitoring well MW-1 contained a thin layer of LPHs and was not sampled. The shallow dissolved contaminant plumes appear to be adequately defined using the existing monitoring well network for the site. The deeper portion of the aquifer does not appear to be defined however, since deep monitoring well DW-2 contained Benzene at a concentration of 11 µg/l and Toluene at a concentration of 1,000 µg/l, both meet or exceed the RBSLs of 5 µg/l and 1,000 µg/l respectively.

Additional assessment is recommended in the vicinity of DW-2. Consultech recommends continued monitoring of all water supply wells in the site vicinity until CoCs are no longer present.

10.0 REFERENCES

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Table 1
Well Construction Details, Groundwater Elevation Data
Four Seasons #15, North Augusta, SC - Facility # 00120
Consultech Project C-06-08-045

Monitoring Well	Date	Well Depth	Depth of Screen Below Ground Surface	TOC Elevation	Depth to Product from TOC	Depth to Water from TOC	Groundwater Elevation
MW-1	10/17/06	25.0	15'-25'	98.37	24.50	24.51	73.86
MW-2R	10/17/06	30.6	15'-30'	101.75		29.11	72.64
MW-3	10/17/06	27.0	17'-27'	99.70		25.27	74.43
MW-4	10/17/06	27.0	17'-27'	100.37		25.02	75.35
MW-5	10/17/06	27.0	20'-30'	85.55		25.02	60.53
MW-6	10/17/06	19.0	9'-19'	83.48		13.51	69.97
MW-7	10/17/06	19.0	10'-20'	90.89		18.60	72.29
MW-8	10/17/06	13.0	5'-15'	71.39		7.50	63.89
MW-9	10/17/06	20.0	10'-20'	86.69		15.61	71.08
MW-10	10/17/06	30.0	15'-30'	97.87		24.39	73.48
MW-11	10/17/06	30.0	15'-30'	98.96		24.19	74.77
MW-12	10/17/06	30.0	15'-30'	96.72		22.10	74.62
MW-13	10/17/06	29.0	15'-30'	94.97		21.74	73.23
MW-14	10/17/06	23.0	9'-24'	88.52		16.95	71.57
MW-15	10/18/06	14.6	5'-15'	77.06		6.43	70.63
MW-16	10/17/06	14.0	4'-14'	86.69		9.60	77.09
MW-17	10/18/06	13.0	5'-15'	68.79		2.77	66.02
MW-18	10/18/06	14.0	5'-15'	69.65		4.36	65.29
MW-19	10/18/06	14.0	5'-15'	70.93		7.54	63.39
MW-20	10/18/06	14.0	5'-15'	75.17		8.48	66.69
PW-1	10/17/06	46.0	41'-46'	98.41		25.22	73.19
DW-1	10/17/06	56.0	55'-60'	98.29		15.40	82.89
DW-2	10/17/06	55.0	55'-60'	75.18		9.23	65.95

All measurements reported in feet

Table 2

PID Field Readings

Four Seasons #15, North Augusta, SC - Facility # 00120
Consultech Project C-06-08-045

Sample	Date	5'	10'	15'	20'	25'	30'	35'
SB-01	09/26/06	7.0	22.7	100.0	4.0			
SB-02	09/26/06	59.2	15.0	37.2	58.0			
SB-03	09/26/06	2.7	10.0	464.0	58.7			
SB-04	09/26/06	0.5	0.0	0.2	0.0			
SB-05	09/27/06	0.0	0.1	0.1	0.1			
SB-06	09/27/06	0.0	0.1	0.2	0.0			
SB-07	09/26/06	0.5	0.4	0.2				
SB-08	09/26/06	0.3	0.5	0.0				
SB-10	09/26/06	0.1	0.2	0.2				
SB-11	09/26/06	0.0	0.0	0.0				
SB-12	09/26/06	0.0	0.0	0.0				
SB-13	09/26/06	0.0	0.0	0.0				
SB-14	09/27/06	0.7	0.1	0.1	0.0	0.0	0.0	
SB-15	09/27/06	0.0	0.0	0.0	0.0	0.0	0.0	
SB-16	09/27/06	0.0	0.0	0.0	0.0	0.0		
SB-17	09/27/06	0.0	0.0	0.0	0.0	0.0		
SB-18	09/27/06	0.0	0.0	0.0	0.0	0.0		
SB-20	09/27/06	0.0	0.0	0.0	0.0	0.0		
SB-21	09/28/06	0.0	0.2	0.0	0.0			
SB-22	09/28/06	0.0	0.0	0.0				
SB-23	09/28/06	0.0	0.8	0.2	0.0			
SB-24	09/28/06	0.0	0.1	0.0				
SB-26	09/28/06	0.0	0.0	0.0	0.0	0.0		
SB-27	09/28/06	0.0	0.1	0.0				
SB-28	09/26/06	0.0	0.0	0.0				
SB-29	09/27/06	0.0	0.1	0.0	0.0	0.0	0.0	
SB-30	09/27/06	0.1	0.0	0.0	0.0	1.8	0.0	
SB-31	09/27/06	0.0	0.0	0.0	0.0	0.0		
DSB-01	09/28/06	40.0	500.0	169.0	550.0	576.0	175.0	150.0
DSB-02	09/28/06	0.0	0.0	0.0	0.0	0.0		

PID reading in parts per million

Table 3
Groundwater Field Parameter Results
Four Seasons #15, North Augusta, SC - Facility # 00120
Consultech Project C-06-08-045

Well Number	Date	Dissolved Oxygen	pH	Temperature (°C)	Conductivity (us/cm*)
MW-1	10/17/06	-	-	-	-
MW-2R	10/17/06	3.0	7.7	19	101
MW-3	10/17/06	6.1	5.1	22	70
MW-4	10/17/06	5.1	6.4	22	80
MW-5	10/17/06	6.1	5.4	24	60
MW-6	10/17/06	2.9	5.4	24	50
MW-7	10/17/06	4.2	5.8	25	85
MW-8	10/17/06	0.5	5.7	23	150
MW-9	10/17/06	5.2	5.5	22	60
MW-10	10/17/06	8.2	8.2	23	360
MW-11	10/17/06	1.0	8.2	22	70
MW-12	10/17/06	9.0	7.5	21	150
MW-13	10/17/06	3.3	6.9	21	140
MW-14	10/17/06	3.2	7.2	23	160
MW-15	10/18/06	2.8	6.6	22	50
MW-16	10/17/06	2.5	7.2	22	210
MW-17	10/18/06	5.5	7.1	21	40
MW-18	10/18/06	3.6	7.1	70	21
MW-19	10/18/06	5.3	7.3	22	60
MW-20	10/18/06	10.0	7.9	22	80
PW-1	10/17/06	5.9	5.7	21	340
DW-1	10/17/06	6.3	6.2	23	60
DW-2	10/17/06	1.6	7.2	21	1,000

*us/cm - microsiemens per centimeter

Table 4
BTEX and PNA Groundwater Analytical Results (ug/l)
Four Seasons #15, North Augusta, SC - Facility # 00120
Consultech Project C-06-08-045

Sample	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	1,2 DCA	Total PAHs
RBSL		*5.0*	*1,000.0*	*700.0*	*10,000.0*	*40.0*	*25.0*	*NA*	*NA*
MW-2R	10/17/06	<1.0	4.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
MW-2*	09/21/99	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	-	<10
MW-3	10/11/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
	09/21/99	<1.0	2.0	<1.0	<1.0	<1.0	<5.0	-	<10
MW-4	10/11/06	<1.0	9.7	<1.0	<1.0	<1.0	<5.0	<5.0	<10
	09/21/99	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	-	<10
MW-5	10/11/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
	01/06/00	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	-	<10
MW-6	10/11/06	**660**	**17,000**	660	3,500	**4,000**	<250	<250	231
	01/06/00	**38**	**2,230**	386	2,351	**48**	**182**	-	99
MW-7	10/11/06	**120**	**1,500**	42	320	**170**	9.1	<5.0	<10
	01/06/00	**475**	**6,650**	205	895	**3,740**	**44.1**	-	12
MW-8	10/11/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
	02/03/00	4.3	<1.0	<1.0	6.2	<1.0	8.1	-	<10
MW-9	10/11/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
	02/03/00	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	-	<10
MW-10	10/17/06	**6,100**	**130,000**	**3,100**	**12,000**	**100**	**260**	<100	264
MW-11	10/17/06	<1.0	5.7	<1.0	<1.0	<1.0	<5.0	<5.0	<10
MW-12	10/17/06	<1.0	1.5	<1.0	<1.0	<1.0	<5.0	<5.0	<10
MW-13	10/17/06	<1.0	2.2	<1.0	<1.0	<1.0	12	<5.0	<10
MW-14	10/17/06	**97**	**2,700**	150	690	**240**	**70**	<50	188
MW-15	10/17/06	<1.0	13	32	<1.0	<1.0	<5.0	<5.0	<10
MW-16	10/17/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<14
MW-17	10/17/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
MW-18	10/17/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
MW-19	10/17/06	<1.0	9.7	<1.0	<1.0	<1.0	<5.0	<5.0	<10
MW-20	10/17/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	<10
PW-1	10/11/06	<1.0	2.3	<1.0	1.1	<1.0	<5.0	<5.0	<10
DW-1	10/11/06	4.3	190	6.9	31	<1.0	<5.0	<5.0	<10
DW-2	10/11/06	**11**	**1,000**	64	300	1.7	15	<5.0	<10
SW-1	10/17/06	<1.0	<1.0	<1.0	<1.0	<1.0	<5.0	<5.0	-

*Previously constructed monitoring wells that lie adjacent to replacement monitoring wells constructed for this investigation. Only replacement well locations are shown on report maps.

Analytical Groundwater Screening Results (ug/L)

Sample	Date	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene
RBSL		*5.0*	*1,000.0*	*700.0*	*10,000.0*	*25.0*
GW-1	09/28/06	<1.0	<1.0	<1.0	<1.0	<5.0
GW-2	09/28/06	<1.0	<1.0	<1.0	<1.0	<5.0
GW-3	09/28/06	<1.0	<1.0	<1.0	<1.0	<5.0
GW-4	09/28/06	<1.0	<1.0	<1.0	<1.0	<5.0
GW-5	09/28/06	<1.0	<1.0	<1.0	<1.0	<5.0
GW-6	09/28/06	<1.0	<1.0	<1.0	<1.0	<5.0

All concentrations in parts per billion
Concentrations in bold exceed Risk Based Screening Levels (RBSL)

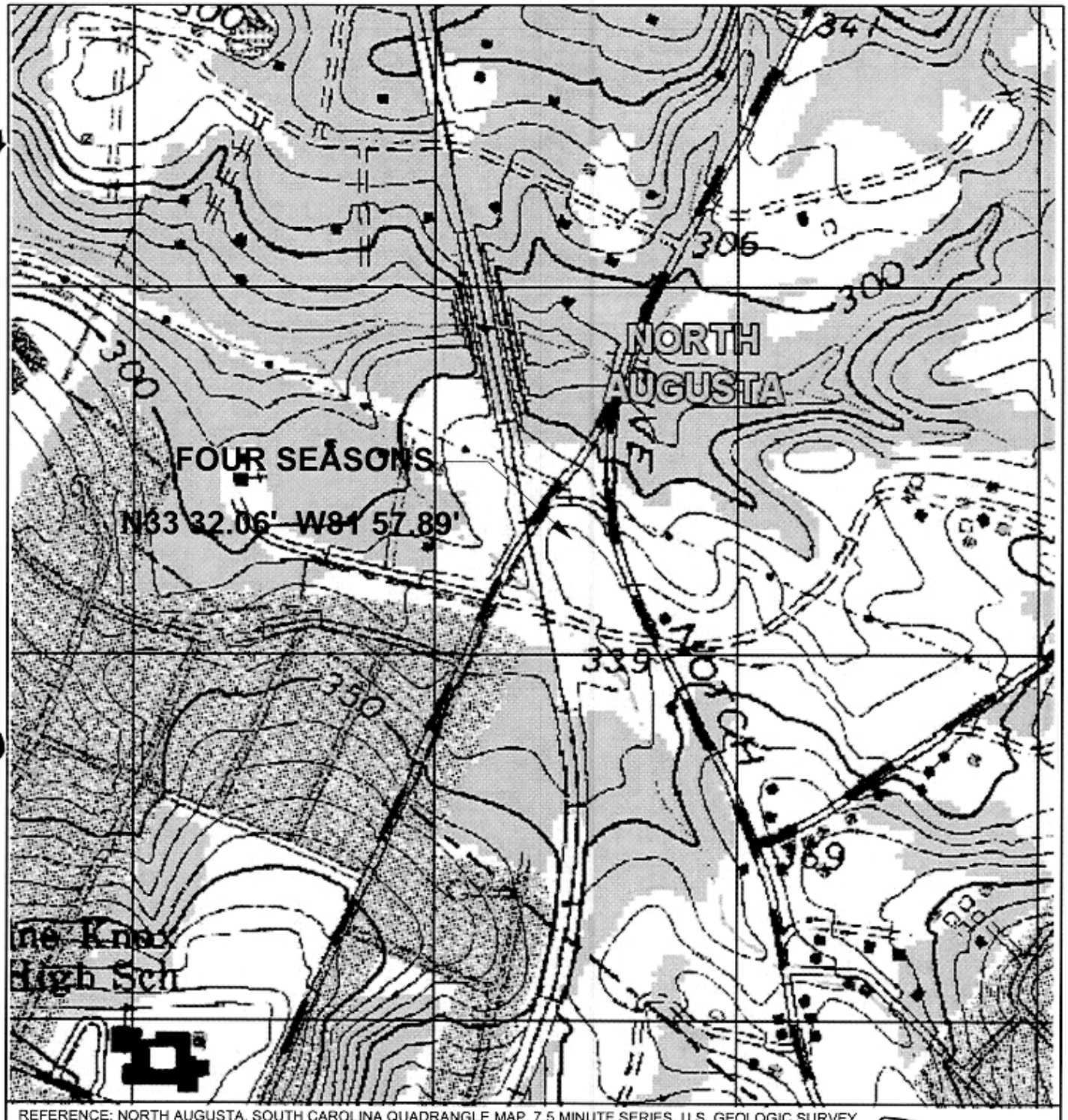
Table 5
Groundwater Natural Attenuation Results
Four Seasons #15, North Augusta, SC - Facility # 00120
Consultech Project C-06-08-045

Well Number	Date	EDB (ug/l)	Total S-Oxygenates	Total Lead (mg/l)	Nitrate (mg/l)	Sulfate (mg/l)	Dissolved Iron (mg/l)	Methane (mg/l)
RBSL		*0.05*	*NA*	*0.0150*	*NA*	*NA*	*NA*	*NA*
MW-2R	10/17/06	<0.020	<100	<0.0100	0.86	7.1	2.18	0.004
MW-2*	09/21/99	<0.020	-	<0.0100	1.69	<1.0	4.40	<0.003
MW-3	10/11/06	<0.020	<100	**0.023**	2.3	1.7	<0.100	<0.003
	09/21/99	<0.020	-	0.013	1.63	<1.0	2.20	<0.003
MW-4	10/11/06	<0.020	<100	<0.0100	0.86	10	<0.100	<0.003
	09/21/99	<0.020	-	<0.0100	1.54	<1.0	0.75	<0.003
MW-5	10/11/06	<0.020	<100	<0.0100	9.1	2.4	<0.100	<0.003
	01/06/00	<0.020	-	<0.0100	1.61	2.30	0.19	<0.003
MW-6	10/11/06	**0.15**	8700	<0.0100	<0.10	1.60	3.58	0
	01/06/00	<0.020	-	<0.0100	<0.10	<1.0	9.30	0.42
MW-7	10/11/06	<0.020	1700	<0.0100	0.66	10	2.32	0.012
	01/06/00	<0.020	-	<0.0100	<0.10	<1.0	44.9	<0.003
MW-8	10/11/06	<0.020	<100	<0.0100	4.3	13	<0.100	0.043
	02/03/00	<0.020	-	**0.14**	0.40	2.30	36.7	484
MW-9	10/11/06	<0.019	<100	<0.0100	2.3	3.8	<0.100	<0.003
	02/03/00	<0.020	-	**0.06**	0.83	6.70	84.5	<0.003
MW-10	10/17/06	**0.60**	<2000	<0.0100	1.80	37	0.501	0.004
MW-11	10/17/06	<0.019	<100	<0.0100	1.5	2.4	3.68	0.005
MW-12	10/17/06	<0.019	<100	<0.0100	1.3	3.3	10.1	<0.003
MW-13	10/17/06	<0.019	<100	<0.0100	3.4	6.1	11.0	<0.003
MW-14	10/17/06	<0.019	<1000	<0.0100	1.5	1.5	18.2	<0.003
MW-15	10/17/06	<0.020	<100	**0.101**	1.5	13	<0.100	<0.003
MW-16	10/17/06	<0.017	<100	**0.0184**	0.71	20	20.3	0.013
MW-17	10/17/06	<0.018	<100	**0.0194**	1.4	7.4	<0.100	0.006
MW-18	10/17/06	<0.013	<100	**0.169**	0.75	13	<0.100	0.010
MW-19	10/17/06	<0.020	<100	**0.0164**	1.2	8.1	<0.100	0.005
MW-20	10/17/06	<0.019	<100	**0.0338**	2.0	9.6	<0.100	<0.003
PW-1	10/11/06	<0.019	<100	<0.0100	4.1	1.6	<0.100	<0.003
DW-1	10/11/06	<0.020	<100	<0.0100	4.4	3.3	<0.100	<0.003
DW-2	10/11/06	<0.017	<100	<0.0100	2.5	99	34.3	<0.003
SW-1	10/17/06	<0.020	<100	0.0132	2.8	2.6	<0.100	<0.003

*Previously constructed monitoring wells that lie adjacent to replacement monitoring wells constructed for this investigation. Only replacement well locations are shown on report maps.

Table 6
Groundwater 8-Oxygenates
Four Seasons #15, North Augusta, SC - Facility # 00120
Consultech Project C-06-08-045

Well Number	Date	Ethyl-t-butylether (ug/l)	Tert-amyl methyl ether (ug/l)	Tertiary butyl alcohol (ug/l)	Ethanol (ug/l)	T-amyl alcohol (ug/l)	T-butyl Formate (ug/l)	Ethyl-t-butyl alcohol (ug/l)	Diisopropyl ether (ug/l)
RBSL		NA	NA	NA	NA	NA	NA	NA	NA
MW-2R	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-3	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-4	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-5	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-6	10/11/06	<250	<250	**5400**	<5000	**3300**	<1300	<1300	<250
MW-7	10/11/06	<5.0	<5.0	**170**	<100	**1300**	<25	**230**	<5.0
MW-8	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-9	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-10	10/17/06	<100	<100	<500	<2000	<500	<500	<500	<100
MW-11	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-12	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-13	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-14	10/17/06	<50	<50	<250	<1000	<250	<250	<250	<50
MW-15	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-16	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-17	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-18	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-19	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
MW-20	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
PW-1	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
DW-1	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
DW-2	10/11/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0
SW-1	10/17/06	<5.0	<5.0	<25	<100	<25	<25	<25	<5.0



REFERENCE: NORTH AUGUSTA, SOUTH CAROLINA QUADRANGLE MAP. 7.5 MINUTE SERIES, U.S. GEOLOGIC SURVEY

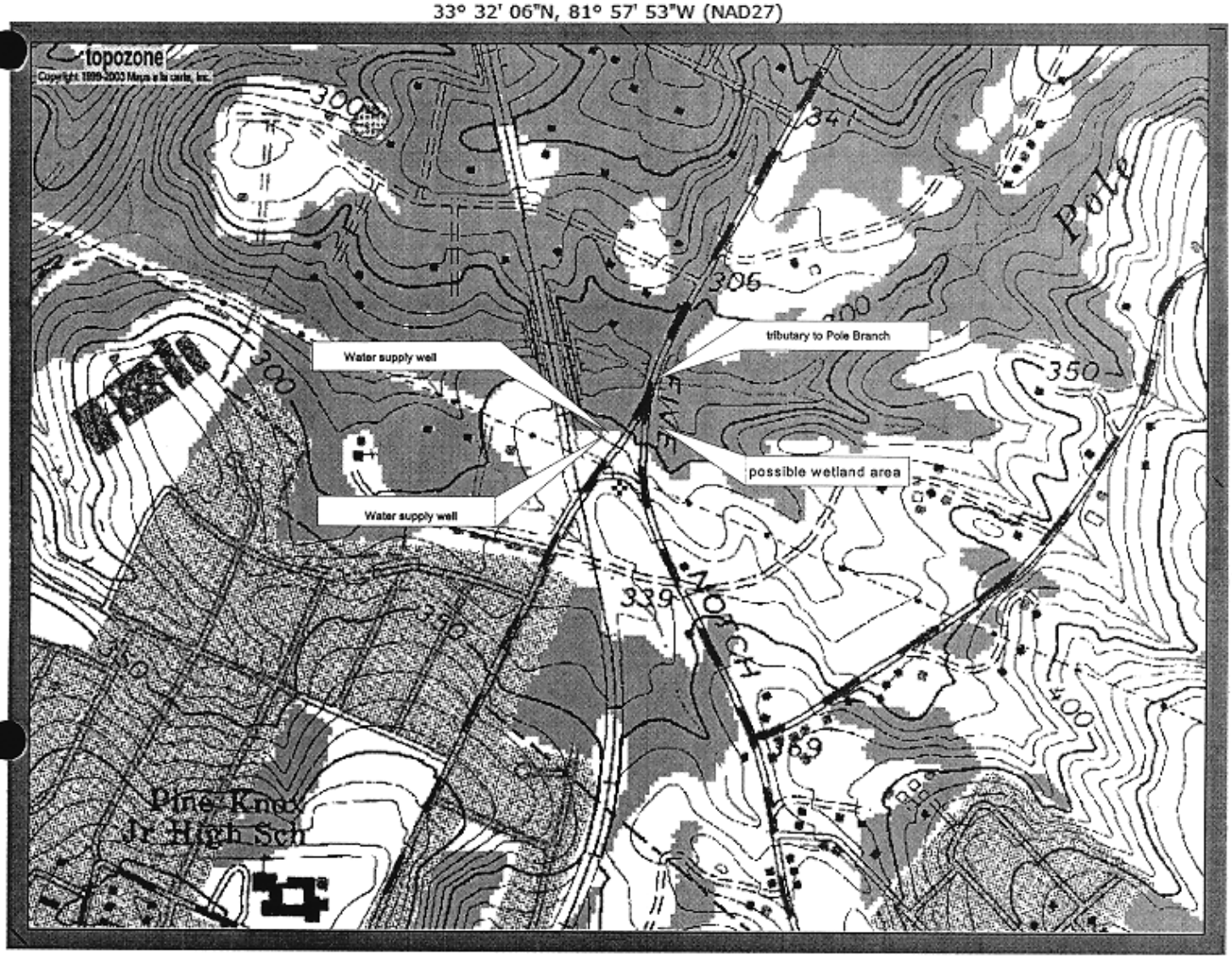
0 500 1,000

SCALE IN FEET

SITE LOCATION

DRAWN: MAC	DATE: 8/8/06	FIGURE 1 SITE LOCATION MAP	CONSULTECH ENVIRONMENTAL, INC. Environmental Consulting and Engineering © 1998 Delivering innovative solutions to today's environmental concerns
SCDHEC FACILITY ID# 00120			
PROJECT: FOUR SEASONS FOOD & FUEL			
PROJECT No.: C-06-08-045			
LOCATION: CHARLESTON, SOUTH CAROLINA			

33° 32' 06"N, 81° 57' 53"W (NAD27)



0 0.2 0.4 0.6 0.8 1 mi

REFERENCE: TOPOZONE, COPYRIGHT 1999-2003 MAPS A LA CARTE, INC.

