SEI Environmental, Inc.
2025 Progress Court
Raleigh, North Carolina 27608
800.474.7049
919.832.2535
Fax 832.5914

RECEIVED
SEP 02 2008
UNDERGROUND STORAGE TANK PROGRAM

May 30, 2008

Mr. Read Miner
South Carolina Department of Health and Environmental Control
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Dear Mr. Miner:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the April 8, 2008, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

David V. Brewster
Project Manager

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

UST DOCKET
10 bed

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
January 2008 through April 2008

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

PREPARED BY:

SEI ENVIRONMENTAL, INC.
2025 Progress Court
Raleigh, North Carolina 27608
UST Site Rehabilitation Contractor No. 354

May 30, 2008

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date:	May 30, 2008	Monitoring Report Number:	1st Quarter
For Period Covering:	January 2008	to	April 2008
Facility Name :	Circle Stop-N-Shop	Street Address:	3287 Columbia Highway
UST Permit Number:	05981	City:	Leesville, South Carolina
County:	Saluda	Zip Code:	29070-7216
Latitude:	N 34°02'28.08"	Longitude	W 81°32'53.78"

Submitted by UST Owner/Operator:		Prepared by Consultant/Contractor:	
Name:	Steve & Joan Boozer	Name:	Randy Casey
Company:	Property Owners	Company:	SEI Environmental, Inc.
Address:	3287 Columbia Highway	Address:	2025 Progress Court
City:	Leesville State: SC	City:	Raleigh State: NC
Zip Code:	29070-7216	Zip Code:	27608
Telephone:	(803) 532-4119	Telephone:	(919) 832-2535
SEI Project Number:	303064	UST Site Rehabilitation Contractor No.	354

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Randy Casey

SC Reg. No. 21054

Signature: Randy Casey

Date: 8/1/08

SOUTH CAROLINA PROFESSIONAL ENGINEER REG. NO. 21054 RANDY R. CASEY

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LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a licensed geologist and/or professional engineer registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by AccuTest Laboratories.

1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event
- April 25, 2006 – Groundwater Sampling Event
- July 17, 2006 – Groundwater Sampling Event
- October 17, 2006 – Groundwater Sampling Event
- January 15, 2007 – Groundwater Sampling Event
- April 25, 2007 – Groundwater Sampling Event
- July 23, 2007 – Groundwater Sampling Event
- December 13, 2007 – Groundwater Sampling Event
- April 8, 2008 – Groundwater Sampling Event

On April 8, 2008, fifteen groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On April 8, 2008 fifteen groundwater samples were collected (MW-1 through MW-4, MW-6, MW-8, MW-9R, MW-13 through MW-16, MW-18, and MW-24 through MW-26) of the twenty-six existing groundwater monitoring wells. Three monitoring wells were

not sampled; MW-23 was not located, MW-10R was dry, and free product was present in MW-7. Five (MW-5, MW-11, MW-12, MW-19, and MW-20) monitoring wells were only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in Appendix A is a site map depicting well locations.

Wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was detected in monitoring well MW-7.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient of 0.027 feet per foot between monitoring wells MW-19 and MW-16. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene). Appendix C contains Field Data Information Sheets for Groundwater Sampling.

3.0 LABORATORY ANALYTICAL RESULTS

Chemicals of Concern (CoC) were detected in six (MW-1, MW-2, MW-7, MW-13, MW-18, and MW-24) of the fifteen monitoring wells sampled at concentrations exceeding their respective SSTL. Free product was detected in monitoring well MW-7 and therefore not sampled. Figure 4 in Appendix A is a site map presenting monitoring well locations

and their CoC concentrations. Table 2 in Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs) have been designated for twenty (MW-1 through MW-18 and MW-24 through MW-26) monitoring wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix D.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