SITE LOCATION

DRAWN: MAC	DATE: 8/8/06
SCDHEC FACILITY ID# 00120	
PROJECT: FOUR SEASONS FOOD & FUEL	
PROJECT No.: C-06-08-045	
LOCATION: AGUSTA, SOUTH CAROLINA	

FIGURE 3
SITE RECEPTOR MAP

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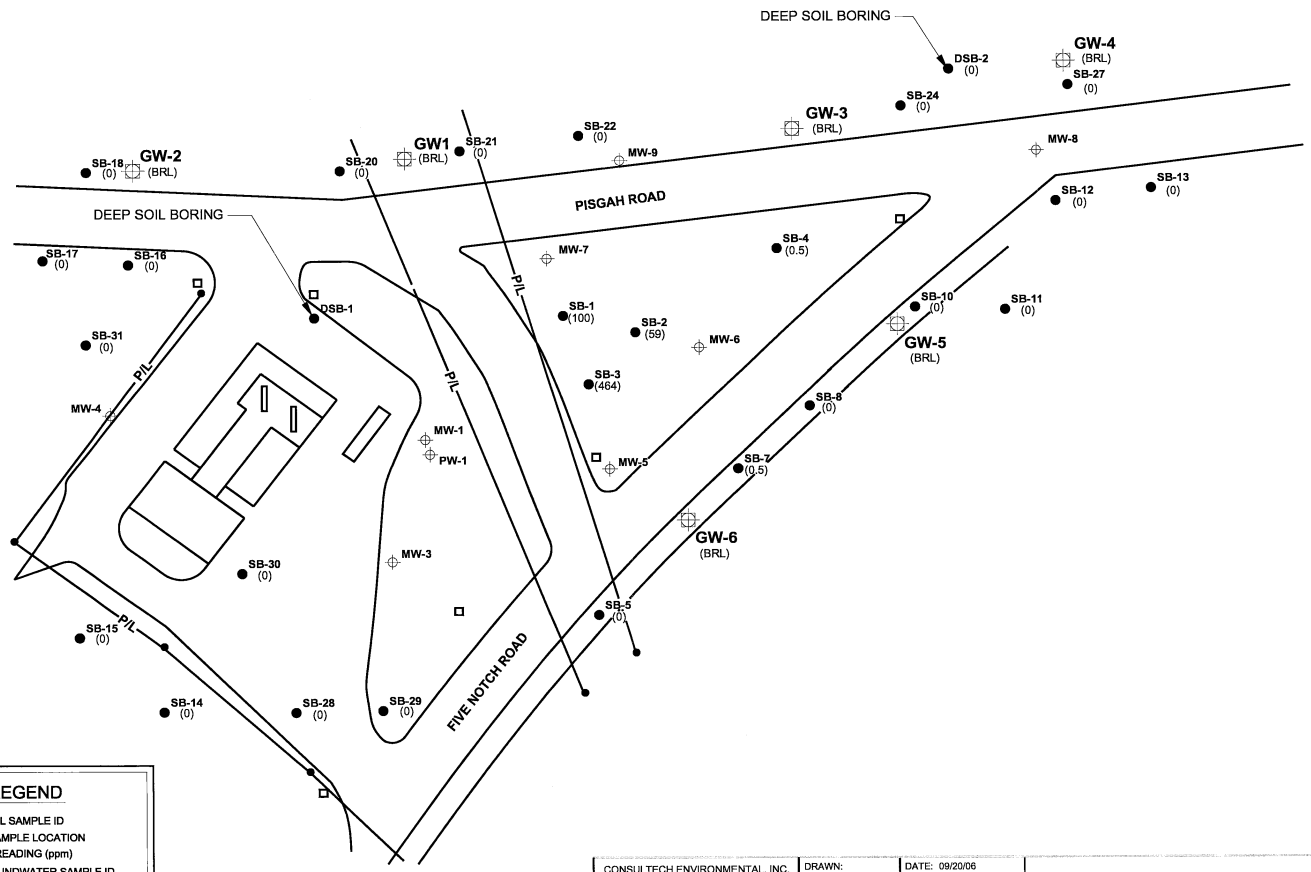

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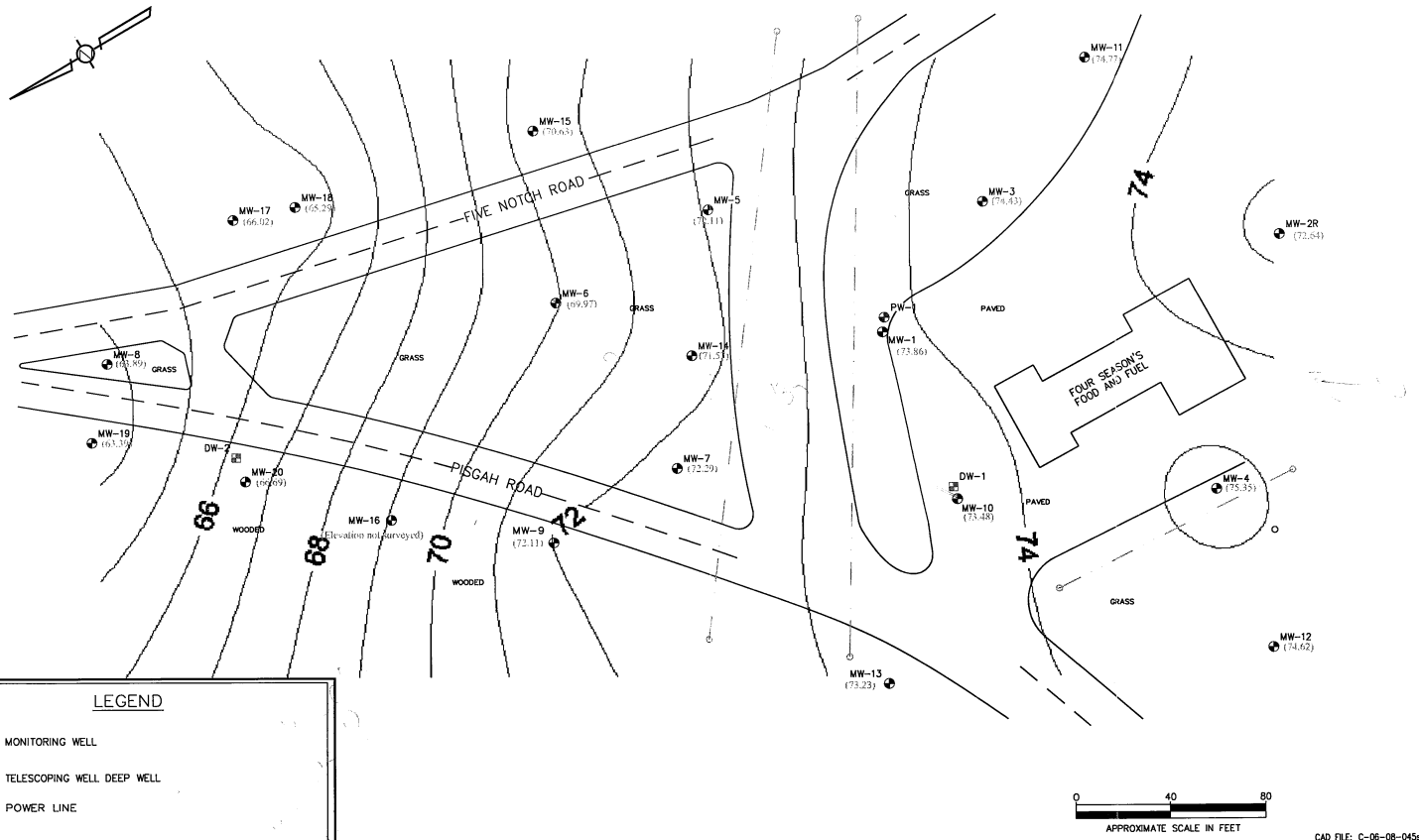
DRAWN:	DATE: 09/20/06
REV.: FACILITY ID #00120	
PROJECT: FOUR SEASONS FOOD AND FUEL	
PROJECT No.: C-06-08-045	
LOCATION: NORTH AUGUSTA, SOUTH CAROLINA	

FIGURE 7
FIELD SCREENING RESULTS



LEGEND

MW-1 MONITORING WELL

DW-1 TELESCOPING WELL DEEP WELL

— — POWER LINE

CAD FILE: C-06-08-045ste.dwg

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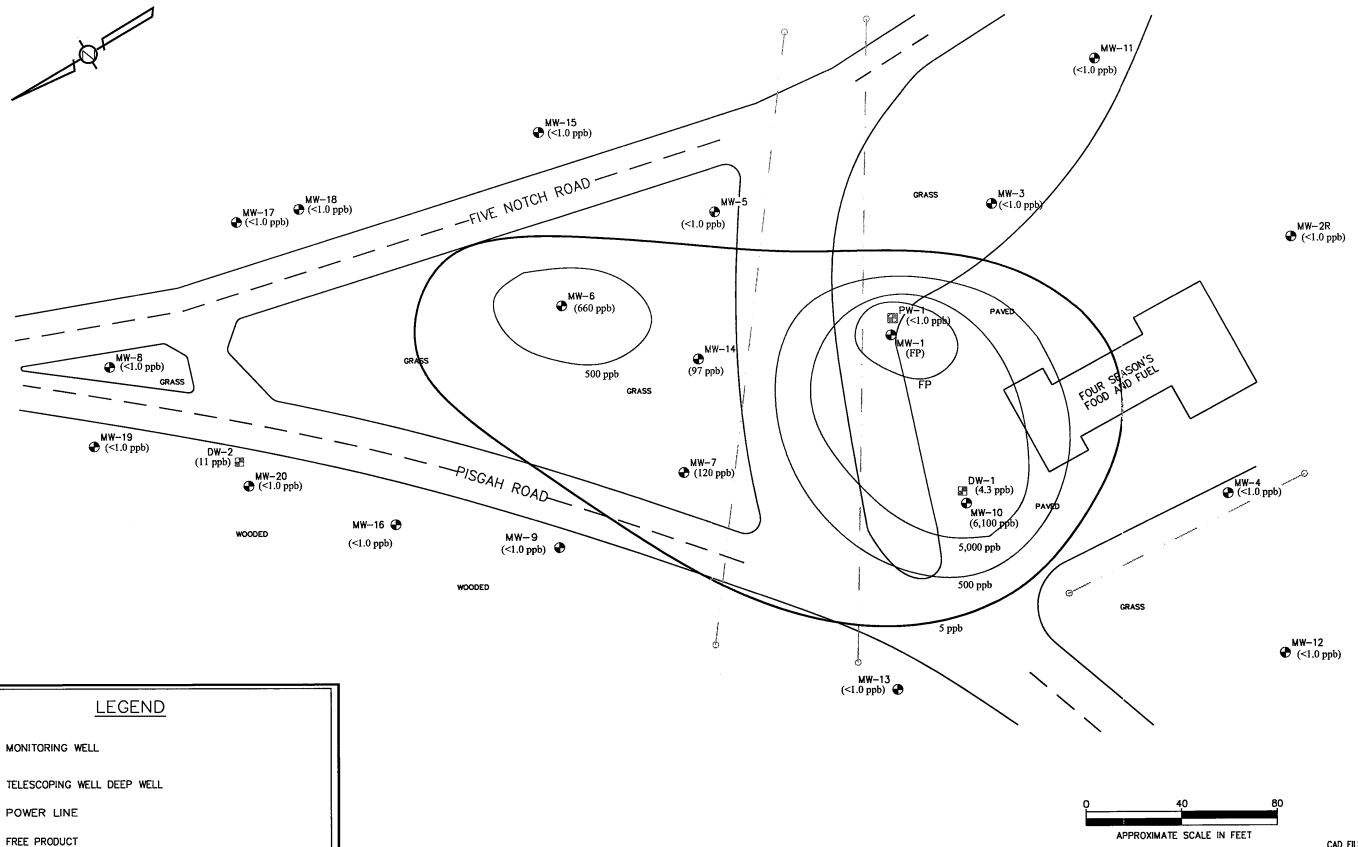
	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 8
GROUNDWATER
POTENTIOMETRIC SURFACE MAP
(OCTOBER 17-18, 2006)



CAD FILE: C-06-08-045ste.dwg

LEGEND

- MW-1 — MONITORING WELL
- DW-1 — TELESCOPING WELL DEEP WELL
- POWER LINE
- (FP) — FREE PRODUCT

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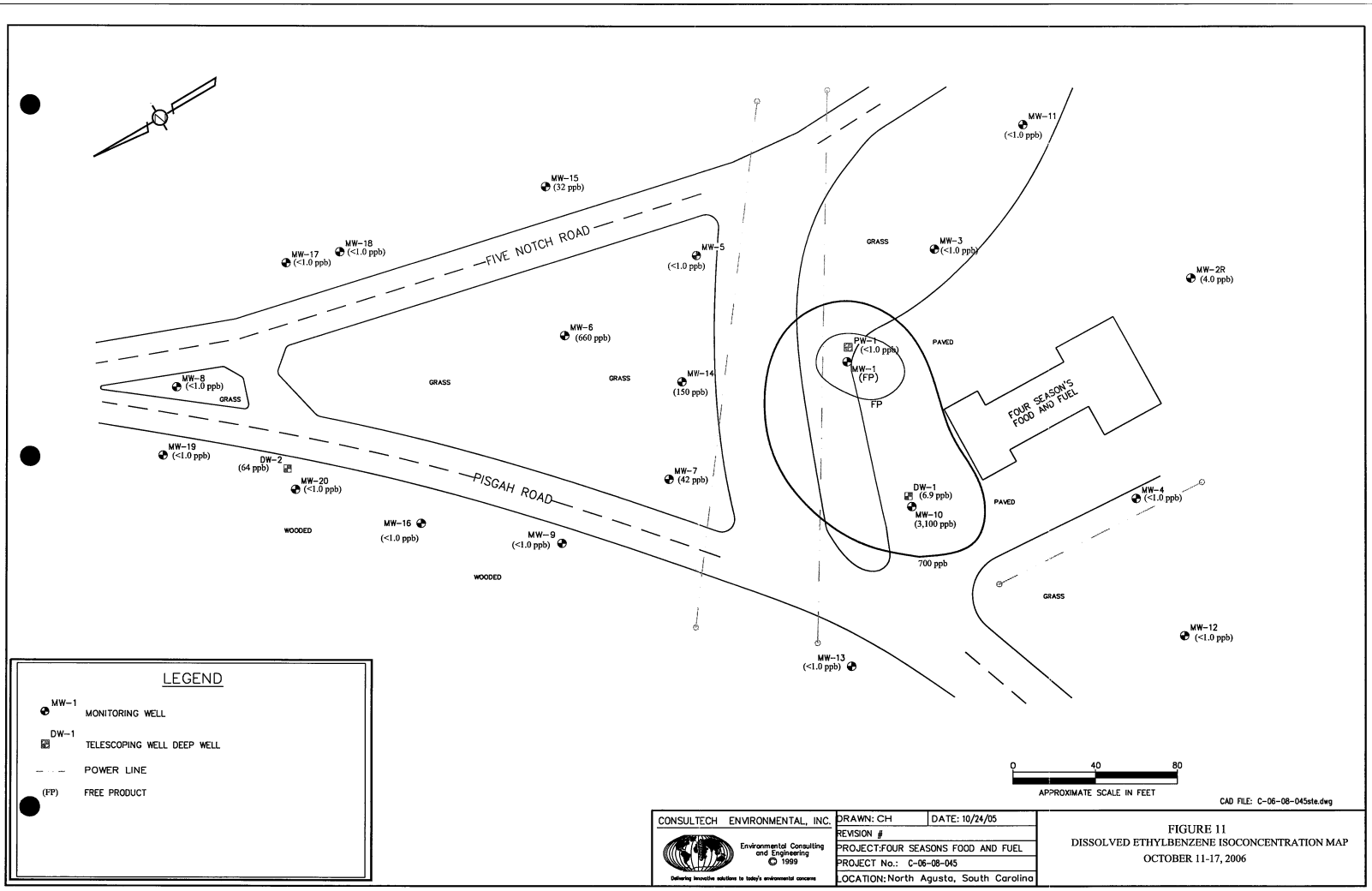
	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 9
DISSOLVED BENZENE ISOCONCENTRATION MAP
OCTOBER 11-17, 2006



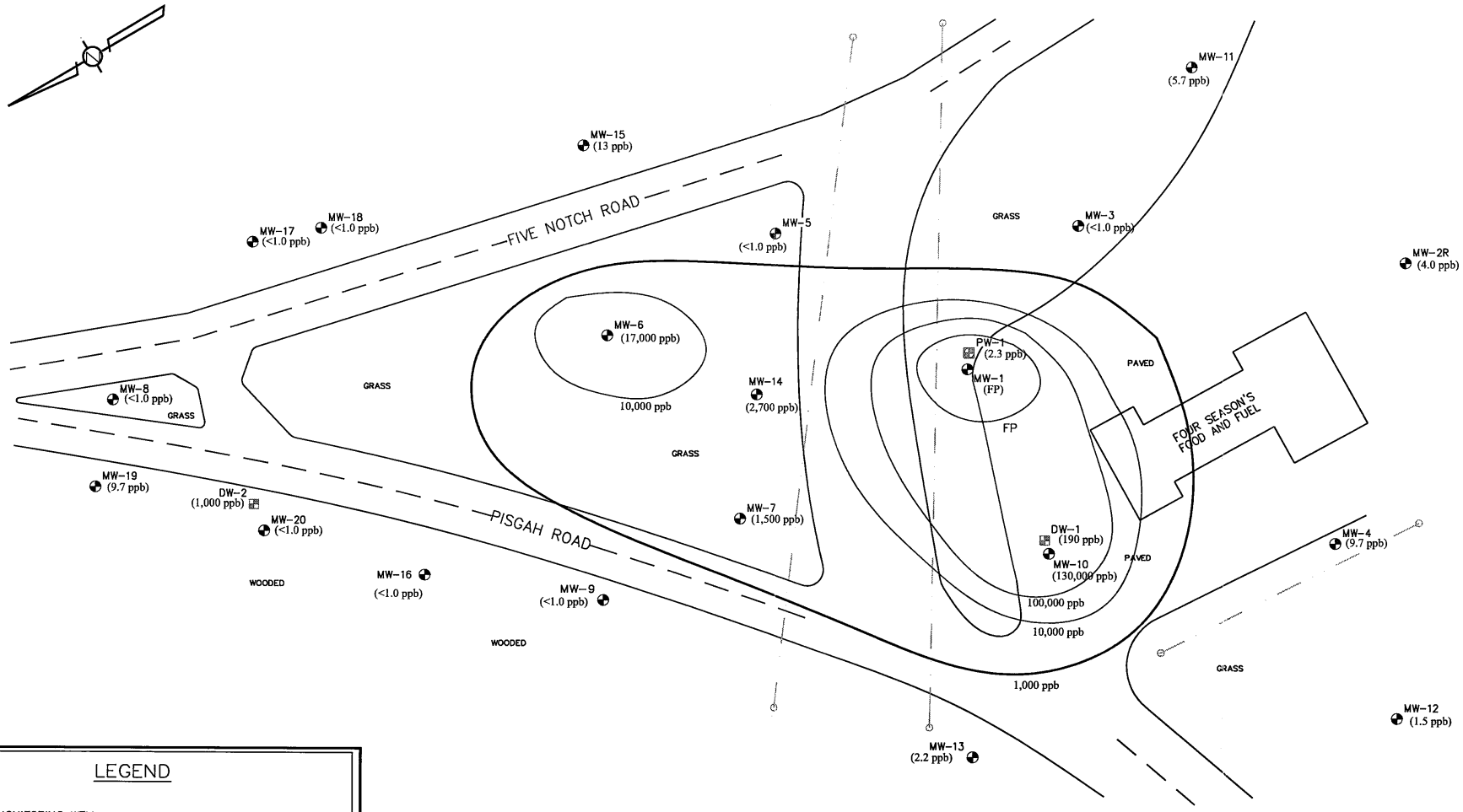
CAD FILE: C-06-08-045ste.dwg

LEGEND

- MW-1 — MONITORING WELL
- DW-1 — TELESCOPING WELL DEEP WELL
- POWER LINE
- (FP) — FREE PRODUCT

CONSULTECH ENVIRONMENTAL, INC.	DRAWN: CH	DATE: 10/24/05
Environmental Consulting and Engineering © 1999	REVISION #	
Delivering innovative solutions to today's environmental concerns	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 11
DISSOLVED ETHYLBENZENE ISOCONCENTRATION MAP
OCTOBER 11-17, 2006



LEGEND

- MW-1 — MONITORING WELL
- DW-1 — TELESCOPING WELL DEEP WELL
- POWER LINE
- (FP) — FREE PRODUCT

CAD FILE: C-06-08-045ste.dwg

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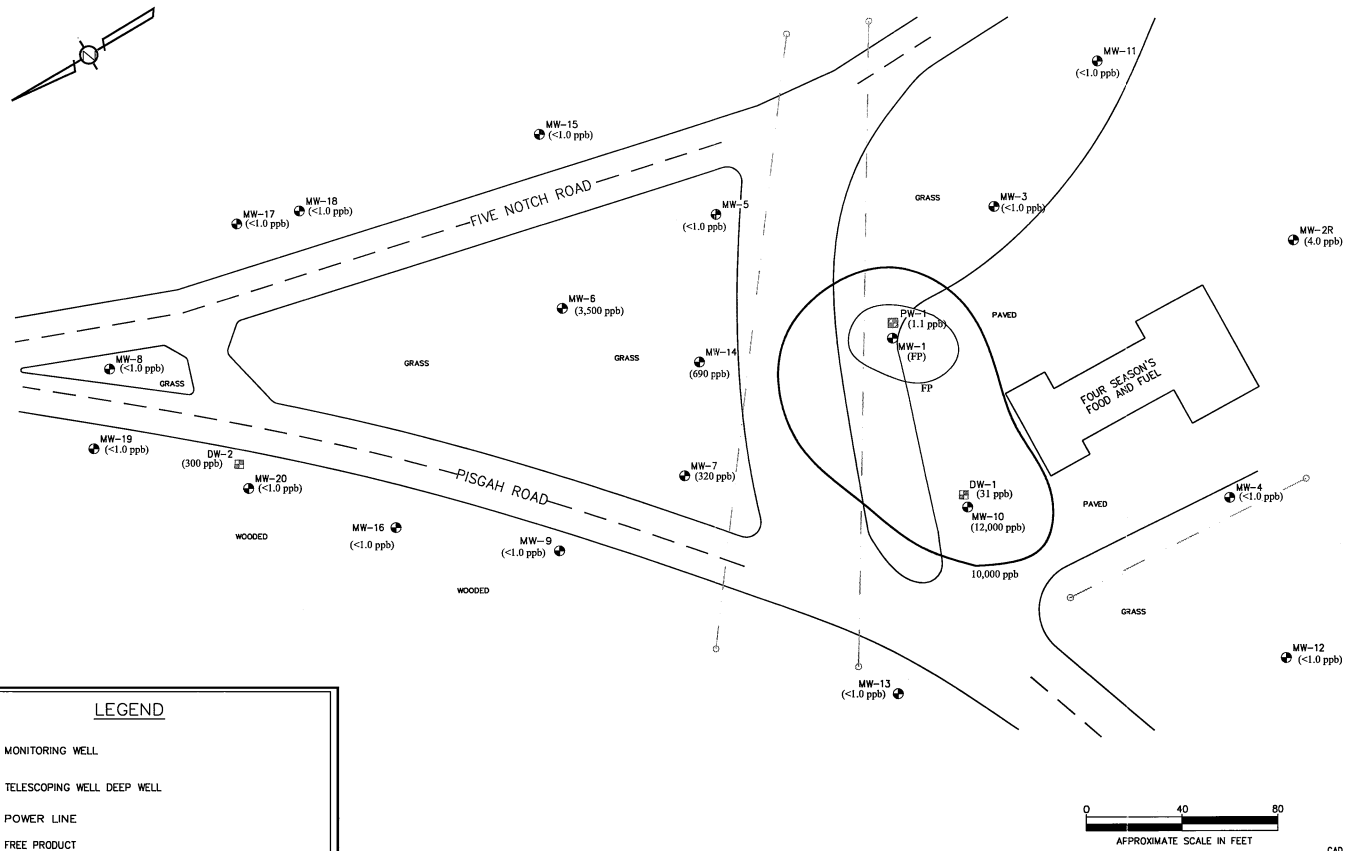
	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 10
DISSOLVED TOLUENE ISOCONCENTRATION MAP
OCTOBER 11-17, 2006



LEGEND

- MW-1 — MONITORING WELL
- DW-1 — TELESCOPING WELL DEEP WELL
- POWER LINE
- (FP) — FREE PRODUCT

CAD FILE: C-06-08-045ste.dwg

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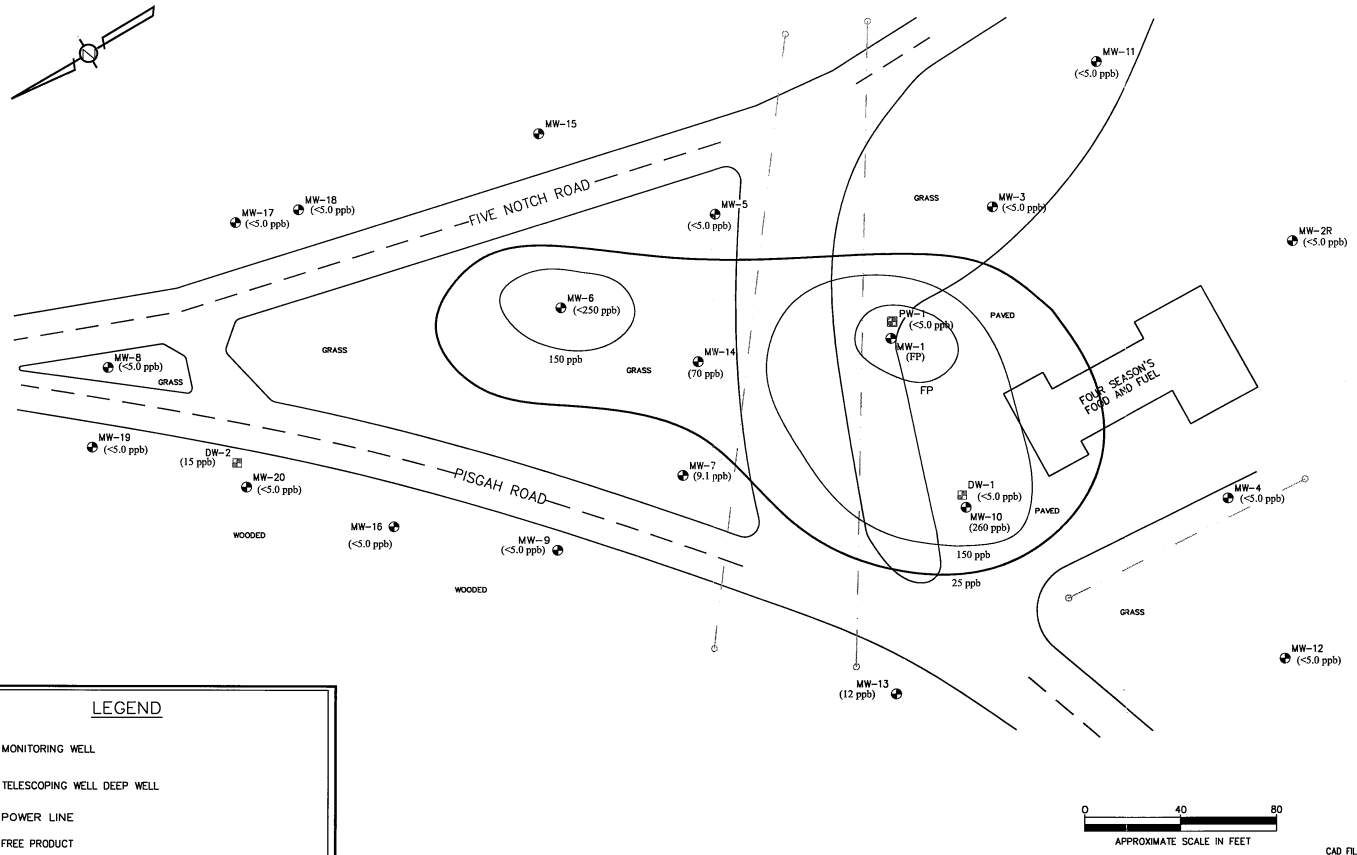
	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 12
DISSOLVED XYLENES ISOCONCENTRATION MAP
OCTOBER 11-17, 2006



LEGEND

- MW-1 — MONITORING WELL
- DW-1 — TELESCOPING WELL DEEP WELL
- POWER LINE
- (FP) — FREE PRODUCT

CAD FILE: C-06-08-045site.dwg

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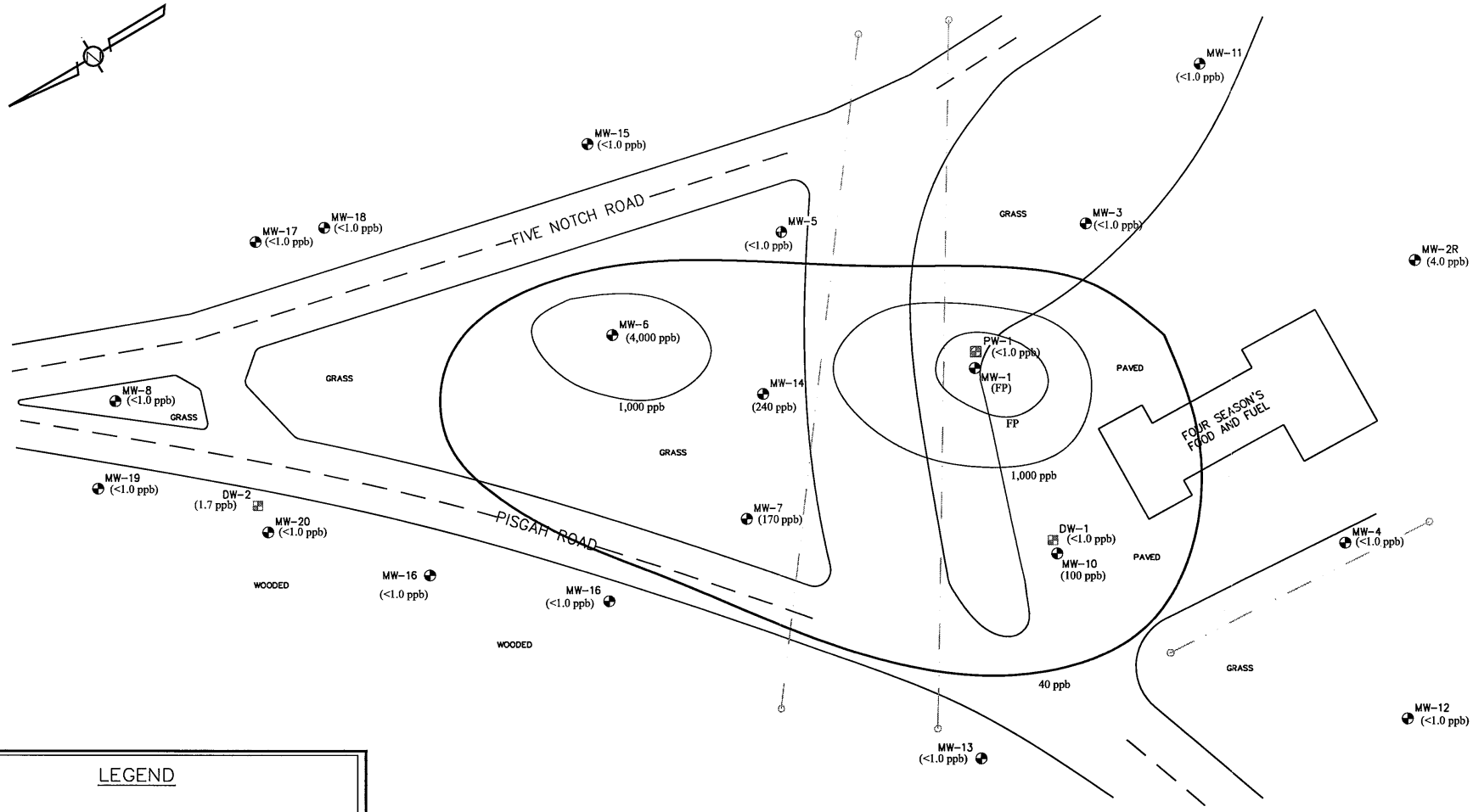
	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

FIGURE 13
DISSOLVED NAPTHALENES ISOCONCENTRATION MAP
OCTOBER 11-17, 2006



CAD FILE: C-06-08-045ste.dwg

LEGEND

MW-1	MONITORING WELL
DW-1	TELESCOPING WELL DEEP WELL
	POWER LINE
(FP)	FREE PRODUCT

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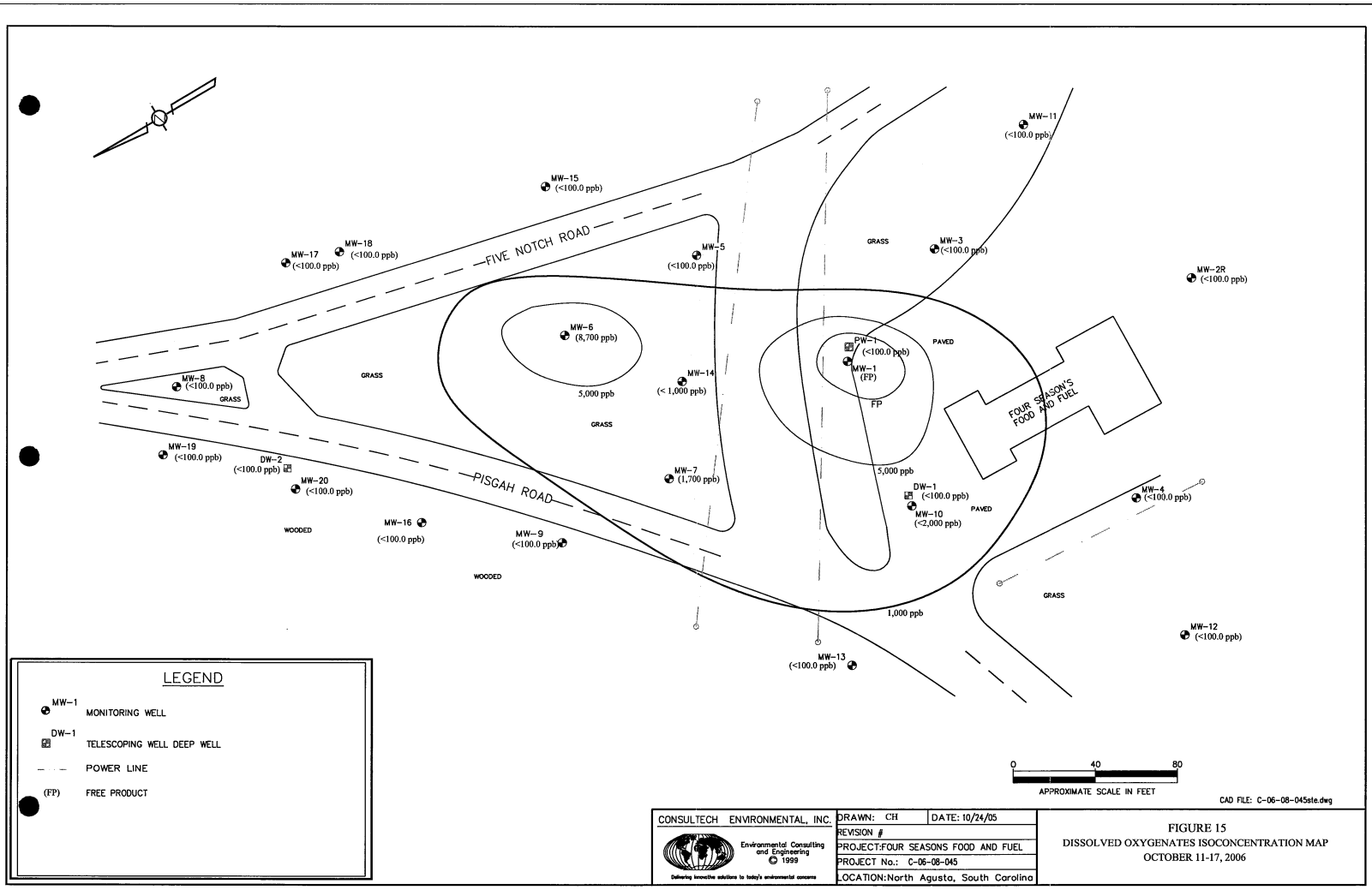
DRAWN: CJH	DATE: 10/24/05
REVISION #	
PROJECT: FOUR SEASONS FOOD AND FUEL	
PROJECT No.: C-06-08-045	
LOCATION: North Agusta, South Carolina	

FIGURE 14
DISSOLVED MTBE ISOCONCENTRATION MAP
OCTOBER 11-17, 2006



CONSULTECH ENVIRONMENTAL, INC. Environmental Consulting and Engineering © 1999 Delivering innovative solutions to today's environmental concerns	DRAWN: CH DATE: 10/24/05	FIGURE 15 DISSOLVED OXYGENATES ISOCONCENTRATION MAP OCTOBER 11-17, 2006
	REVISION #	
	PROJECT: FOUR SEASONS FOOD AND FUEL	
	PROJECT No.: C-06-08-045	
	LOCATION: North Agusta, South Carolina	

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-01	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 20'
DRILLING COMPANY: American	BORING: SB-01
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				7.0		Red silty sand
10				22.7		White sand
15				100.0		White sandy rocks, moist, odor
20				4.0		White sandy rocks, wet, odor
25						
30						

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-02	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 20'
DRILLING COMPANY: American	BORING: SB-02
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS	
5				59.2		Tan silty sand	
10				15.0		Tan sand, slight odor	
15				37.2		White sandy silt, wet	*odor
20				58.0		White sand and rocks, wet	*odor
25							
30							

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-03	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 20'
DRILLING COMPANY: American	BORING: SB-03
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS	
5				2.7		Tan silty sand	
10				10.0		White silty sand, moist	*odor
15				464.0		White sand, wet	*strong odor
20				58.7		White sand, wet	*odor
25							
30							

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-04	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 20'
DRILLING COMPANY: American	BORING: SB-04
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.5		Brown silty sand
10				0.0		Tan silty clay
15				0.2		White silty clay, wet
20				0.0		White silty clay, wet
25						
30						

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PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Sand
10				0.1		Sand
15				0.1		Sand, wet
20				0.1		Sand, wet
25						

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-06	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Sandy clay
10				0.1		Sandy clay
15				0.2		Sand, wet
20				0.0		Sand, wet
25						

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-07	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 15'
DRILLING COMPANY: American	BORING: SB-07
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.5		Brown silty sand
10				0.4		White silty rock, wet
15				0.2		White sand, wet
20						
25						
30						

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-08	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 15'
DRILLING COMPANY: American	BORING: SB-08
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.3		Tan sand
10				0.5		White sand, wet
15						White clayey silt, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-10	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 15'
DRILLING COMPANY: American	BORING: SB-10
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.1		Brown sand
10				0.2		White sand, wet
15				0.2		White sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-11	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Direct Push	TOTAL DEPTH OF BORING: 15'
DRILLING COMPANY: American	BORING: SB-11
DRILLER:	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		White sandy clay, wet
10				0.0		White sandy clay, wet
15				0.0		White sandy clay, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-12	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5			0.0		Sandy silt
10			0.0		Sand, moist
15			0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-13	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Sandy silt
10				0.0		Sand, moist
15				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-14	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.7		Clayey silt
10				0.1		Clayey silt
15				0.1		Clayey silt
20				0.0		Clayey sand
25				0.0		Sand, moist
30				0.0		Sand, wet

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PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Clayey sand
10				0.0		Clay
15				0.0		Clay
20				0.0		Sand
25				0.0		Sand, moist
30				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-16	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Clay
10				0.0		Silty clay
15				0.0		Silty sand
20				0.0		Sand, moist
25				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-17	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Clay
10				0.0		Silty clay
15				0.0		Silt
20				0.0		Sand, moist
25				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-18	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Clay
10				0.0		Silt
15				0.0		Sandy silt
20				0.0		Clay, wet
25				0.0		Sandy clay, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-20	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Sandy clay
10				0.0		Clayey sand
15				0.0		Silty sand
20				0.0		Silty sand, moist
25				0.0		Sandy clay, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-21	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Red clay
10				0.2		White clay and silt
15				0.0		Tan clay, moist
20				0.0		White clay, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-22	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Sandy clay
10				0.0		Sandy clay, moist
15				0.0		Sand, wet
20						

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-23	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		White clayey sand
10				0.8		White sand
15				0.2		White clayey sand, moist
20				0.0		White silt, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-24	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Silt
10				0.1		Sand, wet
15				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-26	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Red clayey silt
10				0.0		Red sandy clay
15				0.0		Red silt
20				0.0		White silty sand, moist
25				0.0		White sand, wet
30						
35						

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-27	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Sand
10				0.1		Sand, wet
15				0.0		Clay, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-28	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 26-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Sandy silt
10				0.0		Silt, moist
15				0.0		Sand, wet
20						
25						

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-29	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Silt
10				0.1		Clayey sand
15				0.0		Sand
20				0.0		Sand
25				0.0		Sand, moist
30				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-30	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.1		Silt
10				0.0		Clay
15				0.0		Clayey silt
20				0.0		Sand
25				1.8		Sand, moist
30				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. SB-31	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 27-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Clay
10				0.0		Silty sand
15				0.0		Silty sand
20				0.0		Silty sand
25				0.0		Sand, wet

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. DSB-01	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS	
5				40.0		Tan sand	*Slight odor
10				500.0		Tan clay and sand	*Odor
15				169.0		White clayey silt	*Odor
20				550.0		Tan clay and sand, wet	*Odor
25				576.0		White clay and sand, wet	*Odor
30				175.0		White clay and sand, wet	*Odor
35				150.0		White silt and sand, wet	*Odor *Too wet to continue

Consultech Environmental, Inc. P.O. Box 5306 Cary, NC 27512	SOIL BORING No. DSB-02	PAGE 1 OF 1

PROJECT: Four Seasons #15 06-08-045	LOCATION:
DATE INSTALLED: 28-Sep-06	ELEVATION: TOC:
DRILLING METHOD: Geoprobe	TOTAL DEPTH OF BORING:
DRILLING COMPANY: American	BORING:
DRILLER: Wesley	DEPTH TO WATER FROM TOC:
SAMPLER TYPE:	LOGGED BY: VC

DEPTH (ft)	SAMPLE	NUMBER	BLOWS /6"	PID / FID (ppm)	USCS (sym)	GEOLOGIC DESCRIPTION / COMMENTS
5				0.0		Red clay
10				0.0		Brown clayey silt
15				0.0		Tand silty sand
20				0.0		White sand, wet
25				0.0		White sand, wet
30						
35						

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: SCDHEC (last) (first)
Address: 2600 BULL STREET
City: COLUMBIA State: SC Zip: 29201
Telephone: Work: 803-898-4300 Home:

2. LOCATION OF WELL: **COUNTY:** AIKEN
Name: FOUR SEASONS
Street Address: 2031 PISGAH RD
City: N. AUGUSTA, SC Zip:
Latitude: 33*32.161 Longitude: 81*57.815

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ____ ft. to ____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE BROWN SANDY CLAY	4	4
BROWN SANDY CLAY	5	9
TAN SAND CLAY	6	15
TAN SAND	12	27
TAN SAND/WHITE CLAY	6	33
TAN SAND	4	37
TAN BROWN SANDY CLAY	6	43
TAN CLAY	9	52
TAN SAND CLAY	8	60
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
DW-1

TYPE: ☒ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10-9-06
60 ft. Date Completed (MM/DD/YYYY): 10-10-06

10. CASING: ☐ Threaded ☐ Welded
Diam: 2&6 inches Height Above/Below
Type: ☒ PVC ☐ Galvanized Surface ____ ft.
☐ Steel ☐ Other Weight ____ lb./ft.
0 in. to 55 ft. depth Drive Shoe? ☐ Yes ☐ No
0 in. to 50 ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 5 ft.
Set Between: 55 ft. and 60 ft. **NOTE: MULTIPLE SCREENS**
____ ft. and ____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ____ ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: ____

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 53 ft. to 60 ft.
Effective size #3 Uniformity Coefficient ____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other ____
Depth: From 0 ft. to 53 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type: ____
Well Disinfected: ☐ Yes ☐ No Type: ____ Amount ____

18. PUMP: Date installed (mm/dd/yyyy): ____ Not installed ☐
Mfr. Name: ____ Model No. ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01568
Name: Kelly Grant Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Kelly Grant Date: 10-10-06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

WELL OWNER INFORMATION:
Name: SCDHEC (last) (first)
Address: 2600 BULL STREET
City: COLUMBIA State: SC Zip: 29201
Telephone: Work: 803-898-4300 Home:

2. LOCATION OF WELL: COUNTY: AIKEN
Name: FOUR SEASONS
Street Address: 2031 PISGAH RD
City: N. AUGUSTA, SC Zip:
Latitude: 33*32.123 Longitude: 81*57.788

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ____ ft. to ____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
BROWN SAND	4	4
TAN GRAY SAND	2	6
TAN SAND WHITE CLAY	3	9
TAN CLAY	15	24
BROWN CLAY	8	32
TAN CLAY	8	40
TAN BROWN CLAY	7	47
TAN CLAY	13	60
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
DW-2

TYPE: ☒ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER:

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10-9-06
60 ft. Date Completed (MM/DD/YYYY): 10-10-06

10. CASING: ☐ Threaded ☐ Welded
Diam: 2&6 inches Height Above/Below
Type: ☒ PVC ☐ Galvanized Surface ____ ft.
☐ Steel ☐ Other Weight ____ lb./ft.
0 in. to 55 ft. depth Drive Shoe? ☐ Yes ☐ No
0 in. to 50 ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 5 ft.
Set Between: 55 ft. and 60 ft. **NOTE: MULTIPLE SCREENS**
____ ft. and ____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ____ ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
____ ft. after ____ hrs. Pumping ____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: ____