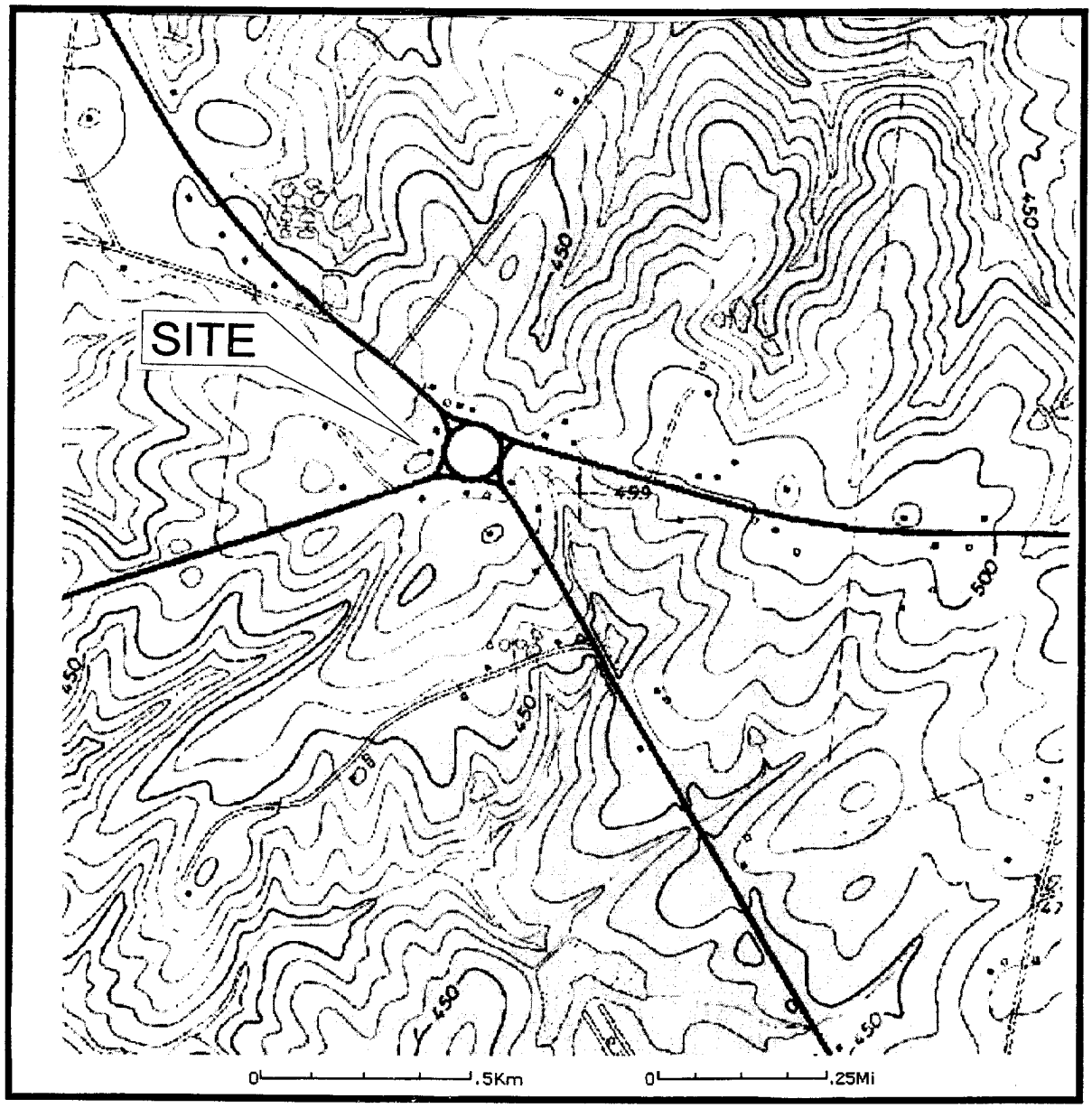
Using the current analytical results, the concentration reduction is 0.83%.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the northeast with a hydraulic gradient of 0.027 feet per foot. CoC were detected in six of the fifteen monitoring wells sampled above their respective SSTLs. Free product was detected in monitoring well MW-7. The percent concentration reduction has been calculated at 0.83%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. In addition, an AFVR is recommended for well MW-7. The next sampling event is scheduled for July 2008.

APPENDIX A
FIGURES

7.5 MINUTE SERIES(TOPOGRAPHIC)

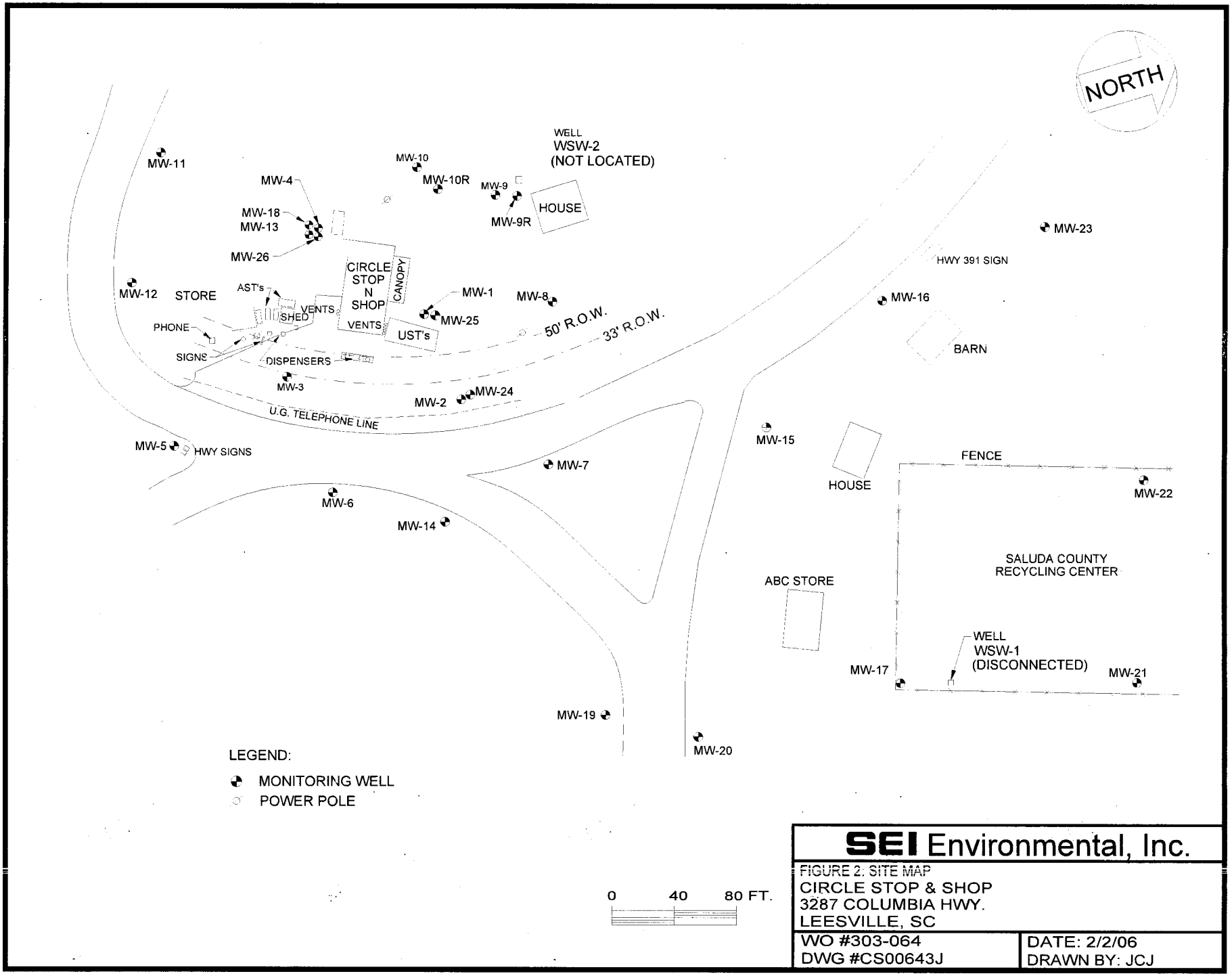


NORTH

SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

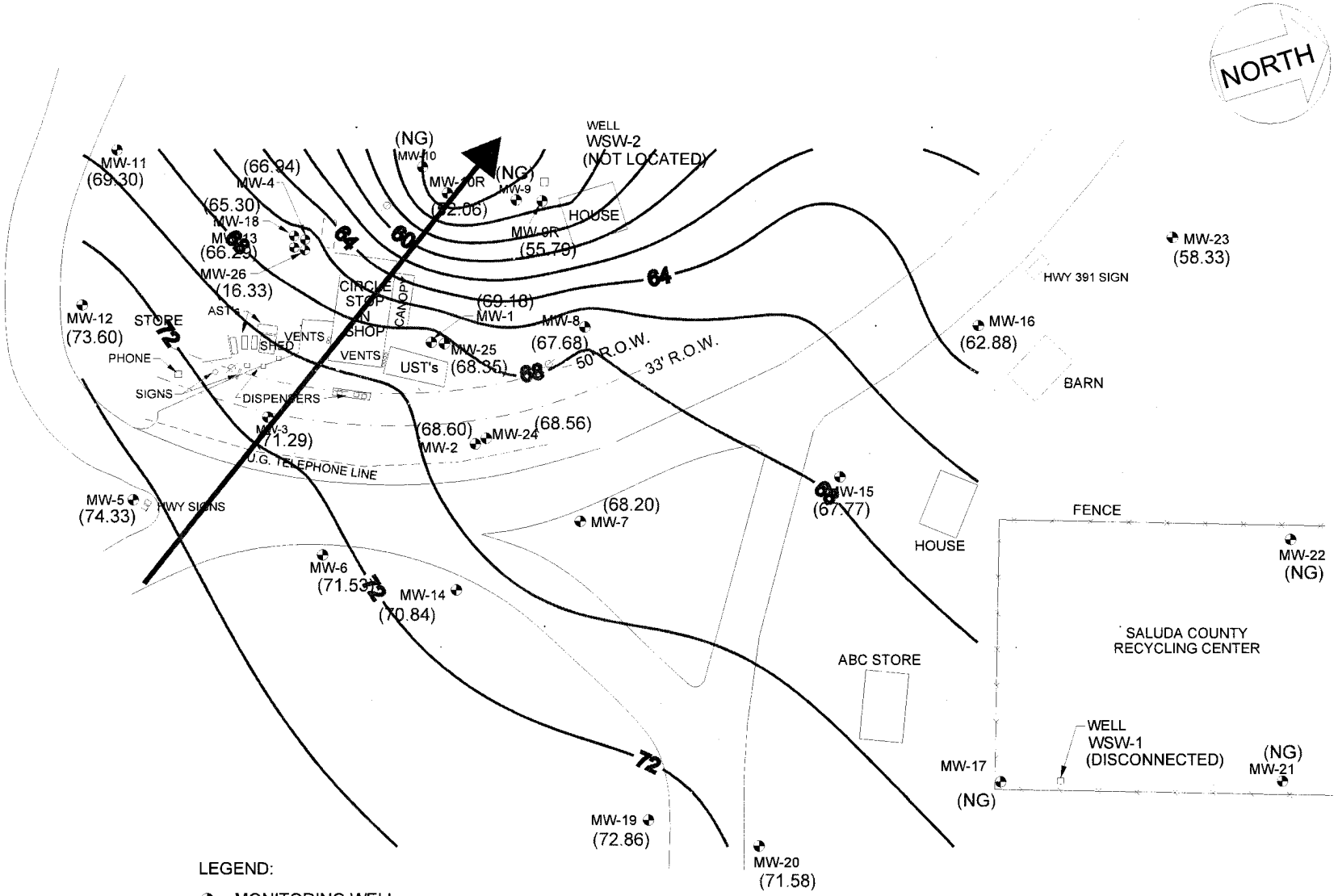
WO #303064 DWG #	DATE: 10/10/05 DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- POWER POLE
- (XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT.
  - NG = NOT GAUGED
  - NL = NOT LOCATED
- 75.00 GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