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 53 ft. to 60 ft.
Effective size #3 Uniformity Coefficient ____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other ____
Depth: From 0 ft. to 53 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type: ____
Well Disinfected: ☐ Yes ☐ No Type: ____ Amount ____

18. PUMP: Date installed (mm/dd/yyyy): ____ Not installed ☐
Mfr. Name: ____ Model No. ____
H.P. ____ Volts ____ Length of drop pipe ____ ft. Capacity ____ gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01568
Name: Kelly Grant Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the ~~best of~~ my knowledge and belief.
Signed: Kelly Grant Date: 10-10-06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.060 Longitude: 81* 57.886

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Gravel/Brown Sand	2	2
Yellowish orange sandy clay	6	8
Orange white clay	6	14
Tanish brown sandy clay	7	21
Tanish white sandy sand	5	26
White fine sand	4	30
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-2R

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/12/06
30 ft. Date Completed (MM/DD/YYYY): 10/12/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 15 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 15 ft.
Set Between: 15 ft. and 30 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 13 ft. to 30 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 13 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Wesley W. Herman Date: 11/17/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: _____ Home: _____

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.096 Longitude: 81* 57.902

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	2	2
Yellowish orange sandy clay	2	4
Tan sandy clay	6	14
Tanish brown sand	7	21
Tanish white sandy caly	5	26
White sand w/clay	4	30
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-10

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) 30 ft. Date Started (MM/DD/YYYY): 10/12/06
Date Completed (MM/DD/YYYY): 10/12/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface _____ ft.
☐ Steel ☐ Other Weight _____ lb./ft.
2 in. to 15 ft. depth Drive Shoe? ☐ Yes ☐ No
_____ in. to _____ ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 15 ft.
Set Between: 15 ft. and 30 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: _____ ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 13 ft. to 30 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 13 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type: _____
Well Disinfected: ☐ Yes ☐ No Type: _____ Amount _____

18. PUMP: Date installed (mm/dd/yyyy): _____ Not installed ☐
Mfr. Name: _____ Model No. _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: [signature] Date: 10/12/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.071 Longitude: 81* 57.861

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	2	2
Yellowish orange sandy clay	6	8
Orange white clay	6	14
Tanish brown sandy clay	7	21
Tanish white sandy sand	5	26
White fine sand	4	30
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-11

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/12/06
30 ft. Date Completed (MM/DD/YYYY): 10/12/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 15 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 15 ft.
Set Between: 15 ft. and 30 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 13 ft. to 30 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 13 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D ☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Wesley W. Herman Date: 10/12/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.072 Longitude: 81* 57.928

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	2	2
Yellowish orange sandy clay	6	8
Orange white clay	7	15
Tanish brown sandy clay	6	21
Tanish white sandy sand	5	26
White fine sand	4	30
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-12

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/13/06
30 ft. Date Completed (MM/DD/YYYY): 10/13/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 15 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 15 ft.
Set Between: 15 ft. and 30 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 13 ft. to 30 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 13 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Well Driller Date: 10/17/06 (MM/DD/YYYY)

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DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: _____ Home: _____

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.103 Longitude: 81* 57.920

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	3	3
Yellowish orange sandy clay	6	9
Orange white clay	6	15
Tanish brown sandy clay	6	21
Tanish white sandy sand	5	26
White fine sand	4	30
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-13

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) 30 ft.
Date Started (MM/DD/YYYY): 10/12/06
Date Completed (MM/DD/YYYY): 10/12/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface _____ ft.
☐ Steel ☐ Other Weight _____ lb./ft.
2 in. to 15 ft. depth Drive Shoe? ☐ Yes ☐ No
_____ in. to _____ ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 15 ft.
Set Between: 15 ft. and 30 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: _____ ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 13 ft. to 30 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 13 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type: _____
Well Disinfected: ☐ Yes ☐ No Type: _____ Amount _____

18. PUMP: Date installed (mm/dd/yyyy): _____ Not installed ☐
Mfr. Name: _____ Model No. _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: [signature] Date: 10/17/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.115 Longitude: 81* 57.875

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	3	3
Yellowish orange sandy clay	6	9
Orange white clay	7	16
Tanish brown sandy clay	6	22
Tanish white sandy sand	2	24
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-14

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/12/06
24 ft. Date Completed (MM/DD/YYYY): 10/12/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 9 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 15 ft.
Set Between: 9 ft. and 24 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 7 ft. to 24 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 7 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Wesley W. Herman Date: 10/17/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: _____ Home: _____

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.121 Longitude: 81* 57.854

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	2	2
Yellowish orange sandy clay	5	7
Orange white clay	6	13
Tanish brown sandy clay	2	15
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

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5. REMARKS:
MW-15

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/12/06
15 ft. Date Completed (MM/DD/YYYY): 10/12/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface _____ ft.
☐ Steel ☐ Other Weight _____ lb./ft.
2 in. to 5 ft. depth Drive Shoe? ☐ Yes ☐ No
_____ in. to _____ ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 10 ft.
Set Between: 5 ft. and 15 ft. **NOTE: MULTIPLE SCREENS**
_____ ft. and _____ ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: _____ ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
_____ ft. after _____ hrs. Pumping _____ G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield: _____

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 3 ft. to 15 ft.
Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other _____
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
Type: _____
Well Disinfected: ☐ Yes ☐ No Type: _____ Amount _____

18. PUMP: Date installed (mm/dd/yyyy): _____ Not installed ☐
Mfr. Name: _____ Model No. _____
H.P. _____ Volts _____ Length of drop pipe ____ ft. Capacity ____ gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Wesley W. Herman Date: 10/17/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

DHEC — PROMOTE PROTECT PROSPER

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.142 Longitude: 81* 57.882

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	1	1
Yellowish orange sandy clay	4	6
Orange white clay	7	13
Tanish brown sandy clay	1	14
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

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5. REMARKS:
MW-16

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) 14 ft.
Date Started (MM/DD/YYYY): 10/13/06
Date Completed (MM/DD/YYYY): 10/13/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
2 in. to 4 ft. depth
in. to ft. depth
Height Above ☐ Below ☐ Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 10 ft.
Set Between: 4 ft. and 14 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 2 ft. to 14 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 2 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D ☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Well Driller Date: 10/17/06 (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.157 Longitude: 81* 57.857

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	2	2
Yellowish orange sandy clay	4	6
Orange white clay	6	12
Tanish brown sandy clay	3	15

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*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

5. REMARKS:
MW-17

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/12/06
15 ft. Date Completed (MM/DD/YYYY): 10/12/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 5 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 10 ft.
Set Between: 5 ft. and 15 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 3 ft. to 15 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Wesley W. Herman Date: 10/17/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.140 Longitude: 81* 57.859

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	2	2
Yellowish orange sandy clay	4	6
Orange white clay	6	12
Tanish brown sandy clay	3	15
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-18

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/13/06
15 ft. Date Completed (MM/DD/YYYY): 10/13/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 5 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 10 ft.
Set Between: 5 ft. and 15 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 3 ft. to 15 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Wesley W. Herman Date: 10/17/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: **COUNTY:** Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.170 Longitude: 81* 57.871

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	1	1
Yellowish orange sandy clay	4	6
Orange white clay	7	13
Tanish brown sandy clay	2	15
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-19

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/13/06
15 ft. Date Completed (MM/DD/YYYY): 10/13/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 5 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 10 ft.
Set Between: 5 ft. and 15 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 3 ft. to 15 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Well Driller Date: 10/17/06 (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:
Name: DHEC (last) (first)
Address: 2600 Bull St.
City: Columbia State: SC Zip: 29201
Telephone: Work: Home:

2. LOCATION OF WELL: COUNTY: Aiken
Name: Four Seasons Food & Fuel
Street Address: 2031 Pisgah Rd
City: North Agusta Zip: 29841
Latitude: 33* 32.153 Longitude: 81* 57.875

3. PUBLIC SYSTEM NAME **PUBLIC SYSTEM NUMBER**

4. ABANDONMENT: ☐ Yes ☒ No
Grouted Depth: from: ft. to ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Brown Sand	3	3
Tanish grey sand	3	6
Orange/tan white clay	3	9
Tanish brown sandy clay	6	15
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:
MW-20

6. TYPE: ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. PERMIT NUMBER: C-06-06-045

8. USE:
☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. Well Depth (completed) Date Started (MM/DD/YYYY): 10/13/06
15 ft. Date Completed (MM/DD/YYYY): 10/13/06

10. CASING: ☒ Threaded ☐ Welded
Diam: 2 inches Height Above ☐ Below ☐
Type: ☒ PVC ☐ Galvanized Surface ft.
☐ Steel ☐ Other Weight lb./ft.
2 in. to 5 ft. depth Drive Shoe? ☐ Yes ☐ No
in. to ft. depth

11. SCREEN:
Type: PVC Diam.: 2 in.
Slot/Gauge: .010 Length: 10 ft.
Set Between: 5 ft. and 15 ft. **NOTE: MULTIPLE SCREENS**
ft. and ft. **USE SECOND SHEET**
Sieve Analysis ☐ Yes (please enclose) ☐ No

12. STATIC WATER LEVEL: ft. below land surface after 24 hours

13. PUMPING LEVEL: Below surface.
ft. after hrs. Pumping G.P.M.
Pumping Test: ☐ Yes (please enclose) ☐ No
Yield:

14. WATER QUALITY:
Chemical Analysis: ☐ Yes ☐ No Bacterial Analysis: ☐ Yes ☐ No
Please enclose lab results

15. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 3 ft. to 15 ft.
Effective size Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☒ Bentonite ☐ Bentonite/Cement ☐ Other
Depth: From 0 ft. to 3 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type:
Well Disinfected: ☐ Yes ☐ No Type: Amount

18. PUMP: Date installed (mm/dd/yyyy): Not installed ☐
Mfr. Name: Model No.
H.P. Volts Length of drop pipe ft. Capacity gpm
Type: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: CERT. NO.: 01676
Name: Wesley W. Herman Level: A B C D
☐ ☒ ☐ ☐ (check one)
Address: 324 Fields Drive, Suite C City: Aberdeen
State: North Carolina Zip: 28315
Telephone No.: 910-944-3140 Fax: 910-944-3150

20. WATER DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Wesley W. Herman Date: 10/17/06
Well Driller (MM/DD/YYYY)

DHEC 1903 (07/2003) **COPY 1 MAIL TO: S.C. DEPARMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)**

02-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 10965
Project Name :Four Seasons Food & Fuel
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46203 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46203 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Brian Burns
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.9	96	60-140	

Lab Batch #: 33861 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.4	4.8	92	60-140	

Lab Batch #: 33861 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.8	98	60-140	

Lab Batch #: 33861 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.9	5.0	118	60-140	

Lab Batch #: 33861 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.7	5.0	114	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	5.0	86	60-140	

Lab Batch #: 33861 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.4	5.0	88	60-140	

Lab Batch #: 33861 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.8	90	60-140	

Lab Batch #: 33861 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.8	90	60-140	

Lab Batch #: 33861 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	4.8	96	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.5	4.8	94	60-140	

Lab Batch #: 33861 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.1	4.9	104	60-140	

Lab Batch #: 33861 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.8	4.9	98	60-140	

Lab Batch #: 33861 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	2.3	4.2	55	60-140	Z

Lab Batch #: 33861 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	2.3	4.2	55	60-140	Z

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 301111 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.4	5.0	88	60-140	

Lab Batch #: 33861 **Sample:** 301111 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.5	5.0	90	60-140	

Lab Batch #: 33857 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	33.8	50.0	68	35-96	
Nitrobenzene-d5	30.1	50.0	60	22-108	
p-Terphenyl-d14	32.2	50.0	64	18-133	

Lab Batch #: 33857 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	34.9	50.0	70	35-96	
Nitrobenzene-d5	30.7	50.0	61	22-108	
p-Terphenyl-d14	25.8	50.0	52	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33857 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	37.3	50.0	75	35-96	
Nitrobenzene-d5	34.2	50.0	68	22-108	
p-Terphenyl-d14	37.1	50.0	74	18-133	

Lab Batch #: 33857 **Sample:** 11032-004 / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.8	50.0	80	35-96	
Nitrobenzene-d5	42.1	50.0	84	22-108	
p-Terphenyl-d14	33.8	50.0	68	18-133	

Lab Batch #: 33857 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	40.9	50.0	82	35-96	
Nitrobenzene-d5	39.7	50.0	79	22-108	
p-Terphenyl-d14	34.0	50.0	68	18-133	

Lab Batch #: 33857 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	34.5	50.0	69	35-96	
Nitrobenzene-d5	31.1	50.0	62	22-108	
p-Terphenyl-d14	29.1	50.0	58	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33857 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	40.0	50.0	80	35-96	
Nitrobenzene-d5	37.1	50.0	74	22-108	
p-Terphenyl-d14	25.2	50.0	50	18-133	

Lab Batch #: 33857 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	31.7	50.0	63	35-96	
Nitrobenzene-d5	28.1	50.0	56	22-108	
p-Terphenyl-d14	32.9	50.0	66	18-133	

Lab Batch #: 33857 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.9	50.0	74	35-96	
Nitrobenzene-d5	33.6	50.0	67	22-108	
p-Terphenyl-d14	33.5	50.0	67	18-133	

Lab Batch #: 33857 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.7	50.0	73	35-96	
Nitrobenzene-d5	33.1	50.0	66	22-108	
p-Terphenyl-d14	36.9	50.0	74	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33857 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	28.3	50.0	57	35-96	
Nitrobenzene-d5	29.9	50.0	60	22-108	
p-Terphenyl-d14	3.77	50.0	8	18-133	Z

Lab Batch #: 33857 **Sample:** 301109 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	33.0	50.0	66	30-104	
Nitrobenzene-d5	30.9	50.0	62	26-96	
p-Terphenyl-d14	43.2	50.0	86	59-125	

Lab Batch #: 33854 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.57	50.00	101	53-159	
Bromofluorobenzene	48.78	50.00	98	30-186	
Toluene-d8	49.98	50.00	100	83-136	

Lab Batch #: 33854 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	47.71	50.00	95	53-159	
Bromofluorobenzene	48.83	50.00	98	30-186	
Toluene-d8	50.22	50.00	100	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33854 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.68	50.00	97	53-159	
Bromofluorobenzene	50.29	50.00	101	30-186	
Toluene-d8	50.80	50.00	102	83-136	

Lab Batch #: 33854 **Sample:** 11032-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.98	50.00	102	53-159	
Bromofluorobenzene	48.14	50.00	96	30-186	
Toluene-d8	51.11	50.00	102	83-136	

Lab Batch #: 33854 **Sample:** 301119 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.07	50.00	100	65-125	
Bromofluorobenzene	49.11	50.00	98	66-148	
Toluene-d8	49.54	50.00	99	86-127	

Lab Batch #: 33888 **Sample:** 11032-004 / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	43.76	50.00	88	53-159	
Bromofluorobenzene	48.05	50.00	96	30-186	
Toluene-d8	50.17	50.00	100	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33888 **Sample:** 11032-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	51.23	50.00	102	53-159	
Bromofluorobenzene	48.82	50.00	98	30-186	
Toluene-d8	49.32	50.00	99	83-136	

Lab Batch #: 33888 **Sample:** 11032-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.59	50.00	93	53-159	
Bromofluorobenzene	48.44	50.00	97	30-186	
Toluene-d8	49.53	50.00	99	83-136	

Lab Batch #: 33888 **Sample:** 11032-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	47.67	50.00	95	53-159	
Bromofluorobenzene	48.14	50.00	96	30-186	
Toluene-d8	50.67	50.00	101	83-136	

Lab Batch #: 33888 **Sample:** 301141 BKS / BKS **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.85	50.00	98	65-125	
Bromofluorobenzene	49.58	50.00	99	66-148	
Toluene-d8	52.18	50.00	104	86-127	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33888 **Sample:** 301141 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	50.18	50.00	100	65-125	
Bromofluorobenzene	48.91	50.00	98	66-148	
Toluene-d8	49.79	50.00	100	86-127	

Lab Batch #: 33903 **Sample:** 11032-005 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.11	50.00	92	53-159	
Bromofluorobenzene	47.33	50.00	95	30-186	
Toluene-d8	51.08	50.00	102	83-136	

Lab Batch #: 33903 **Sample:** 11032-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.00	50.00	92	53-159	
Bromofluorobenzene	49.41	50.00	99	30-186	
Toluene-d8	50.47	50.00	101	83-136	

Lab Batch #: 33903 **Sample:** 11032-009 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.38	50.00	97	53-159	
Bromofluorobenzene	48.23	50.00	96	30-186	
Toluene-d8	50.34	50.00	101	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33903 **Sample:** 11032-010 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.55	50.00	93	53-159	
Bromofluorobenzene	49.83	50.00	100	30-186	
Toluene-d8	50.88	50.00	102	83-136	

Lab Batch #: 33903 **Sample:** 11032-010 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	41.58	50.00	83	53-159	
Bromofluorobenzene	47.42	50.00	95	30-186	
Toluene-d8	49.26	50.00	99	83-136	

Lab Batch #: 33903 **Sample:** 301159 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	49.29	50.00	99	65-125	
Bromofluorobenzene	48.28	50.00	97	66-148	
Toluene-d8	50.06	50.00	100	86-127	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Accura Analytical Laboratory

EPA Qualifier Codes and Abbreviations used by AAL

BRL: This abbreviation indicates that the analytical results were Below the Reporting Limit (BRL).

MDL: The Method Detection Limit (MDL), as defined by 40 CFR Part 136, Appendix B, is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero.

U: The compound was analyzed for but not detected.

J: This indicates an estimated value. This flag is used in 3 incidences.

(1) When estimating a concentration for tentatively identified compounds where 1:1 response is assumed.
(2) When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the Contract Required Detection Limit (CRDL) – or Reporting Limit - but greater than the MDL.
(3) When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL – or Reporting Limit- but greater than MDL.

N: Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds. (TICs), where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" flag is not used.

C: This applies to pesticide result where the identification has been confirmed by GC/MS. Do **not** apply if this flag if analyte(s) were not confirmed. Used the laboratory-defined flag instead (see the X qualifier).

B: This is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The flag shall be used for a tentatively identified compound as well as for a positively identified target compound.

E: This identifies compounds whose concentrations exceed the upper level of the linear calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract should be diluted and re-analyzed.

Note: *For Total xylene, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately.*

X: Defined by the laboratory

Z: Surrogates/Spikes results exceeds quality control limits

ZZ: Surrogates/Spikes results exceeds quality control limits in multiple samples

***: Surrogate recoveries were diluted out

M: Manual integrations were necessary and an "m" qualifying code is present on the quantitation report next to the analyte.

D: This flag indicates that the identified compound is reported from the dilution run.

27-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 11059
Project Name :Four Seasons Food & Fuel #5
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46020 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46020 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Larry Gwinn
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 11059

Client Project: Four Seasons Food & Fuel / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 2 page case narrative, 1 Chain of Custody page, 18 analytical results pages, 9 QC surrogate recovery pages, and a list of common EPA qualifier codes used by AAL.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples for Dissolved Iron were filtered and preserved with Nitric Acid to a pH<2 upon receipt at the laboratory.

Michael F. Broome — October 18, 2006
Receiving — Date

PAHs by SW8270C Notations:

1. The surrogate recoveries were outside the laboratory control limits for the sample, MW-16. This sample had sludge present which could indicate matrix interference, and there was insufficient sample to reanalyze.

2. Batch QC consists of the Blank Spike sample and Blank Spike Duplicate sample recoveries due to limited sample volume.

Chris Pittman — October 24, 2006
SVOC Analyst — Date

VOCs by SW8260B Notations:

1. The pH of the water samples for work order # 11059 was <2.0 prior to the VOC analysis.

2. The spike recovery was outside the laboratory-derived limit (high) for Ethylbenzene in 11059-001MS. The Laboratory Blank Spike sample recoveries were within the acceptable limits; therefore the data satisfies the method requirements

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3. The relative percent difference for MTBE between 11059-001 MS and 11059-001 MSD was outside the laboratory-derived limit.

Mei Liang
Senior Analyst

October 24, 2006
Date

Project Manager's Notations:

This Case Narrative & Notations have been generated, reviewed, and edited by:

Larry M. Gwinn, Jr.
Laboratory Director

October 27, 2006
Date

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

46020

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech Env.

Address: Cary, N.C.

Results Sent to: (Client Contact): Joe Ghould

Email address:

Contact Phone #: 919. 861. 4314 Fax#: 4317

Project (Site) Name: Fourseasons Food + Fuel #5 N. Augusta, SC

Project Number: C.06.08.045

Billing address:

P.O.# (if required):

For Laboratory Use Only:
QC Level: 1 2 3 4 CLP-Like
Custody Seal(s): Y N Tape

AAL LIMS System ID:
Receiver's Initials/Temp: BM 22
AAL Work Order # 11059

Preservation Code: (See below)

Sampler(s): (signature): Van T. Chisholm

Sampler(s): (printed): Van T. Chisholm

Analysis Requested

Line No.	Sample ID #	Sample Date / Time (06')	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX, MAPH, MTBE, 1,2-dcl, 8 oxygenates	EDB	methane	lead	nitrate/sulfate	iron	PAHs								Field Comments:	AAL Lab ID: 11059
								1		1	2												
1	mw#-25	10.17 / 1000		X	GW	North Augusta, SC.	9	2	2	2	1	1	1										001
2	10	1030		X							1	1	1										002
3	11	1100		X							1	1	1										003
4	12	1130		X							1	1	1										004
5	13	1200		X							1	1	1										005
6	14	1300		X							1	1	1										006
7	mw. 16	10.17/ 1400		X	GW		9	2	2	2	1	1	1										007
8	SW.1	10.17 1500		X	SW	N. Augusta	8	2	2	2	1	1											008
9																							
10																							

1) Relinquished By: Van T. Chisholm Date / Time 10.17.06/1800

2) Received By: [signature] Date / Time 10/18/06 1000

3) Relinquished By: Date / Time

4) Received By: Date / Time

Delivered by: (Circle One)
Fed Ex / UPS / DHL / AAL Pickup / Hand / Other

Turnaround Time Requested:

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 11059

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-2r** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-001** Date Collected: **Oct-17-06 10:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 13:59 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	2.18	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 19:30 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 18:12 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:08 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.004	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 12:57 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.86	0.10	0.027	mg/L		1
Sulfate	14808-79-8	7.1	1.0	0.062	mg/L		1

Version: 1.011

Certificate of Analytical Results 11059

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-2r** | Matrix: **WATER** | % Moisture:
Lab Sample Id: **11059-001** | Date Collected: **Oct-17-06 10:00** | Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C — Prep Method: SW3520C

Date Analyzed: Oct-23-06 15:29 — Analyst: CTP01 — Seq Number: 33927 — Date Prep: Oct-19-06 15:15 — Tech: CW01

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B — Prep Method: SW5030B

Date Analyzed: Oct-23-06 11:25 — Analyst: MJL01 — Seq Number: 33928 — Date Prep: Oct-23-06 08:00 — Tech: MJL01

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	4.0	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-10** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-002** Date Collected: **Oct-17-06 10:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:04 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	0.501	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 19:47 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.60	0.095	0.023	ug/L		5

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 18:18 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:42 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.004	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:02 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.8	0.10	0.027	mg/L		1
Sulfate	14808-79-8	37	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-10** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-002** Date Collected: **Oct-17-06 10:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 15:49 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	19	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	45	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	220	20	3.0	ug/L		2
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 13:38 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	6100	1000	670	ug/L		1000
Toluene	108-88-3	130000	1000	680	ug/L		1000
Ethylbenzene	100-41-4	3100	20	13	ug/L		20
Xylenes, Total	1330-20-7	12000	1000	1800	ug/L		1000
Methyl tert-butyl ether	1634-04-4	100	20	12	ug/L		20
Naphthalene	91-20-3	260	100	80	ug/L		20
1,2-Dichloroethane	107-06-2	BRL	100	16	ug/L		20
Diisopropyl ether	108-20-3	BRL	100	18	ug/L		20
Ethanol	64-17-5	BRL	2000	1100	ug/L		20
Ethyl tert-butyl alcohol	590-36-3	BRL	500	340	ug/L		20
Ethyl tert-butyl ether	637-92-3	BRL	100	22	ug/L		20
Tert-Amyl alcohol	75-85-4	BRL	500	300	ug/L		20
tert-Amyl methyl ether	994-05-8	BRL	100	22	ug/L		20
tert-Butyl alcohol	75-65-0	BRL	500	22	ug/L		20
tert-Butyl formate	762-75-4	BRL	500	360	ug/L		20

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-11** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-003** Date Collected: **Oct-17-06 11:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 13:33 Analyst: OKC01 Seq Number: 33896 Date Prep: Oct-19-06 09:45 Tech: OK001

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	3.68	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:05 Analyst: BDW01 Seq Number: 33920 Date Prep: Oct-20-06 09:00 Tech: BPR01

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 18:23 Analyst: OKC01 Seq Number: 33911 Date Prep: Oct-20-06 11:00 Tech: MSN01

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:09 Analyst: MDS01 Seq Number: 33890 Date Prep: Oct-19-06 10:00 Tech: MDS01

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.005	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:19 Analyst: LJB01 Seq Number: 33882 Date Prep: Tech: LJB01

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.5	0.10	0.027	mg/L		1
Sulfate	14808-79-8	2.4	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-11** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-003** Date Collected: **Oct-17-06 11:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 16:10 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 16:44 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	5.7	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-12** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-004** Date Collected: **Oct-17-06 11:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:10 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	10.1	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:23 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:04 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:29 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:35 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	3.3	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-12** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-004** Date Collected: **Oct-17-06 11:30** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 16:30 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 19:51 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	1.5	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-13** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-005** Date Collected: **Oct-17-06 12:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:34 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	11.0	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:40 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:09 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:31 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 14:52 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	3.4	0.10	0.027	mg/L		1
Sulfate	14808-79-8	6.1	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-13** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-005** Date Collected: **Oct-17-06 12:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 16:50 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 14:57 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	2.2	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	12	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-14** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-006** Date Collected: **Oct-17-06 13:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:39 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	18.2	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 20:58 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0046	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:25 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:33 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 15:41 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.5	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.5	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-14** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-006** Date Collected: **Oct-17-06 13:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 17:11 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	21	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	47	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	120	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 15:24 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	97	10	6.7	ug/L		10
Toluene	108-88-3	2700	50	34	ug/L		50
Ethylbenzene	100-41-4	150	10	6.6	ug/L		10
Xylenes, Total	1330-20-7	690	10	18	ug/L		10
Methyl tert-butyl ether	1634-04-4	240	10	6.2	ug/L		10
Naphthalene	91-20-3	70	50	40	ug/L		10
1,2-Dichloroethane	107-06-2	BRL	50	8.2	ug/L		10
Diisopropyl ether	108-20-3	BRL	50	8.9	ug/L		10
Ethanol	64-17-5	BRL	1000	550	ug/L		10
Ethyl tert-butyl alcohol	590-36-3	BRL	250	170	ug/L		10
Ethyl tert-butyl ether	637-92-3	BRL	50	11	ug/L		10
Tert-Amyl alcohol	75-85-4	BRL	250	150	ug/L		10
tert-Amyl methyl ether	994-05-8	BRL	50	11	ug/L		10
tert-Butyl alcohol	75-65-0	BRL	250	11	ug/L		10
tert-Butyl formate	762-75-4	BRL	250	180	ug/L		10

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-16** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-007** Date Collected: **Oct-17-06 14:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:45 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	20.3	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 21:16 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.017	0.0041	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:31 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0184	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:01 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.013	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 15:57 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.71	0.10	0.027	mg/L		1
Sulfate	14808-79-8	20	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-16** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-007** Date Collected: **Oct-17-06 14:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 17:32 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	14	1.9	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	14	1.7	ug/L		1
Acenaphthene	83-32-9	BRL	14	2.0	ug/L		1
Acenaphthylene	208-96-8	BRL	14	2.1	ug/L		1
Anthracene	120-12-7	BRL	14	2.9	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	14	2.7	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	14	2.6	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	14	2.8	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	14	2.8	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	14	3.9	ug/L		1
Chrysene	218-01-9	BRL	14	3.0	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	14	2.6	ug/L		1
Fluoranthene	206-44-0	BRL	14	2.6	ug/L		1
Fluorene	86-73-7	BRL	14	2.2	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	14	2.7	ug/L		1
Naphthalene	91-20-3	BRL	14	2.2	ug/L		1
Phenanthrene	85-01-8	BRL	14	2.9	ug/L		1
Pyrene	129-00-0	BRL	14	3.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 15:51 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **SW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-008** Date Collected: **Oct-17-06 15:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 14:51 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 21:33 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 19:37 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0132	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 12:38 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 16:14 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.8	0.10	0.027	mg/L		1
Sulfate	14808-79-8	2.6	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **SW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11059-008** Date Collected: **Oct-17-06 15:00** Date Received: **Oct-18-06 10:00**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 16:17 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **301133 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301133 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-18-06 13:12 Analyst: OKC01 Date Prep: Oct-19-06 09:45 Tech: OK001
Seq Number: 33896

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Sample Id: **301145 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301145 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-19-06 10:08 Analyst: MDS01 Date Prep: Oct-19-06 10:00 Tech: MDS01
Seq Number: 33890

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

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Four Seasons Food & Fuel #5

Sample Id: **301162 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301162 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 17:08 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Sample Id: **301163 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301163 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-20-06 17:26 Analyst: OKC01 Date Prep: Oct-20-06 11:00 Tech: MSN01
Seq Number: 33911

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Sample Id: **301168 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301168 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 14:28 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

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Four Seasons Food & Fuel #5

Sample Id: **301177 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301177 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 10:04 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **33882 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **33882 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-18-06 12:24 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33882

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	BRL	1.0	0.062	mg/L		1

*

Version: 1.011

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.9	4.9	100	60-140	

Lab Batch #: 33920 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.5	4.9	112	60-140	

Lab Batch #: 33920 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.7	100	60-140	

Lab Batch #: 33920 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.0	4.7	85	60-140	

Lab Batch #: 33920 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.9	4.8	102	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.5

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	4.8	96	60-140	

Lab Batch #: 33920 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.1	4.8	106	60-140	

Lab Batch #: 33920 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	4.8	110	60-140	

Lab Batch #: 33920 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	4.8	110	60-140	

Lab Batch #: 33920 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	4.8	110	60-140	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.5

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.8	4.7	102	60-140	

Lab Batch #: 33920 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.2	4.7	89	60-140	

Lab Batch #: 33920 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.0	4.2	95	60-140	

Lab Batch #: 33920 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.2	102	60-140	

Lab Batch #: 33920 **Sample:** 11059-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.1	4.9	104	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11059-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.5	4.9	112	60-140	

Lab Batch #: 33920 **Sample:** 301162 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	5.0	92	60-140	

Lab Batch #: 33920 **Sample:** 301162 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.2	5.0	104	60-140	

Lab Batch #: 33927 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	37.9	50.0	76	35-96	
Nitrobenzene-d5	35.8	50.0	72	22-108	
p-Terphenyl-d14	24.4	50.0	49	18-133	

Lab Batch #: 33927 **Sample:** 11059-002 / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	27.6	50.0	55	35-96	
Nitrobenzene-d5	37.9	50.0	76	22-108	
p-Terphenyl-d14	14.6	50.0	29	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33927 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	29.3	50.0	59	35-96	
Nitrobenzene-d5	38.0	50.0	76	22-108	
p-Terphenyl-d14	15.2	50.0	30	18-133	

Lab Batch #: 33927 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.8	50.0	80	35-96	
Nitrobenzene-d5	34.3	50.0	69	22-108	
p-Terphenyl-d14	31.9	50.0	64	18-133	

Lab Batch #: 33927 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.0	50.0	78	35-96	
Nitrobenzene-d5	34.5	50.0	69	22-108	
p-Terphenyl-d14	35.8	50.0	72	18-133	

Lab Batch #: 33927 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	41.8	50.0	84	35-96	
Nitrobenzene-d5	37.5	50.0	75	22-108	
p-Terphenyl-d14	28.8	50.0	58	18-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.5

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33927 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	41.7	50.0	83	35-96	
Nitrobenzene-d5	36.7	50.0	73	22-108	
p-Terphenyl-d14	27.8	50.0	56	18-133	

Lab Batch #: 33927 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	43.2	71.4	61	35-96	
Nitrobenzene-d5	22.1	71.4	31	22-108	
p-Terphenyl-d14	7.60	71.4	11	18-133	Z

Lab Batch #: 33927 **Sample:** 301168 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.1	50.0	72	30-104	
Nitrobenzene-d5	32.6	50.0	65	26-96	
p-Terphenyl-d14	43.4	50.0	87	59-125	

Lab Batch #: 33928 **Sample:** 11059-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.48	50.00	93	53-159	
Bromofluorobenzene	48.19	50.00	96	30-186	
Toluene-d8	49.82	50.00	100	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11059-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.71	50.00	89	53-159	
Bromofluorobenzene	47.82	50.00	96	30-186	
Toluene-d8	49.80	50.00	100	83-136	

Lab Batch #: 33928 **Sample:** 11059-002 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	43.53	50.00	87	53-159	
Bromofluorobenzene	48.40	50.00	97	30-186	
Toluene-d8	49.07	50.00	98	83-136	

Lab Batch #: 33928 **Sample:** 11059-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	43.06	50.00	86	53-159	
Bromofluorobenzene	47.58	50.00	95	30-186	
Toluene-d8	50.54	50.00	101	83-136	

Lab Batch #: 33928 **Sample:** 11059-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	48.22	50.00	96	53-159	
Bromofluorobenzene	48.56	50.00	97	30-186	
Toluene-d8	50.47	50.00	101	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11059-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.98	50.00	92	53-159	
Bromofluorobenzene	46.93	50.00	94	30-186	
Toluene-d8	49.34	50.00	99	83-136	

Lab Batch #: 33928 **Sample:** 11059-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	41.24	50.00	82	53-159	
Bromofluorobenzene	47.52	50.00	95	30-186	
Toluene-d8	49.44	50.00	99	83-136	

Lab Batch #: 33928 **Sample:** 11059-006 DL / DIL **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	49.41	50.00	99	53-159	
Bromofluorobenzene	47.39	50.00	95	30-186	
Toluene-d8	50.47	50.00	101	83-136	

Lab Batch #: 33928 **Sample:** 11059-007 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.57	50.00	91	53-159	
Bromofluorobenzene	47.62	50.00	95	30-186	
Toluene-d8	50.75	50.00	102	83-136	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/27/06 12:30

Work Order #: 11059

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11059-008 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.65	50.00	93	53-159	
Bromofluorobenzene	48.36	50.00	97	30-186	
Toluene-d8	49.94	50.00	100	83-136	

Lab Batch #: 33928 **Sample:** 301177 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.53	50.00	93	65-125	
Bromofluorobenzene	49.15	50.00	98	66-148	
Toluene-d8	50.38	50.00	101	86-127	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Accura Analytical Laboratory

EPA Qualifier Codes and Abbreviations used by AAL

BRL: This abbreviation indicates that the analytical results were Below the Reporting Limit (BRL).

MDL: The Method Detection Limit (MDL), as defined by 40 CFR Part 136, Appendix B, is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero.

U: The compound was analyzed for but not detected.

J: This indicates an estimated value. This flag is used in 3 incidences.

(1) When estimating a concentration for tentatively identified compounds where 1:1 response is assumed.
(2) When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the Contract Required Detection Limit (CRDL) – or Reporting Limit - but greater than the MDL.
(3) When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL – or Reporting Limit- but greater than MDL.

N: Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds. (TICs), where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" flag is not used.

C: This applies to pesticide result where the identification has been confirmed by GC/MS. Do **not** apply if this flag if analyte(s) were not confirmed. Used the laboratory-defined flag instead (see the X qualifier).

B: This is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The flag shall be used for a tentatively identified compound as well as for a positively identified target compound.

E: This identifies compounds whose concentrations exceed the upper level of the linear calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract should be diluted and re-analyzed.

Note: *For Total xylene, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately.*

X: Defined by the laboratory

Z: Surrogates/Spikes results exceeds quality control limits

ZZ: Surrogates/Spikes results exceeds quality control limits in multiple samples

***: Surrogate recoveries were diluted out

M: Manual integrations were necessary and an "m" qualifying code is present on the quantitation report next to the analyte.

D: This flag indicates that the identified compound is reported from the dilution run.

01-NOV-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 11096
Project Name :Four Seasons
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46419 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46419 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Larry Gwinn
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 11096

Client Project: Four Seasons / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 1 page case narrative, 1 Chain of Custody page, 2 analytical results pages, 1 QC surrogate recovery pages, and a list of common EPA qualifier codes used by AAL.

The following items were noted concerning this work order:

PAHs by SW8270C Notations:

1. Batch QC consists of the Blank Spike sample and Blank Spike Duplicate sample recoveries due to limited sample volume.

Chris Pittman — October 30, 2006
SVOC Analyst — Date

Project Manager's Notations:

This Case Narrative & Notations have been generated, reviewed, and edited by:

Larry M. Gwinn, Jr. — November 1, 2006
Laboratory Director — Date

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26-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 11066
Project Name :Four Seasons Food & Fuel #5
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46020 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46020 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Larry Swinn
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 11066

Client Project: Four Seasons Food & Fuel #5 / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 1 page case narrative, 1 Chain of Custody page, 13 analytical results pages, 8 QC surrogate recovery pages, and a list of common EPA qualifier codes used by AAL.

The following items were noted concerning this work order:

PAHs by SW8270C Notations:

1. MW-18 required dilution due to matrix interference, resulting in elevated detection limits.
2. The surrogate recoveries were outside the laboratory control limits for the samples, MW-17, MW-18, and MW-20. Sludge was observed in these samples indicating possible matrix interference.
3. Batch QC consists of the Blank Spike sample and Blank Spike Duplicate sample recoveries due to limited sample volume.

Chris Pittman — October 24, 2006
SVOC Analyst — Date

Anions by SW9056 Notations:

1. Matrix Spike and Matrix Spike Duplicate recoveries for Sulfate were outside the laboratory control limits due to matrix interference.

Lisandra J. Betancourt — October 24, 2006
IC Analyst — Date

Project Manager's Notations:

This Case Narrative & Notations have been generated, reviewed, and edited by:

Larry M. Gwinn, Jr. — October 26, 2006
Laboratory Director — Date

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ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

46019

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech Env.
Address: Cary NC
Results Sent to: (Client Contact): Joe Ghould
Email address:
Contact Phone #: 919.861.4314 Fax#: 4317
Project (Site) Name: ~~C.06.0~~ Four Seasons Food & Fuel #5
Project Number: C.06.08.045

Billing address:
P.O.# (if required):

For Laboratory Use Only:
QC Level: 1 2 3 4 CLP-Like
Custody Seal(s):____ Y N Tape
AAL LIMS System ID:
Receiver's Initials/Temp:
AAL Work Order #

Preservation Code: (See below)

Sampler(s): (signature): Van T. Chisholm
Sampler(s): (printed): Van T. Chisholm

Analysis Requested

Line No.	Sample ID #	Sample Date / Time (06')	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX, MTBE, Lead Scavengers	EDB	methanol	lead	Nitrates/sulfates Fe iron	PAHs							Field Comments:	AAL Lab ID: 11066
1	MW#15	10.18/1000		X	GW	North Augusta, SC	9	2	2	2	1	1	1								001
2	17	1100		X			9	2	2	2	1	1	1								002
3	18	1200		X			9	2	2	2	1	1	1								003
4	19	1300		X			9	2	2	2	1	1	1*							*PAH bottle broken in shipment	004
5	MW#-20	10.18/1400		X	GW		9	2	2	2	1	1	1								005
6																					–
7																					–
8																					–
9																					–
10																					–

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
Van T. Chisholm	10.18.06/1800	[illegible]	10/19/06 0953	Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	Date / Time	4) Received By:	Date / Time	Turnaround Time Requested:

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

ACCURA ANALYTICAL LABORATORIES, INC.
STANDARD TERMS AND CONDITIONS

1.0. General

1.1 Accura Analytical Labs, Inc. "AAL" is the laboratory being contracted. The "Client " is our valued Client. Our agreement with the Client is made up of these Standard Terms, any written proposal or confirmation letter, and our pricing documents.

2.0 AAL General Responsibilities

2.1 AAL agrees to provide the Client professional environmental and geotechnical services. AAL will provide written reports containing analytical results produced in conformance with agreed upon testing criteria. In performing our services, AAL will use that degree of care and skill ordinarily exercised under similar circumstances by reputable members of our profession.

2.2 Tests and observations will be conducted in accordance with appropriate test procedures and laboratory protocols or approved variations. If the Client specifies tests that vary from AAL's standard or recommended procedures, the Client agrees to hold AAL harmless from all claims, damages, and expenses arising from Client's direction.

2.3 AAL will assign a Project Manager who will be authorized to serve as the Clients single point of contact and make decisions relating to the Client's project.

2.4 AAL will not release information regarding our services for the Client or any information that AAL received from the Client unless authorized in writing, except for information that is in the public domain and except as we are required by law. AAL agrees to comply with more restrictive confidentiality requirements, if requested in writing.

3.0 Clients General Responsibilities

3.1 Likewise, the Client will not use AAL's name and/or data in any manner, which might cause harm to the company's reputation and/or business. Under no circumstances is the name of AAL, to be published, either alone or in association will that of any other party, without prior written approval from AAL.

3.2 The Client will assign a representative(s) who has authority to transmit instructions, receive information, and make decisions relative to AAL's work.

3.3 The Client will provide warnings on all samples that are suspected of containing chemical or radioactive hazards. This information shall be given to AAL in writing as a part of the order prior to shipment of the samples. Copies shall also accompany the samples.

3.4 Clients should provide specific written instructions about test conditions accompanying the Chain of Custody. The conditions would include such items as confining pressure, desired density, and moisture content. In the absence of specific information, AAL will run the test based on experience and best judgement.

4.0 Delivery and Acceptance of Samples

4.1 Until AAL accepts delivery of samples by notation on a chain-of -custody document or otherwise in writing accepts the Client's samples, AAL is not responsible for damage or loss to samples.

4.2 The Client agrees that samples delivered after 10:30 AM or within half of the holding time expired, may be subject to a rush fee, if required. In the event the samples are received after 10:30 AM, the turnaround time will begin the following working day. Turnaround times for requested analyses should be stated in working days.

4.3 Samples remain the property of the Client at all times. Samples will be disposed by AAL *30* days after the report date, unless prior written arrangement has been made with AAL to return the materials to the Client at the Client's expense. Used Geotechnical samples will be disposed of 30 days after the report date. Unused materials will be held for 90 days before disposal. All samples classified as environmental or mixed wastes will be returned to the Client unless prior written arrangements have been made with AAL.

4.4 Regardless of a prior acceptance, AAL may refuse or return samples if we determine that the samples present a risk to health, safety, or the environment, or that we are not authorized to accept them. If AAL does not accept a sample, the Client will immediately have it properly removed from AAL facilities.

5.0 Changes to Orders

5.1 Only designated representatives for each order are authorized to act regarding changes to an order. AAL will only accept changes to an order from the Client's designated representative(s).

5.2 AAL will notify the Client of any activity that AAL regards as a change to the terms and conditions of an order. Depending upon the nature of the change, AAL may request a revised Client Confirmation Letter or contract amendment.

5.3 The Client will respond to this notification and any request for a revised Client Confirmation Letter or contract amendment within reasonable time to allow analyses to be completed within the holding time.

5.4 Either party may terminate orders in writing. AAL shall be compensated for expenses incurred and for services that are already in process and cannot be reasonably avoided.

5.5 If requested and approved by the Client, AAL will rerun a sample. If analytical results fall within plus or minus (20) percent of the original results, the Client agrees to pay AAL for the reanalysis.

6.0 Reports and Records

6.1 Unless requested otherwise, AAL will provide one copy of each report. AAL will retain analytical data for three years and financial data for three years following a transmittal of AAL's final report.

6.2 If the Client does not pay for our services as agreed, the Client agrees that AAL may retain all reports and work not yet delivered and reserves the right to refuse further orders and/or samples.

7.0 Compensation

7.1 AAL pricing is predicated upon the Client's acceptance of the conditions and allocations of risks and responsibilities described in this Agreement. The Client agrees to pay for services as presented in AAL's proposal or Client confirmation letter and accepted by the Client, or according to AAL's current pricing if there is no other written pricing agreement.

7.2 The Client agrees to pay invoices within 30 days. Past due amounts are subject to a late payment penalty of one and one-half (1.5%) percent per month, but not to exceed the maximum rate allowed by law. The Client shall pay attorneys' fees and other costs incurred in the collecting past due amounts.

7.3 The Client's obligation to pay for the services contracted is in no way dependent or conditioned upon the Client's ability to obtain financing, approval of governmental or regulatory agencies, or upon the Client's successful completion of the project.

7.4 The Client agrees to compensate AAL for our services and normally reimbursable expenses if AAL is required to respond to legal process related to AAL services for the Client. Compensated services include hourly charges for all personnel involved in the response and attorney fees reasonably incur in obtaining advice concerning the response, the preparation of the testifier, and appearances related to the legal process.

8.0 Risk Allocation, Disputes, and Damages

8.1 Many risks affect AAL by virtue of entering into this Agreement to provide services. For the Client to obtain the benefit of a fee which includes a reasonable allowance for dealing with our liability, the Client agrees that AAL's aggregate liability, for our negligent acts and omissions and for non-intentional breach, will not exceed the fee paid for AAL services and the Client agrees to indemnify us from all liabilities to others in excess of that amount. The limitation does not apply to losses arising from our gross negligence or intentional breaches of contract.

8.2 AAL will not be liable to the Client for damages unless notified within one year of the date of the completion of our services. In no event will AAL be liable unless notified of the discovery of the claimed negligent act, error, omission or breach within 30 days of the date of its discovery and unless the Client has given AAL an opportunity to investigate and to recommend ways of mitigating the Client's damages.

8.3 If it is claimed that AAL did not complete an acceptable analysis, the Client will request further review and acceptance of the completed work by the governing regulatory agency and used the Client's best efforts to obtain that acceptance. AAL will assist the Client at our cost.

8.4 The Client and AAL agree that disputes will be submitted to "Alternative Dispute Resolution" (ADR) as a condition precedent to litigation and other remedies provided by law. Each party agrees to exercise good faith efforts to resolve disputes through mediation unless we both agree upon another ADR procedure. The laws of Georgia shall govern all disputes.