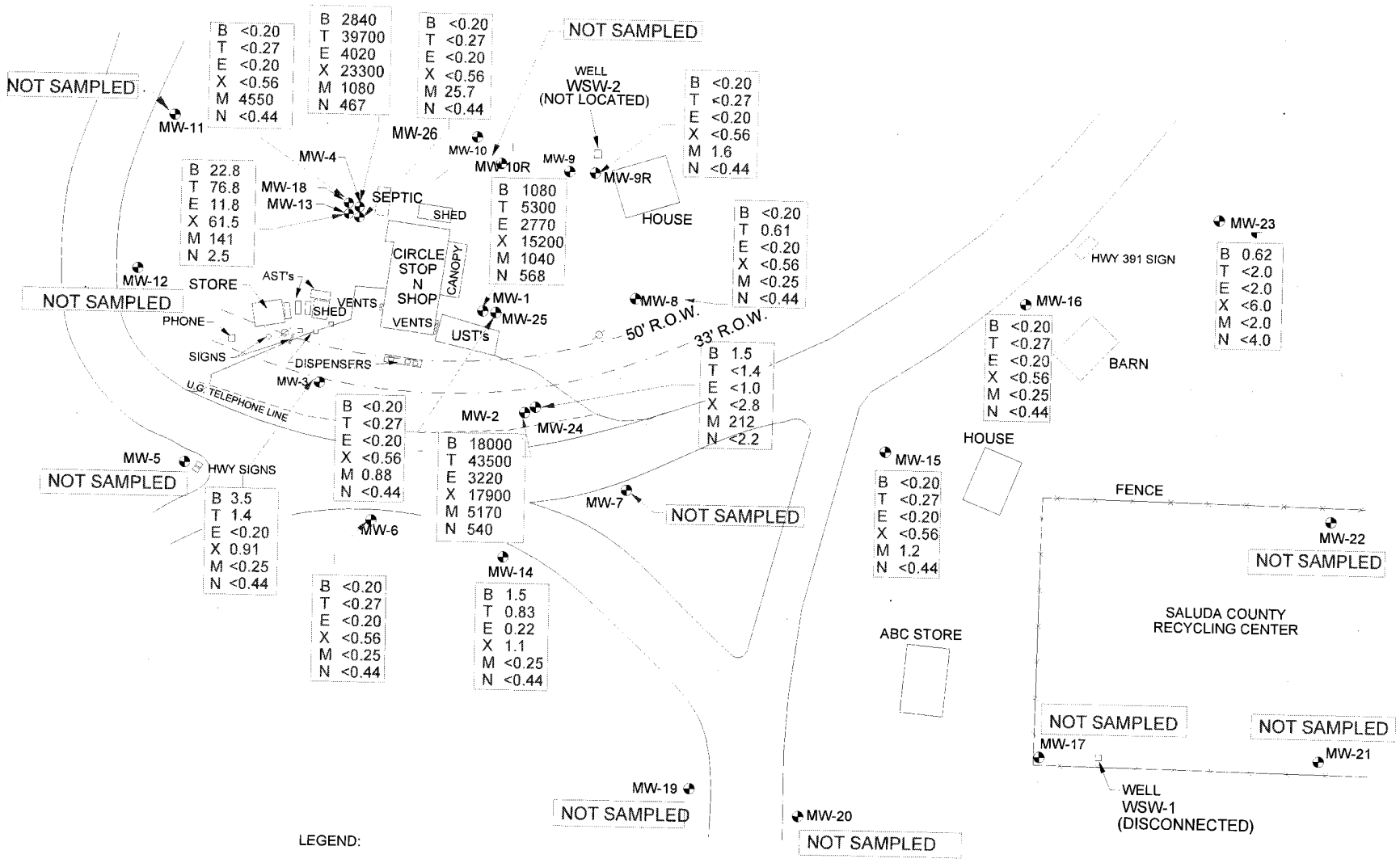
0 40 80 FT.

NOTE: WELLS GAUGED 4/8/08.

SEI Environmental, Inc.

FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 4: GROUNDWATER COC SITE MAP, 4/8/08
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 2/2/06
DWG #CS00644J	DRAWN BY: JCJ

APPENDIX B
TABLES

Table 1

Historical Groundwater Elevation And Product Thickness Dat

Circle Stop-N-Shop

3287 Columbia Highway

Leesville, Saluda County, South Carolin

UST Permit Number: 05981

SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-1	08/18/03	21.39			99.59	78.20
	11/17/03	23.34				76.25
	03/11/04	23.96				75.63
	06/30/04	25.22				74.37
	03/21/05	24.12				75.47
	10/14/05	Well Not Located				0.00
	02/02/06	Well Not Located				0.00
	04/25/06	25.11				74.48
	07/17/06	Well Not Located				0.00
	10/17/06	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	04/25/07	25.95				73.64
	07/23/07	28.87				70.72
	12/13/07	34.99				64.60
	04/08/08	30.41				69.18
MW-2	08/18/03	19.82			97.68	77.86
	11/17/03	21.39				76.29
	03/11/04	22.38				75.30
	06/30/04	23.49				74.19
	03/21/05	23.47				74.21
	10/14/05	24.41				73.27
	02/02/06	24.38				73.30
	04/25/06	22.70				74.98
	07/17/06	24.90				72.78
	10/17/06	27.79				69.89
	01/15/07	27.24				70.44
	04/25/07	23.83				73.85
	07/23/07	27.10				70.58
	12/13/07	33.14				64.54
	04/08/08	29.08				68.60
MW-3	08/18/03	18.04			99.53	81.49
	11/17/03	22.14				77.39
	03/11/04	20.98				78.55
	06/30/04	24.08				75.45
	03/21/05	22.05				77.48
	10/14/05	25.35				74.18
	02/02/06	23.48				76.05
	04/25/06	22.45				77.08
	07/17/06	25.65				73.88
	10/17/06	28.73				70.80
	01/15/07	26.40				73.13
	04/25/07	23.43				76.10
	07/23/07	27.92				71.61
	12/13/07	34.16				65.37
	04/08/08	28.24				71.29

Table 1

Historical Groundwater Elevation And Product Thickness Dat

Circle Stop-N-Shop

3287 Columbia Highway

Leesville, Saluda County, South Carolin

UST Permit Number: 05981

SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-4	08/18/03	23.31			100.28	76.97
	11/17/03	25.11				75.17
	03/11/04	25.58				74.70
	06/30/04	27.13				73.15
	03/21/05	27.01				73.27
	10/14/05	28.16				72.12
	02/02/06	27.69				72.59
	04/25/06	26.35				73.93
	07/17/06	28.50				71.78
	10/17/06	31.51				68.77
	01/15/07	31.13				69.15
	04/25/07	28.16				72.12
	07/23/07	31.56				68.72
	12/13/07	37.30				62.98
	04/08/08	33.34				66.94
MW-5	08/18/03	15.89			100.88	84.99
	11/17/03	21.84				79.04
	03/11/04	19.61				81.27
	06/30/04	22.30				78.58
	03/21/05	20.70				80.18
	10/14/05	24.40				76.48
	02/02/06	22.43				78.45
	04/25/06	22.03				78.85
	07/17/06	26.59				74.29
	10/17/06	28.67				72.21
	01/15/07	24.90				75.98
	04/25/07	22.90				77.98
	07/23/07	27.92				72.96
	12/13/07	34.36				66.52
	04/08/08	26.55				74.33
MW-6	08/18/03	16.31			97.43	81.12
	11/17/03	19.13				78.30
	03/11/04	18.62				78.81
	06/30/04	21.84				75.59
	03/21/05	19.78				77.65
	10/14/05	23.13				74.30
	02/02/06	21.15				76.28
	04/25/06	20.19				77.24
	07/17/06	23.39				74.04
	10/17/06	26.49				70.94
	01/15/07	24.20				73.23
	04/25/07	21.14				76.29
	07/23/07	26.70				70.73
	12/13/07	37.92				59.51
	04/08/08	25.90				71.53