8.5 *AAL is not responsible for usage of test results or interpretation of the data for design or engineering applications.*

9.0 Indemnities

9.1 AAL will indemnify and hold the Client harmless from and against demands, damages, and expenses caused by AAL negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom AAL is legally responsible. The Client will indemnify and hold AAL harmless from and against demands, damages, and expenses caused by the Client's negligent acts and omissions and breach of contract and by the negligent acts and omissions and breach of contract of persons for whom the Client is legally responsible.

10.0 Miscellaneous Provisions

10.1 This Agreement constitutes the entire agreement between the Client and AAL, and it supersedes all prior agreements. Any term, condition, prior course of dealing, course of performance, understanding, purchase order conditions, or other agreement purporting to modify, very supplement, or explain any provision of this agreement is of no effect until placed in writing and signed by both parties subsequent to the date of this agreement. In no event will the printed terms or conditions stated in a purchase or work order, other than an agreed upon Order, be considered a part of this Agreement, even if the document is signed by both of us.

10.2 AAL may subcontract laboratory procedures as AAL deems necessary to meet AAL obligations to Client.

10.3 Neither Client nor AAL shall have any liability for nonperformance caused in whole or in part by causes beyond our reasonable control. Such causes include but are not limited to Acts of God, civil unrest and war, labor unrest and strikes, acts of authorities.

10.4 If any of the provisions of this Agreement are held to be invalid or unenforceable in any respect, the remaining terms shall be in full effect and shall be construed as if the invalid or unenforceable matters were never included in it. No waiver of any default shall be a waiver of any future default.

Certificate of Analytical Results 11066

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-15** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-001** Date Collected: **Oct-17-06 10:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-20-06 15:06 Analyst: OKC01 Date Prep: Oct-20-06 14:52 Tech: OK001
Seq Number: 33908

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 21:51 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-23-06 16:40 Analyst: OKC01 Date Prep: Oct-23-06 10:00 Tech: MSN01
Seq Number: 33942

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.101	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-23-06 13:06 Analyst: MDS01 Date Prep: Oct-23-06 12:30 Tech: MDS01
Seq Number: 33929

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.004	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 12:39 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.5	0.10	0.027	mg/L		1
Sulfate	14808-79-8	13	1.0	0.062	mg/L		1

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Version: 1.009

Certificate of Analytical Results 11066

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-15** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-001** Date Collected: **Oct-17-06 10:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 17:52 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 17:38 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	13	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	32	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Version: 1.009

Certificate of Analytical Results 11066

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-17** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-002** Date Collected: **Oct-17-06 11:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-20-06 15:32 Analyst: OKC01 Date Prep: Oct-20-06 14:52 Tech: OK001
Seq Number: 33908

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 22:09 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.018	0.0044	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-23-06 16:46 Analyst: OKC01 Date Prep: Oct-23-06 10:00 Tech: MSN01
Seq Number: 33942

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0194	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-23-06 13:08 Analyst: MDS01 Date Prep: Oct-23-06 12:30 Tech: MDS01
Seq Number: 33929

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.006	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 12:56 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.4	0.10	0.027	mg/L		1
Sulfate	14808-79-8	7.4	1.0	0.062	mg/L		1

*

Version: 1.009

Certificate of Analytical Results 11066

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-17** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-002** Date Collected: **Oct-17-06 11:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 18:13 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 18:04 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Certificate of Analytical Results 11066

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-18** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-003** Date Collected: **Oct-17-06 12:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-20-06 15:38 Analyst: OKC01 Date Prep: Oct-20-06 14:52 Tech: OK001
Seq Number: 33908

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 22:26 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.013	0.0032	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-23-06 16:52 Analyst: OKC01 Date Prep: Oct-23-06 10:00 Tech: MSN01
Seq Number: 33942

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.169	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-23-06 16:13 Analyst: MDS01 Date Prep: Oct-23-06 12:30 Tech: MDS01
Seq Number: 33929

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.010	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 13:12 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.75	0.10	0.027	mg/L		1
Sulfate	14808-79-8	13	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-18** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-003** Date Collected: **Oct-17-06 12:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 18:33 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	50	6.6	ug/L		5
2-Methylnaphthalene	91-57-6	BRL	50	6.0	ug/L		5
Acenaphthene	83-32-9	BRL	50	7.2	ug/L		5
Acenaphthylene	208-96-8	BRL	50	7.4	ug/L		5
Anthracene	120-12-7	BRL	50	10	ug/L		5
Benzo(a)anthracene	56-55-3	BRL	50	9.5	ug/L		5
Benzo(a)pyrene	50-32-8	BRL	50	9.0	ug/L		5
Benzo(b)fluoranthene	205-99-2	BRL	50	9.9	ug/L		5
Benzo(g,h,i)perylene	191-24-2	BRL	50	9.9	ug/L		5
Benzo(k)fluoranthene	207-08-9	BRL	50	14	ug/L		5
Chrysene	218-01-9	BRL	50	10	ug/L		5
Dibenz(a,h)anthracene	53-70-3	BRL	50	9.2	ug/L		5
Fluoranthene	206-44-0	BRL	50	9.1	ug/L		5
Fluorene	86-73-7	BRL	50	7.8	ug/L		5
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	50	9.4	ug/L		5
Naphthalene	91-20-3	BRL	50	7.6	ug/L		5
Phenanthrene	85-01-8	BRL	50	10	ug/L		5
Pyrene	129-00-0	BRL	50	12	ug/L		5

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 18:30 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-19** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-004** Date Collected: **Oct-17-06 13:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-20-06 15:43 Analyst: OKC01 Date Prep: Oct-20-06 14:52 Tech: OK001
Seq Number: 33908

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 22:44 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-23-06 16:14 Analyst: OKC01 Date Prep: Oct-23-06 10:00 Tech: MSN01
Seq Number: 33942

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0164	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-23-06 13:22 Analyst: MDS01 Date Prep: Oct-23-06 12:30 Tech: MDS01
Seq Number: 33929

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.005	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 13:29 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	1.2	0.10	0.027	mg/L		1
Sulfate	14808-79-8	8.1	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-19** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-004** Date Collected: **Oct-17-06 13:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 18:58 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	9.7	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-20** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-005** Date Collected: **Oct-17-06 14:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-20-06 16:04 Analyst: OKC01 Date Prep: Oct-20-06 14:52 Tech: OK001
Seq Number: 33908

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 23:02 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-23-06 17:29 Analyst: OKC01 Date Prep: Oct-23-06 10:00 Tech: MSN01
Seq Number: 33942

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0338	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-23-06 13:20 Analyst: MDS01 Date Prep: Oct-23-06 12:30 Tech: MDS01
Seq Number: 33929

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 13:45 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.0	0.10	0.027	mg/L		1
Sulfate	14808-79-8	9.6	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **MW-20** Matrix: **WATER** % Moisture:
Lab Sample Id: **11066-005** Date Collected: **Oct-17-06 14:00** Date Received: **Oct-19-06 09:53**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 18:53 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 19:24 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **301160 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301160 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-20-06 14:46 Analyst: OKC01 Date Prep: Oct-20-06 14:52 Tech: OK001
Seq Number: 33908

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Sample Id: **301162 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301162 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-20-06 17:08 Analyst: BDW01 Date Prep: Oct-20-06 09:00 Tech: BPR01
Seq Number: 33920

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Sample Id: **301168 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301168 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-23-06 14:28 Analyst: CTP01 Date Prep: Oct-19-06 15:15 Tech: CW01
Seq Number: 33927

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **301169 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301169 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-23-06 15:52 Analyst: OKC01 Date Prep: Oct-23-06 10:00 Tech: MSN01
Seq Number: 33942

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Sample Id: **301177 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301177 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-23-06 10:04 Analyst: MJL01 Date Prep: Oct-23-06 08:00 Tech: MJL01
Seq Number: 33928

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **301178 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301178 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-23-06 12:54 Analyst: MDS01 Date Prep: Oct-23-06 12:30 Tech: MDS01
Seq Number: 33929

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel #5

Sample Id: **33936 BLK**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **33936 BLK**	Date Collected:	Date Received:
Sample Depth:		

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 12:07 Analyst: LJB01 Date Prep: Tech: LJB01

Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	BRL	1.0	0.062	mg/L		1

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Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Work Order #: 11066

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11058-001 MS / MS **Batch:** 1 **Matrix:** W

Units: ug/L

SURROGATE RECOVERY STUDY					
EDB / DBCP by SW8011 **Analytes**	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	6.2	5.1	122	60-140	

Lab Batch #: 33920 **Sample:** 11058-001 MS / MS **Batch:** 1 **Matrix:** W

Units: ug/L

SURROGATE RECOVERY STUDY					
EDB / DBCP by SW8011 **Analytes**	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	6.2	5.1	122	60-140	

Lab Batch #: 33920 **Sample:** 11058-001 MSD / MSD **Batch:** 1 **Matrix:** W

Units: ug/L

SURROGATE RECOVERY STUDY					
EDB / DBCP by SW8011 **Analytes**	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	6.8	5.3	128	60-140	

Lab Batch #: 33920 **Sample:** 11058-001 MSD / MSD **Batch:** 1 **Matrix:** W

Units: ug/L

SURROGATE RECOVERY STUDY					
EDB / DBCP by SW8011 **Analytes**	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	6.9	5.3	130	60-140	

Lab Batch #: 33920 **Sample:** 11066-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

SURROGATE RECOVERY STUDY					
EDB / DBCP by SW8011 **Analytes**	**Amount Found [A]**	**True Amount [B]**	**Recovery %R [D]**	**Control Limits %R**	**Flags**
4-Bromofluorobenzene	4.3	4.9	88	60-140	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Work Order #: 11066

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11066-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.9	96	60-140	

Lab Batch #: 33920 **Sample:** 11066-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.5	96	60-140	

Lab Batch #: 33920 **Sample:** 11066-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.5	4.5	100	60-140	

Lab Batch #: 33920 **Sample:** 11066-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	2.8	3.2	88	60-140	

Lab Batch #: 33920 **Sample:** 11066-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	3.1	3.2	97	60-140	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Work Order #: 11066

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 11066-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.1	5.0	82	60-140	

Lab Batch #: 33920 **Sample:** 11066-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	5.0	106	60-140	

Lab Batch #: 33920 **Sample:** 11066-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.8	98	60-140	

Lab Batch #: 33920 **Sample:** 11066-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.9	4.8	102	60-140	

Lab Batch #: 33920 **Sample:** 301162 BKS / BKS **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	5.0	94	60-140	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Work Order #: 11066

Project ID: C-06-08-045

Lab Batch #: 33920 **Sample:** 301162 BKS / BKS **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.3	5.0	106	60-140	

Lab Batch #: 33920 **Sample:** 301162 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	5.0	92	60-140	

Lab Batch #: 33920 **Sample:** 301162 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.2	5.0	104	60-140	

Lab Batch #: 33920 **Sample:** 301162 BSD / BSD **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.8	5.0	96	60-140	

Lab Batch #: 33920 **Sample:** 301162 BSD / BSD **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	5.2	5.0	104	60-140	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Project ID: C-06-08-045

Work Order #: 11066

Lab Batch #: 33927 **Sample:** 11066-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	37.4	50.0	75	35-96	
Nitrobenzene-d5	32.0	50.0	64	22-108	
p-Terphenyl-d14	9.72	50.0	19	18-133	

Lab Batch #: 33927 **Sample:** 11066-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.4	50.0	73	35-96	
Nitrobenzene-d5	38.0	50.0	76	22-108	
p-Terphenyl-d14	8.63	50.0	17	18-133	Z

Lab Batch #: 33927 **Sample:** 11066-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	13.1	50.0	26	35-96	Z
Nitrobenzene-d5	23.2	50.0	46	22-108	
p-Terphenyl-d14	6.93	50.0	14	18-133	Z

Lab Batch #: 33927 **Sample:** 11066-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	34.3	50.0	69	35-96	
Nitrobenzene-d5	39.5	50.0	79	22-108	
p-Terphenyl-d14	5.55	50.0	11	18-133	Z

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Work Order #: 11066

Project ID: C-06-08-045

Lab Batch #: 33927 **Sample:** 301168 BKS / BKS **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.1	50.0	78	30-104	
Nitrobenzene-d5	34.7	50.0	69	26-96	
p-Terphenyl-d14	42.9	50.0	86	59-125	

Lab Batch #: 33927 **Sample:** 301168 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.1	50.0	72	30-104	
Nitrobenzene-d5	32.6	50.0	65	26-96	
p-Terphenyl-d14	43.4	50.0	87	59-125	

Lab Batch #: 33927 **Sample:** 301168 BSD / BSD **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	39.5	50.0	79	30-104	
Nitrobenzene-d5	34.9	50.0	70	26-96	
p-Terphenyl-d14	42.3	50.0	85	59-125	

Lab Batch #: 33928 **Sample:** 11059-001 MS / MS **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.80	50.00	90	53-159	
Bromofluorobenzene	49.34	50.00	99	30-186	
Toluene-d8	51.20	50.00	102	83-136	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Work Order #: 11066

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11059-001 MSD / MSD **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	43.61	50.00	87	53-159	
Bromofluorobenzene	48.80	50.00	98	30-186	
Toluene-d8	51.02	50.00	102	83-136	

Lab Batch #: 33928 **Sample:** 11066-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	42.22	50.00	84	53-159	
Bromofluorobenzene	47.05	50.00	94	30-186	
Toluene-d8	49.26	50.00	99	83-136	

Lab Batch #: 33928 **Sample:** 11066-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	47.86	50.00	96	53-159	
Bromofluorobenzene	46.79	50.00	94	30-186	
Toluene-d8	51.41	50.00	103	83-136	

Lab Batch #: 33928 **Sample:** 11066-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	49.76	50.00	100	53-159	
Bromofluorobenzene	47.72	50.00	95	30-186	
Toluene-d8	49.48	50.00	99	83-136	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel #5

Report Date: 10/26/06 12:35

Work Order #: 11066

Project ID: C-06-08-045

Lab Batch #: 33928 **Sample:** 11066-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	42.43	50.00	85	53-159	
Bromofluorobenzene	48.49	50.00	97	30-186	
Toluene-d8	47.53	50.00	95	83-136	

Lab Batch #: 33928 **Sample:** 11066-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.67	50.00	89	53-159	
Bromofluorobenzene	50.01	50.00	100	30-186	
Toluene-d8	49.31	50.00	99	83-136	

Lab Batch #: 33928 **Sample:** 301177 BKS / BKS **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.40	50.00	93	65-125	
Bromofluorobenzene	48.66	50.00	97	66-148	
Toluene-d8	51.93	50.00	104	86-127	

Lab Batch #: 33928 **Sample:** 301177 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	46.53	50.00	93	65-125	
Bromofluorobenzene	49.15	50.00	98	66-148	
Toluene-d8	50.38	50.00	101	86-127	

* Surrogate outside of Laboratory QC limits

** Surrogates outside limits; data and surrogates confirmed by reanalysis

*** Poor recoveries due to dilution

Surrogate Recovery [D] = 100 * A / B

All results are based on MDL and validated for QC purposes.

Z = Surrogate Recovery exceeded the Labortatory QC limits

Accura Analytical Laboratory

EPA Qualifier Codes and Abbreviations used by AAL

BRL: This abbreviation indicates that the analytical results were Below the Reporting Limit (BRL).

MDL: The Method Detection Limit (MDL), as defined by 40 CFR Part 136, Appendix B, is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero.

U: The compound was analyzed for but not detected.

J: This indicates an estimated value. This flag is used in 3 incidences.

(1) When estimating a concentration for tentatively identified compounds where 1:1 response is assumed.
(2) When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the Contract Required Detection Limit (CRDL) – or Reporting Limit - but greater than the MDL.
(3) When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL – or Reporting Limit- but greater than MDL.

N: Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds. (TICs), where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" flag is not used.

C: This applies to pesticide result where the identification has been confirmed by GC/MS. Do **not** apply if this flag if analyte(s) were not confirmed. Used the laboratory-defined flag instead (see the X qualifier).

B: This is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The flag shall be used for a tentatively identified compound as well as for a positively identified target compound.

E: This identifies compounds whose concentrations exceed the upper level of the linear calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract should be diluted and re-analyzed.

Note: *For Total xylene, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately.*

X: Defined by the laboratory

Z: Surrogates/Spikes results exceeds quality control limits

ZZ: Surrogates/Spikes results exceeds quality control limits in multiple samples

***: Surrogate recoveries were diluted out

M: Manual integrations were necessary and an "m" qualifying code is present on the quantitation report next to the analyte.

D: This flag indicates that the identified compound is reported from the dilution run.

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NON-HAZARDOUS WASTE MANIFEST	1. Generator ID Number	2. Page 1 of	3. Emergency Response Phone	4. Waste Tracking Number
	CESQG	1	919-522-1164	09393

5. Generator's Name and Mailing Address
CONSULTECH ENVIRONMENTAL-FOUR SEASONS
530 PYLON DRIVE
RALEIGH, NC 27606
Generator's Phone: 000 000-0000

Generator's Site Address (if different than mailing address)
Four Seasons Fuel + Food
2031 Pisgah Road
N. Augusta, SC 29841
U.S. EPA ID Number

6. Transporter 1 Company Name
U.S. EPA ID Number

7. Transporter 2 Company Name
U.S. EPA ID Number

8. Designated Facility Name and Site Address
CMEG, INC.
917 INDUSTRIAL ROAD
WALTERBORO, SC 29488
Facility's Phone: (843) 538-0131
U.S. EPA ID Number: SCR000003442

9a. HM	9b. U.S. DOT Description (including Proper Shipping Name, Hazard Class, ID Number, and Packing Group (if any))	10. Containers No.	10. Containers Type	11. Total Quantity	12. Unit Wt./Vol.
	1. SOIL, #12083, NON HAZARDOUS/NON REGULATED	5	DM	275	G
	2.				
	3.				
	4.				

Special Handling Instructions and Additional Information
A: 12083
B:
C:
D:

14. GENERATOR'S CERTIFICATION: I certify the materials described above on this manifest are not subject to federal regulations for reporting proper disposal of Hazardous Waste.
Generator's/Offeror's Printed/Typed Name: Scott D Bridgeman
Signature
Month Day Year

15. International Shipments ☐ Import to U.S. ☐ Export from U.S. Port of entry/exit:
Transporter Signature (for exports only): Date leaving U.S.:

16. Transporter Acknowledgment of Receipt of Materials
Transporter 1 Printed/Typed Name — Signature — Month Day Year
Transporter 2 Printed/Typed Name — Signature — Month Day Year

17. Discrepancy
17a. Discrepancy Indication Space ☐ Quantity ☐ Type ☐ Residue ☐ Partial Rejection ☐ Full Rejection
Manifest Reference Number:
17b. Alternate Facility (or Generator) — U.S. EPA ID Number
Facility's Phone:
17c. Signature of Alternate Facility (or Generator) — Month Day Year

18. Designated Facility Owner or Operator: Certification of receipt of hazardous materials covered by the manifest except as noted in Item 17a
Printed/Typed Name — Signature — Month Day Year

GENERATOR — INT'L — TRANSPORTER — DESIGNATED FACILITY

DESIGNATED FACILITY TO GENERATOR

William Reynolds

From: VChisho@aol.com
Sent: Tuesday, October 17, 2006 7:30 PM
To: reynolds@consultechenv.com
Cc: jghiold@consultechenv.com
Subject: C-06-08-045

FOUR SEASONS FOOD & FUEL #5 NORTH AUGUSTA,SC

MW# 1 WELL DEPTH 25' WATER 24.51' LPH SKIM ON TOP OF WATER NO SAPMLE

MW#	WATER	WELL	DO	PH	COND	TEMP
2r	29.11	30.6	3.0	7.7	101	19
3	25.27	27	6.1	5.1	070	22
4	25.02	27	5.1	6.4	080	22
5	25.02	27	6.1	5.4	060	24
6	13.51	19	2.9	5.4	050	24
7	18.60	19	4.2	5.8	085	25
8	7.50	13	0.5	5.7	150	23
9	15.61	20	5.2	5.5	060	22
10	24.39	30	8.2	8.2	360	23
11	24.19	30	1.0	8.2	070	22
12	22.10	30	9.0	7.5	150	21
13	21.74	29	3.3	6.9	140	21
14	16.95	23	3.2	7.2	160	23
16	9.60	14	2.5	7.2	210	22
PW-1	25.22	46	5.9	5.7	340	21
DW-1	15.40	56	6.3	6.2	060	23
DW-2	9.23	55	1.6	7.2	1000	21
SW-1	SAMPLE TAKEN					

No virus found in this incoming message.
Checked by AVG Free Edition.
Version: 7.1.408 / Virus Database: 268.13.4/477 - Release Date: 10/16/2006

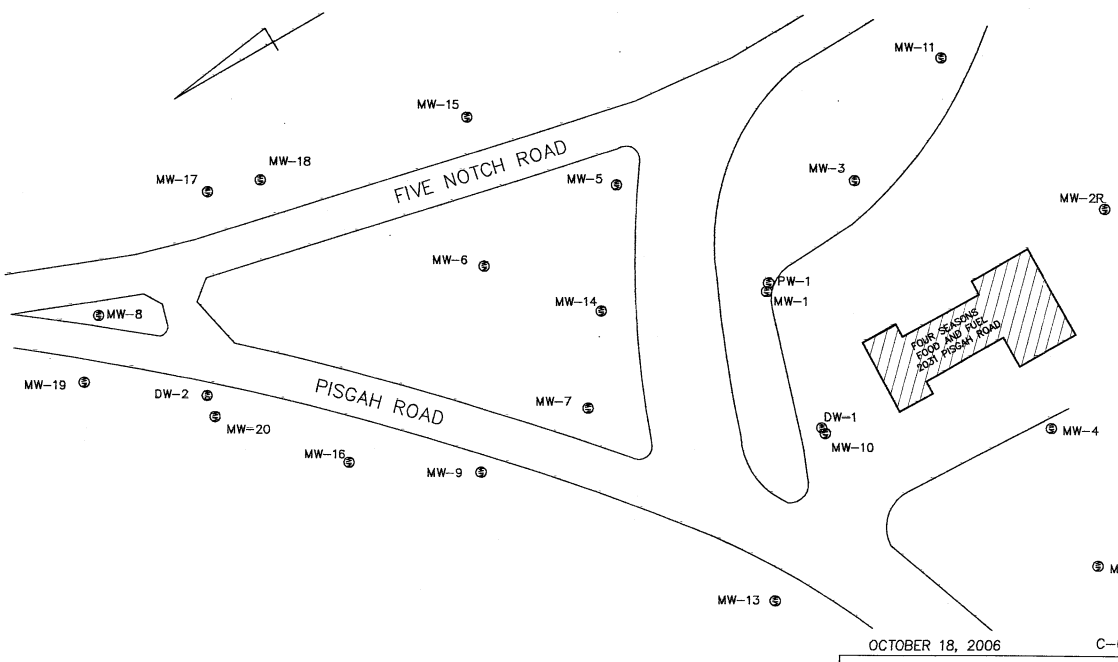
William Reynolds

From: VChisho@aol.com
Sent: Wednesday, October 18, 2006 9:37 PM
To: reynolds@consultechenv.com
Cc: jghiold@consultechenv.com
Subject: C-06-08-045

C-06-08-045 FOUR SEASONS

MW#	WATER	WELL	DO	PH	COND	TEMP
15	6.43	14.6	2.8	6.6	050	22
17	2.77	13	5.5	7.1	040	21
18	4.36	14	3.6	7.1	070	21
19	7.54	14	5.3	7.3	060	22
20	8.48	14	10	7.9	080	22

–
No virus found in this incoming message.
Checked by AVG Free Edition.
Version: 7.1.408 / Virus Database: 268.13.5/482 - Release Date: 10/18/2006



MW#	TOP OF CASING
MW-1	98.37'
MW-2R	101.75'
MW-3	99.70'
MW-4	100.37'
MW-5	85.55'
MW06	83.48'
MW-7	90.89'
MW-8	71.39'
MW-9	86.69'
MW-10	97.87'
MW-11	98.96'
MW-12	96.72'
MW-13	94.97'
MW-14	88.52'
MW-15	77.06'
MW16	86.69
MW-17	88.79'
MW-18	89.65'
MW20	75.17'
MW-19	70.93'
DW-1	98.29'
DW-2	75.18'
PW-1	98.41'

OCTOBER 18, 2006 C-06-08-045

GRAPHIC SCALE
0' 60' 120'

1" = 60'

ENVIRONMENTAL SURVEY PREPARED FOR

FOUR SEASON'S FOOD AND FUEL #5
2031 PISGAH ROAD
NORTH AUGUSTA, SC 20841
AIKEN COUNTY

BAXTER LAND SURVEYING CO., INC.
533 HARDEN STREET COLUMBIA, SC 29205
803-252-8564

ROSSER W. BAXTER JR. SCPLS NO. 7613

UST# 00120
Four Seasons, 06-08-045
2031 Pisgah Rd, North Augusta, SC

1. Timothy & Edna Tinsley
   2108 Pisgah Rd.
   North Augusta, SC 29841
   Parcel # 005-19-04-015
   (803) 279-9340

2. George O. McKie, Jr.
   1025 W Martintown Rd.
   North Augusta, SC 29841
   Parcel # 005-19-06-003, Parcel # 005-19-06-002
   Parcel # 005-19-06-005
   (803) 279-1581

3. Thomas & Diana Spillane
   222 Amy Circle
   North Augusta, SC 29841
   Parcel # 005-19-02-022
   (803) 441-0026

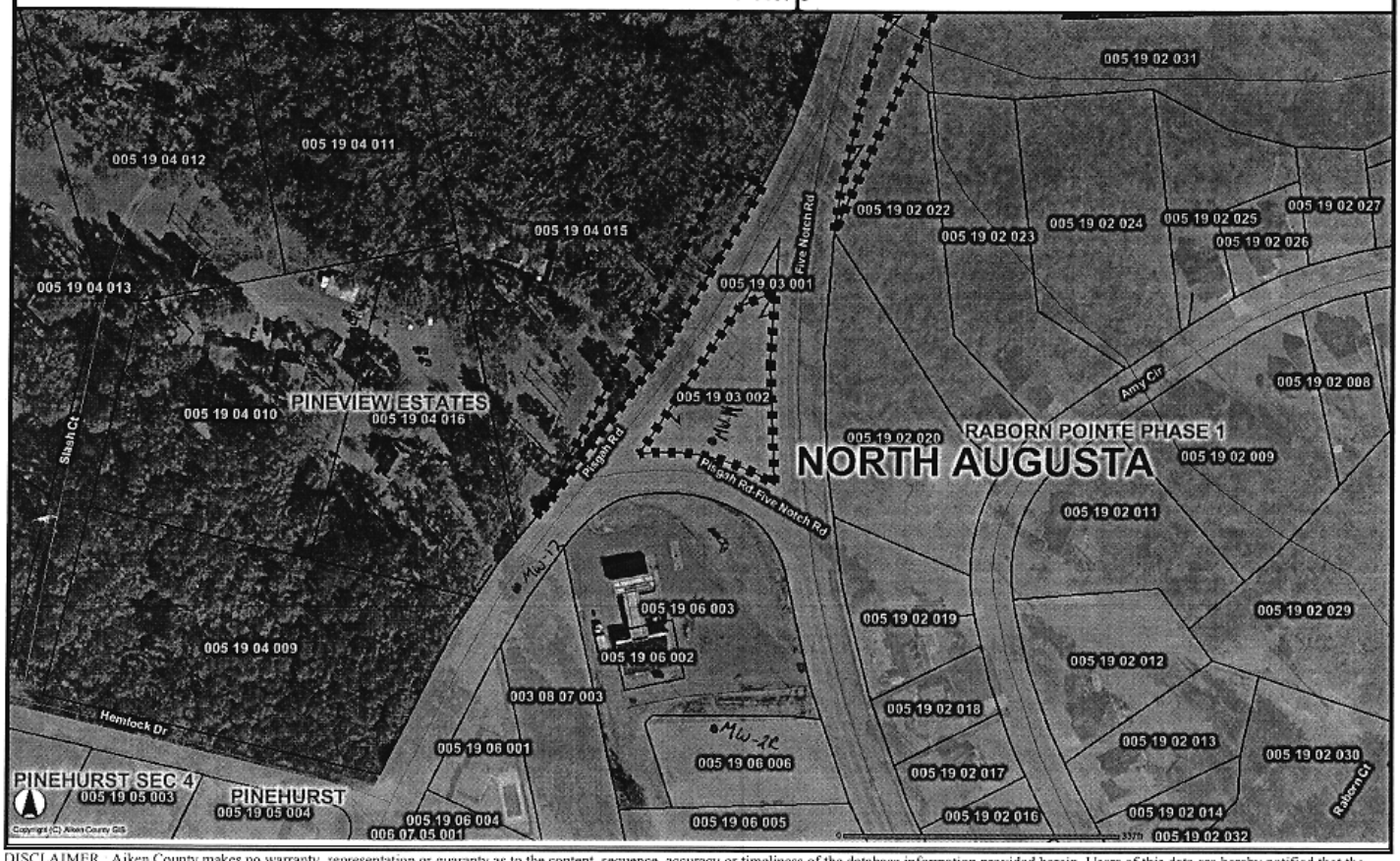
4. City of North Augusta
   Engineering & Sanitation Services
   P.O. Box 6400
   North Augusta, SC 29861
   Parcel # 005-19-03-002, Parcel # 003-08-07-003

5. Percy & Deloris Price
   C/o Shantrice Cato
   216 Amy Circle
   North Augusta, SC 29841
   (803) 441-8230
   Parcel # 005-19-02-019

6. W. E. Wanninger
   1556 Stevens Creek Dr.
   North Augusta, SC 29860
   (803) 278-3031
   Parcel # 005-19-06-006

   L & L Construction and Dev Co
   Amy Circle
   Parcel # 005-19-02-020
   -No Exact Match; Property likely 220 Amy Circle

Parcel Map



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ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 10965

Client Project: Four Seasons Food & Fuel / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 1 page case narrative, 1 Chain of Custody page, 3 analytical results pages, and 2 QC surrogate recovery pages.

The following items were noted concerning this work order:

Receiving Notations:

1. Upon receipt, air bubbles greater than ¼ inch were noted in all vials submitted for Select VOCs by SW8260B analysis in GW-4.

Michael F. Broome — Receiving
September 29, 2006 — Date

Select VOCs by SW8260B Notations:

1. The pH of each sample was <2.0 prior to analysis.

Mei Liang — Senior Analyst
October 2, 2006 — Date

These Case Narrative Notations have been generated, reviewed, and edited by:

Brian Burns
Client Services
October 2, 2006 — Date

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NELAP Accredited Certificate #-E87429 - Effective 7/01/06, Expires 6/30/07

46419

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071

Phone # (770) 449-8800 Fax # (770) 449-5477

CHAIN OF CUSTODY

Company Name: Consultech Env. Inc

Address: P.O. Box 5611 Cary NC 27512

Results Sent to: (Client Contact): Joe Ghiold

Email address:

Contact Phone #: 1919 861 9316 Fax#: 1919 861 9317

Project (Site) Name: Four Seasons

Project Number: C-06-08-045

Billing address:

P.O.# (if required):

For Laboratory Use Only: AAL LIMS System ID:

QC Level: 1 2 3 4 CLP-Like Receiver's Initials/Temp:

Custody Seal(s): Y N Tape AAL Work Order #

Preservation Code: (See below)

Sampler(s): (signature): [signature]

Sampler(s): (printed): Bobby McAllister

Analysis Requested: PAH's

Field Comments:

Line No.	Sample ID #	Sample Date / Time	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	PAH's	AAL Lab ID: 11096
1	MW-19	10/24/06 12:00		X	GW		1	X	001
2									–
3									–
4									–
5									–
6									–
7									–
8									–
9									–
10									–

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
[signature]	10/24/06 15:30	[signature]	10/25/06 0948	Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	Date / Time	4) Received By:	Date / Time	Turnaround Time Requested:
				Standard

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 11096

Consultech Environmental, Inc., Cary, NC

Four Seasons

Sample Id: **MW-19** Matrix: **WATER** % Moisture:
Lab Sample Id: **11096-001** Date Collected: **Oct-24-06 12:00** Date Received: **Oct-25-06 09:48**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-27-06 21:14 Analyst: CTP01 Date Prep: Oct-25-06 17:30 Tech: CW01
Seq Number: 34007

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

*

Version: 1.000

Certificate of Analytical Results 11096

Consultech Environmental, Inc., Cary, NC

Four Seasons

Sample Id: **301230 BLK**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **301230 BLK**	Date Collected:	Date Received:
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-27-06 19:43 Analyst: CTP01 Seq Number: 34007 Date Prep: Oct-25-06 17:30 Tech: CW01

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Version: 1.000

Form 2 - Surrogate Recoveries

Project Name: Four Seasons

Report Date: 11/01/06 15:19

Work Order #: 11096

Project ID: C-06-08-045

Lab Batch #: 34007 **Sample:** 11096-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	36.2	50.0	72	35-96	
Nitrobenzene-d5	31.0	50.0	62	22-108	
p-Terphenyl-d14	37.3	50.0	75	18-133	

Lab Batch #: 34007 **Sample:** 301230 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

PAHs by SW8270C Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
2-Fluorobiphenyl	37.0	50.0	74	30-104	
Nitrobenzene-d5	32.8	50.0	66	26-96	
p-Terphenyl-d14	47.3	50.0	95	59-125	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Accura Analytical Laboratory

EPA Qualifier Codes and Abbreviations used by AAL

BRL: This abbreviation indicates that the analytical results were Below the Reporting Limit (BRL).

MDL: The Method Detection Limit (MDL), as defined by 40 CFR Part 136, Appendix B, is the minimum concentration of a substance that can be measured and reported with 99 percent confidence that the analyte concentration is greater than zero.

U: The compound was analyzed for but not detected.

J: This indicates an estimated value. This flag is used in 3 incidences.

(1) When estimating a concentration for tentatively identified compounds where 1:1 response is assumed.
(2) When the mass spectral and retention time data indicate the presence of a compound that meets the volatile and semivolatile GC/MS identification criteria, and the result is less than the Contract Required Detection Limit (CRDL) – or Reporting Limit - but greater than the MDL.
(3) When the retention time data indicate the presence of a compound that meets the pesticide/Aroclor identification criteria, and the result is less than the CRQL – or Reporting Limit- but greater than MDL.

N: Indicates presumptive evidence of a compound. This flag is only used for tentatively identified compounds. (TICs), where the identification is based on a mass spectral library search. For generic characterization of a TIC, such as chlorinated hydrocarbon, the "N" flag is not used.

C: This applies to pesticide result where the identification has been confirmed by GC/MS. Do **not** apply if this flag if analyte(s) were not confirmed. Used the laboratory-defined flag instead (see the X qualifier).

B: This is used when the analyte is found in the associated method blank as well as in the sample. It indicates probable blank contamination and warns the data user to take appropriate action. The flag shall be used for a tentatively identified compound as well as for a positively identified target compound.

E: This identifies compounds whose concentrations exceed the upper level of the linear calibration range of the instrument for that specific analysis. If one or more compounds have a response greater than the upper level of the calibration range, the sample or extract should be diluted and re-analyzed.

Note: *For Total xylene, where three isomers are quantified as two peaks, the calibration range of each peak should be considered separately.*

X: Defined by the laboratory

Z: Surrogates/Spikes results exceeds quality control limits

ZZ: Surrogates/Spikes results exceeds quality control limits in multiple samples

***: Surrogate recoveries were diluted out

M: Manual integrations were necessary and an "m" qualifying code is present on the quantitation report next to the analyte.

D: This flag indicates that the identified compound is reported from the dilution run.

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

46203

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech Environmental
Address: Cary, NC
Results Sent to: (Client Contact): Joe Ghoald
Email address:
Contact Phone #: 919.861.4314 Fax#: 4317
Project (Site) Name: Four Seasons Food & Fuel
Project Number: C.06.08.045

Billing address:
P.O.# (if required):

For Laboratory Use Only:
QC Level: (1) 2 3 4 CLP-Like
Custody Seal(s): Y (N) Tape
AAL LIMS System ID: 14637
Receiver's Initials/Temp: —
AAL Work Order # 10965

Preservation Code: (See below)

Sampler(s): (signature): Van T. Chisholm
Sampler(s): (printed): Van T. Chisholm

Field Comments: RUSH BTEX

Line No.	Sample ID #	Sample Date / Time (06)	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX	AAL Lab ID:
1	GW. 4	9.28 / 1400		X		North Augusta, SC	2	2	10965-001
2	GW. 5	/ 1430		X			2	2	002
3	GW - 6	/ 1500		X					003
4	GW. 3	1530		X					004
5	GW. 1	1600		X					005
6	GW. 2	1700		X					006
7									
8									
9									
10									

1) Relinquished By:	Date / Time	2) Received By:	Date / Time	Delivered by: (Circle One)
Van T. Chisholm	9.28.06/2000	[illegible]	9/29/06 0950	Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By:	Date / Time	4) Received By:	Date / Time	Turnaround Time Requested: RUSH

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 10965

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **GW-3** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-004** Date Collected: **Sep-28-06 15:30** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 16:43 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-005** Date Collected: **Sep-28-06 16:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 17:10 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-2** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-006** Date Collected: **Sep-28-06 17:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 17:37 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

*

Version: 1.000

Certificate of Analytical Results 10965

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **GW-4** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-001** Date Collected: **Sep-28-06 14:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 15:11 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-5** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-002** Date Collected: **Sep-28-06 14:30** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 15:40 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Sample Id: **GW-6** Matrix: **WATER** % Moisture:
Lab Sample Id: **10965-003** Date Collected: **Sep-28-06 15:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 16:07 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01
Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

Version: 1.000

Certificate of Analytical Results 10965

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **30975 BLK**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **30975 BLK**	Date Collected:	Date Received:
Sample Depth:		

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Sep-29-06 09:17 Analyst: MJL01 Date Prep: Sep-29-06 07:50 Tech: MJL01

Seq Number: 33681

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.30	ug/L		1
Toluene	108-88-3	BRL	1.0	0.25	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.19	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	0.74	ug/L		1
Naphthalene	91-20-3	BRL	5.0	0.45	ug/L		1

*

Version: 1.000

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/02/06 12:10

Project ID: C-06-08-045

Work Order #: 10965

Lab Batch #: 33681 **Sample:** 10965-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.5	50.0	91	53-159	
Bromofluorobenzene	47.3	50.0	95	30-186	
Toluene-d8	49.5	50.0	99	53-152	

Lab Batch #: 33681 **Sample:** 10965-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	32.6	50.0	65	53-159	
Bromofluorobenzene	48.5	50.0	97	30-186	
Toluene-d8	52.6	50.0	105	53-152	

Lab Batch #: 33681 **Sample:** 10965-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	42.4	50.0	85	53-159	
Bromofluorobenzene	67.8	50.0	136	30-186	
Toluene-d8	47.3	50.0	95	53-152	

Lab Batch #: 33681 **Sample:** 10965-004 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	52.4	50.0	105	53-159	
Bromofluorobenzene	45.2	50.0	90	30-186	
Toluene-d8	49.2	50.0	98	53-152	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/02/06 12:10

Work Order #: 10965

Project ID: C-06-08-045

Lab Batch #: 33681 **Sample:** 10965-005 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.1	50.0	88	53-159	
Bromofluorobenzene	47.8	50.0	96	30-186	
Toluene-d8	49.6	50.0	99	53-152	

Lab Batch #: 33681 **Sample:** 10965-006 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	44.5	50.0	89	53-159	
Bromofluorobenzene	47.5	50.0	95	30-186	
Toluene-d8	50.2	50.0	100	53-152	

Lab Batch #: 33681 **Sample:** 30975 BLK / BLK **Batch:** 1 **Matrix:** W

Units: ug/L

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	41.7	50.0	83	49-146	
Bromofluorobenzene	48.7	50.0	97	77-117	
Toluene-d8	50.0	50.0	100	71-133	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

Version: 1.%

09-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 10967
Project Name :Four Seasons Fuel & Food #5
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46202 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46202 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Brian Burns
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 10967

Client Project: Four Seasons Fuel & Food #5 / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 1 page case narrative, 1 Chain of Custody page, 1 analytical results page, and 1 QC surrogate recovery page.

The following items were noted concerning this work order:

Receiving Notations:

1. Results are reported on a wet weight basis.

Michael F. Broome — *September 29, 2006*
Receiving — Date

Select VOCs by SW8260B Notations:

1. The sample was analyzed using Modified Preparatory Method SW5035; vials received had not been filled according to laboratory specification and could not be used. By Modified Preparatory Method SW5035 Modified, approximately 5g of sample was transferred from the 2 oz jar provided into an appropriate vial and analyzed.

Gary Blackmon — *October 5, 2006*
VOC Analyst — Date

This Case Narrative & Notations have been generated, reviewed, and edited by:

Brian Burns — *October 9, 2006*
Project Manager — Date

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46202

ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech Environmental
Address: Cary NC
Results Sent to: (Client Contact): Joe Ghould
Email address:
Contact Phone #: 919. 861. 4314 Fax#: 4317
Project (Site) Name: Four Seasons Fuel + Food #5
Project Number: C.06.08.045

Billing address:
P.O.# (if required):

For Laboratory Use Only:
QC Level: 1 2 3 4 CLP Like
Custody Seal(s): Y N Tape

AAL LIMS System ID: 14638
Receiver's Initials/Temp:
AAL Work Order # 10967

Preservation Code: (See below)

Sampler(s): (signature) Van T Chisholm
Sampler(s): (printed) Van T. Chisholm

Analysis Requested

Field Comments:

Line No.	Sample ID #	Sample Date / Time	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	BTEX NAPH 7	BTEX NAPH										AAL Lab ID: 10967
1	S-1	9.28.06/1200	X		S	N. Augusta, SC	4	3	1										↓001
2																			–
3																			–
4																			–
5																			–
6																			–
7																			–
8																			–
9																			–
10																			–

1) Relinquished By: Date / Time	2) Received By: [signature] Date / Time 9/29/06 0950	Delivered by: (Circle One) Fed Ex / UPS / DHL / AAL Pickup / Hand / Other
3) Relinquished By: Date / Time	4) Received By: Date / Time	Turnaround Time Requested: STD

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 10967

Consultech Environmental, Inc., Cary, NC

Four Seasons Fuel & Food #5

Sample Id: **S-1** Matrix: **SOIL** % Moisture:
Lab Sample Id: **10967-001** Date Collected: **Sep-28-06 12:00** Date Received: **Sep-29-06 09:50**
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5035MOD

Date Analyzed: Oct-05-06 12:10 Analyst: GB01 Date Prep: Oct-05-06 10:08 Tech: GB01
Seq Number: 33728

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.71	ug/kg		1
Toluene	108-88-3	BRL	1.0	0.87	ug/kg		1
Ethylbenzene	100-41-4	BRL	1.0	0.87	ug/kg		1
Xylenes, Total	1330-20-7	BRL	2.0	1.9	ug/kg		1
Naphthalene	91-20-3	BRL	5.0	0.85	ug/kg		1

Sample Id: **31007 BLK** Matrix: **SOIL** % Moisture:
Lab Sample Id: **31007 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5035MOD

Date Analyzed: Oct-05-06 11:39 Analyst: GB01 Date Prep: Oct-05-06 10:08 Tech: GB01
Seq Number: 33728

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.71	ug/kg		1
Toluene	108-88-3	BRL	1.0	0.87	ug/kg		1
Ethylbenzene	100-41-4	BRL	1.0	0.87	ug/kg		1
Xylenes, Total	1330-20-7	BRL	2.0	1.9	ug/kg		1
Naphthalene	91-20-3	BRL	5.0	0.85	ug/kg		1

Version: 1.000

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Fuel & Food #5

Report Date: 10/09/06 12:31

Work Order #: 10967

Project ID: C-06-08-045

Lab Batch #: 33728 **Sample:** 10967-001 / SMP **Batch:** 1 **Matrix:** S

Units: ug/kg

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	53.95	50.00	108	83-136	
4-Bromofluorobenzene	46.08	50.00	92	76-161	
Toluene-d8	55.87	50.00	112	80-127	

Lab Batch #: 33728 **Sample:** 31007 BLK / BLK **Batch:** 1 **Matrix:** S

Units: ug/kg

Select VOCs by SW8260B Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
1,2-Dichloroethane-d4	45.97	50.00	92	63-135	
4-Bromofluorobenzene	46.86	50.00	94	79-122	
Toluene-d8	58.75	50.00	118	78-119	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

25-OCT-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 11032
Project Name :Four Seasons Food & Fuel
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46207 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46207 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

Larry Gwinn
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)
6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 11032

Client Project: Four Seasons Food & Fuel #5 / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The data package includes a 2 page case narrative, 1 Chain of Custody page, 24 analytical results pages, 12 QC surrogate recovery pages, and a list of common EPA qualifier codes used by AAL.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples were filtered upon receipt at the laboratory, and their filtrates preserved to pH less than 2 with Nitric Acid, for the Dissolved Iron by SW6010B analysis.

Michael F. Broome — October 12, 2006
Receiving — Date

Methane by RSK 175 Notations:

1. The spike standard for the matrix spike and matrix spike duplicate was diluted out; therefore low recoveries were reported.

Dawn Sengsourichanh — October 16, 2006
GC Analyst — Date

PAHs by SW8270C Notations:

1. Batch QC consists of the Blank Spike sample and Blank Spike Duplicate sample recoveries due to limited sample volume.
2. The sample, DW-3, had a low surrogate recovery for Terphenyl-d14. However, the sample could not be re-extracted due to insufficient sample volume.

Chris Pittman — October 18, 2006
SVOC Analyst — Date

VOCs by SW8260B Notations:

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1. The pH of the water samples for work order # 11032 was <2.0 prior to the VOC analysis.

Mei Liang — October 20, 2006
Senior VOC Analyst — Date

Anions by SW9056 Notations:

1. The following samples were analyzed 8 days outside the EPA recommended holding time for nitrate analysis due to laboratory error.

   Anions-SW-846-9056
   (11032) DW-3

2. Matrix Spike and Matrix Spike Duplicate recoveries for Sulfate were outside the laboratory control limits due to matrix interference.

Lisandra J. Betancourt — October 24, 2006
IC Analyst — Date

This Case Narrative & Notations have been generated, reviewed, and edited by:

Larry M. Gwinn, Jr. — October 25, 2006
Laboratory Director — Date

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CONSULTECH ENVIRONMENTAL, INC.