Table 1
Historical Groundwater Elevation And Product Thickness Dat
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolin
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-7	08/18/03	19.78			97.26	77.48
	11/17/03	22.14				75.12
	03/11/04	22.38				74.88
	06/30/04	23.78				73.48
	03/21/05	23.31				73.95
	10/14/05	24.75				72.51
	02/02/06	24.29				72.97
	04/25/06	22.62				74.64
	07/17/06	25.10				72.16
	10/17/06	27.99				69.27
	01/15/07	27.24				70.02
	04/25/07	23.74				73.52
	07/23/07	27.28				69.98
	12/13/07	33.51	33.21	0.30		63.98
	04/08/08	29.07	29.06	0.01		68.20
MW-8	08/18/03	21.72			98.70	76.98
	11/17/03	24.61				74.09
	03/11/04	24.30				74.40
	06/30/04	26.21				72.49
	03/21/05	25.25				73.45
	10/14/05	24.78				73.92
	02/02/06	26.39				72.31
	04/25/06	24.97				73.73
	07/17/06	27.65				71.05
	10/17/06	30.56				68.14
	01/15/07	Well Not Located				N/A
	04/25/07	Well Not Located				N/A
	07/23/07	29.95				68.75
	12/13/07	35.82				62.88
	04/08/08	31.02				67.68
MW-9R	08/18/03	30.33			99.68	69.35
	11/17/03	32.11				67.57
	03/11/04	33.15				66.53
	06/30/04	34.62				65.06
	03/21/05	36.35				63.33
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	Well Not Located				N/A
	07/17/06	Well Not Located				N/A
	10/17/06	40.84				58.84
	01/15/07	41.35				58.33
	04/25/07	37.09				62.59
	07/23/07	40.39				59.29
	12/13/07	45.47				54.21
	04/08/08	43.89				55.79

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Historical Groundwater Elevation And Product Thickness Dat
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolin
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-10R	08/18/03	Well Not Located			100.22	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	42.57				57.65
	02/02/06	44.69				55.53
	04/25/06	Well Not Located				N/A
	07/17/06	44.04				56.18
	10/17/06	46.71				53.51
	01/15/07	48.14				52.08
	04/25/07	45.41				54.81
	07/23/07	46.72				53.50
	12/13/07	48.10				52.12
	04/08/08	48.16				52.06
MW-11	08/18/03	19.96			100.47	80.51
	11/17/03	21.45				79.02
	03/11/04	23.01				77.46
	06/30/04	25.96				74.51
	03/21/05	23.56				76.91
	10/14/05	27.31				73.16
	02/02/06	25.79				74.68
	04/25/06	23.15				77.32
	07/17/06	27.66				72.81
	10/17/06	30.65				69.82
	01/15/07	28.92				71.55
	04/25/07	25.55				74.92
	07/23/07	29.73				70.74
	12/13/07	35.50				64.97
	04/08/08	31.17				69.30
MW-12	08/18/03	17.51			100.62	83.11
	11/17/03	21.51				79.11
	03/11/04	19.95				80.67
	06/30/04	23.62				77.00
	03/21/05	21.06				79.56
	10/14/05	25.18				75.44
	02/02/06	22.43				78.19
	04/25/06	21.78				78.84
	07/17/06	25.40				75.22
	10/17/06	28.55				72.07
	01/15/07	25.85				74.77
	04/25/07	22.55				78.07
	07/23/07	27.42				73.20
	12/13/07	33.61				67.01
	04/08/08	27.02				73.60

Table 1

Historical Groundwater Elevation And Product Thickness Dat
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolin
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-13	08/18/03	24.11			100.22	76.11
	11/17/03	26.78				73.44
	03/11/04	26.73				73.49
	06/30/04	27.79				72.43
	03/21/05	28.18				72.04
	10/14/05	28.88				71.34
	02/02/06	32.46				67.76
	04/25/06	27.03				73.19
	07/17/06	29.34				70.88
	10/17/06	32.29				67.93
	01/15/07	31.95				68.27
	04/25/07	28.62				71.60
	07/23/07	32.02				68.20
	12/13/07	38.71				61.51
	04/08/08	33.93				66.29
MW-14	08/18/03	15.29			96.30	81.01
	11/17/03	19.35				76.95
	03/11/04	18.18				78.12
	06/30/04	21.22				75.08
	03/21/05	19.20				77.10
	10/14/05	22.55				73.75
	02/02/06	20.69				75.61
	04/25/06	16.69				79.61
	07/17/06	22.84				73.46
	10/17/06	25.92				70.38
	01/15/07	23.53				72.77
	04/25/07	20.61				75.69
	07/23/07	25.12				71.18
	12/13/07	31.35				64.95
	04/08/08	25.46				70.84
MW-15	08/18/03	17.51			94.59	77.08
	11/17/03	20.39				74.20
	03/11/04	20.07				74.52
	06/30/04	21.95				72.64
	03/21/05	21.02				73.57
	10/14/05	23.10				71.49
	02/02/06	22.12				72.47
	04/25/06	20.70				73.89
	07/17/06	23.42				71.17
	10/17/06	26.35				68.24
	01/15/07	24.93				69.66
	04/25/07	21.67				72.92
	07/23/07	25.68				68.91
	12/13/07	34.35				60.24
	04/08/08	26.82				67.77