December 12, 2006

Larry M. Gwinn, Jr.
Laboratory Director
Accura Analytical Laboratory, Inc.
6017 Financial Drive
Norcross, GA 30071

RECEIVED

JAN 0 8 2007

UNDERGROUND STORAGE
TANK PROGRAM

RE: Four Seasons # 15
Consultech Project # 06-08-045
Accura Work Order # 11032, October 25, 2006

As I had mentioned in our telephone conversation there was an error in the well designations for the above-mentioned project. Our field personnel reported this to me. The correct designation is as follows:

Notes from Field

Date	From:	Description
10/26	WLR	Van made the following designations for both his field and lab data, so for all analytical, DW-1 is actually PW-1 DW-2 is actually DW-1 DW-3 is actually DW-2

Please note these corrections in an amended report.

Sincerely,

CONSULTECH ENVIRONMENTAL, INC.

Mark A. Creel
Project Manger

cc: File C-06-08-045

P.O. Box 5306 Cary, NC 27512
(919) 858-5350 FAX (919) 858-5351

12-DEC-06

Consultech Environmental, Inc.
PO Box 5611
Cary, NC 27512
Client Contact: Joe Ghiold

Reference: Accura Analytical Laboratory, Inc. (AAL) Work Order No: 11032
Project Name :Four Seasons Food & Fuel
Project Number: C-06-08-045

Dear Joe Ghiold :

We are reporting to you the results of the analyses performed on the samples received under the project name referenced above and identified with the Chain of Custody(s) Numbered 46207 . All results being reported under this Chain of Custody apply to the samples analyzed and properly identified with an AAL Sample ID number.

All the results for the quality control samples were reviewed. Also, all parameters for data reduction and validation were reviewed. In view of this, we are able to release the analytical data for this report within acceptance criteria for accuracy, precision, completeness or properly flagged.

The validity and integrity of this report will remain intact as long as it is accompanied by this letter and reproduced in full, unless written approval is granted by AAL. This report will be filed for at least 7 years in our archives after which time it will be destroyed without further notice, unless otherwise arranged with you. The samples received, and described as recorded in COC No. 46207 will be filed for 90 days, and after that time they will be properly disposed without further notice, unless otherwise arranged with you. We reserve the right to return to you any unused samples, extracts or solutions related to them if we consider so necessary (e.g., samples identified as hazardous waste, sample sizes exceeding analytical standard practices, controlled substances under regulated protocols, etc).

We thank you for selecting Accura Analytical Laboratory Inc. to serve your analytical needs. If you have any questions concerning this report, please feel free to contact me at any time.

Sincerely,

David Fuller
Project Manager

6017 Financial Drive Norcross, GA 30071
Phone: 770-449-8800 Fax: 770-449-5477

ACCURA ANALYTICAL LABORATORY, INC. (AAL)

6017 Financial Drive, Norcross, GA 30071, Phone: (770) 449-8800
FL Certification #E87429 ▪ NC Certification #483
SC Certification #98015 ▪ Utah Certification #AALI1
USACE Approved ▪ Navy Certification Code NFESC 413

Case Narrative

AAL Work Order # 11032-Revised December 12, 2006

Client Project: Four Seasons Food & Fuel #5 / C-06-08-045

Accura Analytical Laboratory Inc. certifies that the results meet all requirements of the NELAC Standards.

The revised data package includes a 2 page case narrative, 2 pages for Chain of Custody and sample ID memorandum, 24 analytical results pages, 12 QC surrogate recovery pages, and a list of common EPA qualifier codes used by AAL.

The following items were noted concerning this work order:

Receiving Notations:

1. The samples were filtered upon receipt at the laboratory, and their filtrates preserved to pH less than 2 with Nitric Acid, for the Dissolved Iron by SW6010B analysis.

Michael F. Broome — October 12, 2006
Receiving — Date

Methane by RSK 175 Notations:

1. The spike standard for the matrix spike and matrix spike duplicate was diluted out; therefore low recoveries were reported.

Dawn Sengsourichanh — October 16, 2006
GC Analyst — Date

PAHs by SW8270C Notations:

1. Batch QC consists of the Blank Spike sample and Blank Spike Duplicate sample recoveries due to limited sample volume.

2. The sample, DW-3, had a low surrogate recovery for Terphenyl-d14. However, the sample could not be re-extracted due to insufficient sample volume.

Chris Pittman — October 18, 2006
SVOC Analyst — Date

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VOCs by SW8260B Notations:

1. The pH of the water samples was <2.0 prior to the VOC analysis.

Mei Liang — October 20, 2006
Senior VOC Analyst — Date

Anions by SW9056 Notations:

1. The following samples were analyzed 8 days outside the EPA recommended holding time for nitrate analysis due to laboratory error: DW-2

2. Matrix Spike and Matrix Spike Duplicate recoveries for Sulfate were outside the laboratory control limits due to matrix interference.

Lisandra J. Betancourt — October 24, 2006
IC Analyst — Date

Project Manager's Notations:

1. This revised report replaces the original report submitted on October 25, 2006. Incorrect sample IDs were listed on the chain of custody. The sample Ids for laboratory IDs: 11032-008, -009, and –010 are now corrected based on documentation provided by the client. No other changes have been made to this report.

This Case Narrative & Notations have been generated, reviewed, and edited by:

David C. Fuller — *December 12, 2006*
VP – Client Services — Date

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ACCURA ANALYTICAL LABORATORY, INC.

Environmental Analytical Services

CHAIN OF CUSTODY

46207

Page 1 of 1

6017 Financial Drive, Norcross, GA 30071
Phone # (770) 449-8800 Fax # (770) 449-5477

Company Name: Consultech Environmental

Address: Cary NC

Results Sent to: (Client Contact): Joe Ghould

Email address: ~~Four Seasons Food & Fu~~ va

Contact Phone #: 919.861.4314 Fax#: 4317

Project (Site) Name: Four Seasons Food & Fuel #5 N. Augusta, SC

Project Number: C.06.08.045

Billing address:

P.O.# (if required):

For Laboratory Use Only: AAL LIMS System ID:

QC Level: 1 2 3 4 CLP-Like Receiver's Initials/Temp:

Custody Seal(s): Y N Tape AAL Work Order #

Preservation Code: (See below)

Sampler(s): (signature) Van T. Chisholm

Sampler(s): (printed) Van T. Chisholm

Analysis Requested

Field Comments:

Line No.	Sample ID #	Sample Date / Time (06')	Composite	Grab	Matrix (See below)	Sample Location	No. of Containers	8TEX, NAPH, MTBE, 1,2 dca, 8-oxygenates	EDB	Methane	lead	nitrate/sulfate Fe iron	PAH's						AAL Lab ID: 11032
1	MW. ~~1~~	10.11 / 1000		X	GW	N. Augusta, S.C.	9	2	2	2	1	1	1	NO SAMPLE					
2	. 3	1020		X							1	1	1						001
3	. 4	1040		X							1	1	1						002
4	. 5	1100		X							1	1	1						003
5	. 6	1120		X							1	1	1						004
6	. 7	1140		X							1	1	1						005
7	. 8	1200		X							1	1	1						006
8	MW. 9	1220		X							1	1	1						007
9	PDW. 1 DCJ 12/12/06	1300		X							1	1	1						008
10	DW. ~~2~~ 1	1400		X							1	1	1						009
11	DW. 32	10.11 / 1500		X	GW	N. Augusta	9	2	2	2	1	1	1						010

1) Relinquished By: Van T. Chisholm Date / Time: 10.11.06 / 1800

2) Received By: [signature] Date / Time: 10/12/06 0957

3) Relinquished By: DCJ 12/12/06 Date / Time

4) Received By: Date / Time

Delivered by: (Circle One) Fed Ex / UPS / DHL / AAL Pickup / Hand / Other

Turnaround Time Requested:

Matrix Guide: (W=Water) (DW=Drinking Water) (GW=Groundwater) (SW=Surface Water) (L=Liquid) (O=Oil) (S=Soil) (SD=Solid) (SL=Sludge) (A=Air) (C=Air Cartridge)

Preservation Codes: 1=HCL / 2=HNO_3 / 3=H_2SO_4 / 4=NaOH+$NaAsO_2$ / 5=NaOH+ZnAc / 6=$Na_2S_2O_3$ / 7=$NaHSO_4$ / 8=MeOH

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-3** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-001** Date Collected: **Oct-11-06 10:20** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:20 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 00:07 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 10:51 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	0.0230	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 14:52 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 18:48 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.7	1.0	0.062	mg/L		1

*

Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-3**	Matrix: **WATER**	% Moisture:
Lab Sample Id: **11032-001**	Date Collected: **Oct-11-06 10:20**	Date Received: **Oct-12-06 09:57**
Sample Depth:		

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 15:32 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01

Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 18:18 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01

Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-4** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-002** Date Collected: **Oct-11-06 10:40** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:46 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 00:25 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:17 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:10 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 19:38 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.86	0.10	0.027	mg/L		1
Sulfate	14808-79-8	10	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-4** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-002** Date Collected: **Oct-11-06 10:40** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 15:52 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 18:45 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01
Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	9.7	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-5** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-003** Date Collected: **Oct-11-06 11:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:51 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 00:42 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:23 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 12:28 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 19:54 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	9.1	0.10	0.027	mg/L		1
Sulfate	14808-79-8	2.4	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-5** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-003** Date Collected: **Oct-11-06 11:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 16:13 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 19:12 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01
Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-6** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-004** Date Collected: **Oct-11-06 11:20** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 16:57 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	3.58	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 01:00 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	0.15	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:29 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:29 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.42	0.030	0.02	mg/L		10

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 20:10 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.6	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-6** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-004** Date Collected: **Oct-11-06 11:20** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 16:33 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	20	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	41	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	170	20	3.0	ug/L		2
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 19:39 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01
Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	660	50	34	ug/L		50
Toluene	108-88-3	17000	100	68	ug/L		100
Ethylbenzene	100-41-4	660	50	33	ug/L		50
Xylenes, Total	1330-20-7	3500	50	90	ug/L		50
Methyl tert-butyl ether	1634-04-4	4000	50	31	ug/L		50
Naphthalene	91-20-3	BRL	250	200	ug/L		50
1,2-Dichloroethane	107-06-2	BRL	250	41	ug/L		50
Diisopropyl ether	108-20-3	BRL	250	45	ug/L		50
Ethanol	64-17-5	BRL	5000	2800	ug/L		50
Ethyl tert-butyl alcohol	590-36-3	BRL	1300	850	ug/L		50
Ethyl tert-butyl ether	637-92-3	BRL	250	55	ug/L		50
Tert-Amyl alcohol	75-85-4	3300	1300	750	ug/L		50
tert-Amyl methyl ether	994-05-8	BRL	250	55	ug/L		50
tert-Butyl alcohol	75-65-0	5400	1300	55	ug/L		50
tert-Butyl formate	762-75-4	BRL	1300	900	ug/L		50

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-7** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-005** Date Collected: **Oct-11-06 11:40** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:03 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	2.32	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 01:18 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:52 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:12 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.012	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 20:27 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	0.66	0.10	0.027	mg/L		1
Sulfate	14808-79-8	10	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-7** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-005** Date Collected: **Oct-11-06 11:40** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 16:54 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 18:25 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01
Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	120	1.0	0.67	ug/L		1
Toluene	108-88-3	1500	20	14	ug/L		20
Ethylbenzene	100-41-4	42	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	320	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	170	20	12	ug/L		20
Naphthalene	91-20-3	9.1	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	230	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	1300	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	170	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-8** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-006** Date Collected: **Oct-11-06 12:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:08 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 01:35 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 11:58 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:00 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	0.043	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 20:43 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	4.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	13	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-8** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-006** Date Collected: **Oct-11-06 12:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 17:14 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:23 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01
Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-9** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-007** Date Collected: **Oct-11-06 12:20** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A
Date Analyzed: Oct-16-06 17:14 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011
Date Analyzed: Oct-18-06 01:53 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A
Date Analyzed: Oct-17-06 23:09 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B
Date Analyzed: Oct-13-06 13:01 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:
Date Analyzed: Oct-12-06 21:00 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.3	0.10	0.027	mg/L		1
Sulfate	14808-79-8	3.8	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **MW-9** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-007** Date Collected: **Oct-11-06 12:20** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 17:35 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 19:19 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01
Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **PW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-008** Date Collected: **Oct-11-06 13:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:44 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 02:11 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.019	0.0047	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-17-06 23:14 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:03 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 21:16 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	4.1	0.10	0.027	mg/L		1
Sulfate	14808-79-8	1.6	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **PW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-008** Date Collected: **Oct-11-06 13:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 17:55 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 19:47 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01
Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	2.3	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	1.1	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **DW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-009** Date Collected: **Oct-11-06 14:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:50 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 02:28 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0048	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-17-06 23:20 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:05 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 21:32 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	4.4	0.10	0.027	mg/L		1
Sulfate	14808-79-8	3.3	1.0	0.062	mg/L		1

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Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **DW-1** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-009** Date Collected: **Oct-11-06 14:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 18:16 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 13:50 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01
Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	4.3	1.0	0.67	ug/L		1
Toluene	108-88-3	190	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	6.9	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	31	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **DW-2** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-010** Date Collected: **Oct-11-06 15:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 17:56 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	34.3	0.100	0.0167	mg/L		1

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-18-06 02:46 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.017	0.0041	ug/L		1

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-17-06 23:26 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 13:27 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 16:13 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	2.5	0.10	0.027	mg/L		1
Sulfate	14808-79-8	99	1.0	0.062	mg/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **DW-2** Matrix: **WATER** % Moisture:
Lab Sample Id: **11032-010** Date Collected: **Oct-11-06 15:00** Date Received: **Oct-12-06 09:57**
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 18:36 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 14:17 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01
Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	11	1.0	0.67	ug/L		1
Toluene	108-88-3	1000	10	6.8	ug/L		10
Ethylbenzene	100-41-4	64	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	300	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	1.7	1.0	0.62	ug/L		1
Naphthalene	91-20-3	15	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301088 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301088 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Methane by Mod. RSK 175 Prep Method: SW5030B

Date Analyzed: Oct-13-06 09:45 Analyst: MDS01 Date Prep: Oct-13-06 09:30 Tech: MDS01
Seq Number: 33823

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Methane	74-82-8	BRL	0.003	0.002	mg/L		1

Sample Id: **301094 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301094 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Dissolved Iron by SW6010B Prep Method: SW3005A

Date Analyzed: Oct-16-06 14:42 Analyst: OKC01 Date Prep: Oct-16-06 10:24 Tech: OK001
Seq Number: 33851

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Iron (Dissolved)	7439-89-6	BRL	0.100	0.0167	mg/L		1

Sample Id: **301101 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301101 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Lead by SW6010B Prep Method: SW3010A

Date Analyzed: Oct-18-06 10:31 Analyst: OKC01 Date Prep: Oct-16-06 11:00 Tech: MSN01
Seq Number: 33876

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Lead	7439-92-1	BRL	0.0100	0.00390	mg/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301109 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301109 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: PAHs by SW8270C Prep Method: SW3520C

Date Analyzed: Oct-17-06 14:30 Analyst: CTP01 Date Prep: Oct-16-06 11:30 Tech: CW01
Seq Number: 33857

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1-Methylnaphthalene	90-12-0	BRL	10	1.3	ug/L		1
2-Methylnaphthalene	91-57-6	BRL	10	1.2	ug/L		1
Acenaphthene	83-32-9	BRL	10	1.4	ug/L		1
Acenaphthylene	208-96-8	BRL	10	1.5	ug/L		1
Anthracene	120-12-7	BRL	10	2.0	ug/L		1
Benzo(a)anthracene	56-55-3	BRL	10	1.9	ug/L		1
Benzo(a)pyrene	50-32-8	BRL	10	1.8	ug/L		1
Benzo(b)fluoranthene	205-99-2	BRL	10	2.0	ug/L		1
Benzo(g,h,i)perylene	191-24-2	BRL	10	2.0	ug/L		1
Benzo(k)fluoranthene	207-08-9	BRL	10	2.7	ug/L		1
Chrysene	218-01-9	BRL	10	2.1	ug/L		1
Dibenz(a,h)anthracene	53-70-3	BRL	10	1.8	ug/L		1
Fluoranthene	206-44-0	BRL	10	1.8	ug/L		1
Fluorene	86-73-7	BRL	10	1.6	ug/L		1
Indeno(1,2,3-c,d)pyrene	193-39-5	BRL	10	1.9	ug/L		1
Naphthalene	91-20-3	BRL	10	1.5	ug/L		1
Phenanthrene	85-01-8	BRL	10	2.0	ug/L		1
Pyrene	129-00-0	BRL	10	2.4	ug/L		1

Sample Id: **301111 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301111 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: EDB by SW8011 Prep Method: EXT_SW8011

Date Analyzed: Oct-17-06 20:35 Analyst: BDW01 Date Prep: Oct-13-06 09:00 Tech: BPR01
Seq Number: 33861

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
1,2-Dibromoethane (Ethylene Dibromide)	106-93-4	BRL	0.020	0.0049	ug/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301119 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301119 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-17-06 09:24 Analyst: MJL01 Date Prep: Oct-17-06 07:50 Tech: MJL01
Seq Number: 33854

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **301141 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301141 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-18-06 09:23 Analyst: MJL01 Date Prep: Oct-18-06 07:50 Tech: MJL01
Seq Number: 33888

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

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Version: 1.016

Certificate of Analytical Results 11032

Consultech Environmental, Inc., Cary, NC

Four Seasons Food & Fuel

Sample Id: **301159 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **301159 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Select VOCs by SW8260B Prep Method: SW5030B

Date Analyzed: Oct-19-06 09:23 Analyst: MJL01 Date Prep: Oct-19-06 07:50 Tech: MJL01
Seq Number: 33903

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Benzene	71-43-2	BRL	1.0	0.67	ug/L		1
Toluene	108-88-3	BRL	1.0	0.68	ug/L		1
Ethylbenzene	100-41-4	BRL	1.0	0.66	ug/L		1
Xylenes, Total	1330-20-7	BRL	1.0	1.8	ug/L		1
Methyl tert-butyl ether	1634-04-4	BRL	1.0	0.62	ug/L		1
Naphthalene	91-20-3	BRL	5.0	4.0	ug/L		1
1,2-Dichloroethane	107-06-2	BRL	5.0	0.82	ug/L		1
Diisopropyl ether	108-20-3	BRL	5.0	0.89	ug/L		1
Ethanol	64-17-5	BRL	100	55	ug/L		1
Ethyl tert-butyl alcohol	590-36-3	BRL	25	17	ug/L		1
Ethyl tert-butyl ether	637-92-3	BRL	5.0	1.1	ug/L		1
Tert-Amyl alcohol	75-85-4	BRL	25	15	ug/L		1
tert-Amyl methyl ether	994-05-8	BRL	5.0	1.1	ug/L		1
tert-Butyl alcohol	75-65-0	BRL	25	1.1	ug/L		1
tert-Butyl formate	762-75-4	BRL	25	18	ug/L		1

Sample Id: **33873 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **33873 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-12-06 15:15 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33873

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	BRL	1.0	0.062	mg/L		1

Sample Id: **33936 BLK** Matrix: **WATER** % Moisture:
Lab Sample Id: **33936 BLK** Date Collected: Date Received:
Sample Depth:

Analytical Method: Nitrate & Sulfate by SW9056 Prep Method:

Date Analyzed: Oct-19-06 12:07 Analyst: LJB01 Date Prep: Tech: LJB01
Seq Number: 33936

Parameter	Cas Number	Result	Rep Limit	MDL	Units	Flag	Dil
Nitrate	14797-55-8	BRL	0.10	0.027	mg/L		1
Sulfate	14808-79-8	BRL	1.0	0.062	mg/L		1

Form 2 - Surrogate Recoveries

Project Name: Four Seasons Food & Fuel

Report Date: 10/25/06 15:13

Work Order #: 11032

Project ID: C-06-08-045

Lab Batch #: 33861 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.9	96	60-140	

Lab Batch #: 33861 **Sample:** 11032-001 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.7	4.9	96	60-140	

Lab Batch #: 33861 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.2	4.9	86	60-140	

Lab Batch #: 33861 **Sample:** 11032-002 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.3	4.9	88	60-140	

Lab Batch #: 33861 **Sample:** 11032-003 / SMP **Batch:** 1 **Matrix:** W

Units: ug/L

EDB / DBCP by SW8011 Analytes	SURROGATE RECOVERY STUDY				
	Amount Found [A]	True Amount [B]	Recovery %R [D]	Control Limits %R	Flags
4-Bromofluorobenzene	4.6	4.9	94	60-140	

* Surrogate outside of Laboratory QC limits
** Surrogates outside limits; data and surrogates confirmed by reanalysis
*** Poor recoveries due to dilution
Surrogate Recovery [D] = 100 * A / B
All results are based on MDL and validated for QC purposes.
Z = Surrogate Recovery exceeded the Labortatory QC limits

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

2600 Bull Street
Columbia, SC 29201
Telephone (803) 896-6240 Fax (803) 896-6245

UST DOCKET

Enf. ID # 03-0062-UST
Closed - unable to serve RP; will pursue cost recovery

MEMORANDUM

To: Bette McKenney, Manager
Enforcement Section

Date: October 13, 2003

Re: Enforcement Referral

Type: Tier II Assessment

UST Permit #: 00120

Facility Name: Four Seasons Food & Fuel 5

Owner/Operator: Jackson Petroleum
PO Box 10343
Greensboro, NC 27404
336-315-5543

Requested Action/Information: Requested a Tier II Assessment for release reported on November 7. 1997. Assessment to be conducted with O/O's money. Release not SUPERB qualified.

Additional Comments: Directed to submit Tier II Plan, August 22, 2003. Sent Notice of Violation with due date October 10, 2003. UST Program has verified impact to stream downgradient of facility

Are there any Tank Ownership Issues? : ____Yes ___√___No If yes please explain.

Address and phone number from previous correspondence with #16615. Attempted to contact O/O, no answer.

Are there any other persons being dealt with other than the tank owner? ____Yes ___√___No

If yes please list name and relationship_____

Referred By: Debra L Thoma **Date:** 10/13/03

Section Manager's Approval: Reed S Miner **Date:** 10/13/03

Division Director's Approval: [signature] **Date:** 10-14-03

Attach Copy of NOV Letter

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
Phone (803) 896-6240 Fax (803) 896-6245

CERTIFIED MAIL
7001 0360 0002 0811 4742

SEP 2 3 2003

WILLIAM C JACKSON
JACKSON PETROLEUM
PO BOX 10343
GREENSBORO NC 27404

Re: **Notice of Violation**
Four Seasons Food & Fuel 5, 2031 Pisgah Rd., N. Augusta, SC
UST Permit #00120
Release reported November 7, 1997
Tier II Plan Request
Aiken County

Dear Mr. Jackson:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control directed you to complete a submit a Tier II Assessment Plan on or before September 22, 2003. To date the required information has not been received. In accordance with Section 280.65 of the South Carolina Underground Storage Tank Regulations, the assessment must be conducted as chemicals of concern are above the risk-based-screening levels. Additionally, the UST Program has confirmed the presence of petroleum chemicals in a stream downgradient of the facility.

Submission of the Tier II Plan is required as an environmental impact has occurred. **The Tier II Plan must be submitted before October 10, 2003. If the plan is not received, enforcement procedures will be initiated.**

On all correspondence regarding this site, please reference UST Permit #00120. If you have any questions concerning this correspondence, please contact me at (803) 896-6397 or (800) 826-5435(within South Carolina only).

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
State Lead & Field Services Section
Assessment and Corrective Action Division

cc: W.C. Jackson Jr., 114 Williamsburg St. SE, Aiken, SC, 29801
William Jackson, PO Box 10343, Greensboro, NC, 27404
✓Technical File