Table 1

Historical Groundwater Elevation And Product Thickness Dat
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolin
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-16	08/18/03	Well Not Located			92.01	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	23.86				68.15
	03/21/05	22.72				69.29
	10/14/05	26.00				66.01
	02/02/06	24.21				67.80
	04/25/06	22.98				69.03
	07/17/06	26.06				65.95
	10/17/06	29.26				62.75
	01/15/07	26.66				65.35
	04/25/07	23.60				68.41
	04/08/08	29.13				62.88
MW-18	08/18/03	24.82			100.05	75.23
	11/17/03	21.97				78.08
	03/11/04	27.00				73.05
	06/30/04	28.50				71.55
	03/21/05	29.10				70.95
	10/14/05	29.34				70.71
	02/02/06	29.23				70.82
	04/25/06	27.78				72.27
	07/17/06	30.07				69.98
	10/17/06	33.00				67.05
	01/17/07	32.43				67.62
	04/25/07	29.23				70.82
	07/23/07	32.36				67.69
	12/13/07	38.33				61.72
	04/08/08	34.75				65.30
MW-19	08/18/03	11.21			94.32	83.11
	11/17/03	16.22				78.10
	03/11/04	Well Not Located				N/A
	06/30/04	17.47				76.85
	03/21/05	16.31				78.01
	10/14/05	19.44				74.88
	02/02/06	17.88				76.44
	04/25/06	20.15				74.17
	07/17/06	18.69				75.63
	10/17/06	23.09				71.23
	01/15/07	20.20				74.12
	04/25/07	17.06				77.26
	07/23/07	22.28				72.04
	12/13/07	28.75				65.57
	04/08/08	21.46				72.86

Table 1
Historical Groundwater Elevation And Product Thickness Dat
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolin
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-20	08/18/03	12.36			94.88	82.52
	11/17/03	17.18				77.70
	03/11/04	Well Not Located				N/A
	06/30/04	18.98				75.90
	03/21/05	16.40				78.48
	10/14/05	20.55				74.33
	02/02/06	18.27				76.61
	04/25/06	19.98				74.90
	07/17/06	20.83				74.05
	10/17/06	24.12				70.76
	01/17/07	20.84				74.04
	04/25/07	18.14				76.74
	07/23/07	23.24				71.64
	12/13/07	29.92				64.96
	04/08/08	23.30				71.58
MW-21	08/18/03	10.17			84.61	74.44
	11/17/03	14.41				70.20
	03/11/04	Well Not Located				N/A
	06/30/04	16.34				68.27
	03/21/05	14.51				70.10
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	18.34				66.27
	04/25/07	Well Closed				N/A
	07/23/07	20.69				63.92
	12/13/07	Well Closed				N/A
	04/08/08	Well Closed				N/A
MW-22	08/13/03	10.61			84.71	74.10
	11/17/03	17.79				66.92
	03/11/04	Well Not Located				N/A
	06/30/04	21.31				63.40
	03/21/05	17.42				67.29
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	19.60				65.11
	04/25/07	Well Closed				N/A
	07/23/07	26.49				58.22
	12/13/07	Well Closed				N/A
	04/08/08	Well Closed				N/A

Table 1
Historical Groundwater Elevation And Product Thickness Dat
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolin
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-23	08/18/03	Well Not Located			92.05	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	Well Not Located				N/A
	02/02/06	24.40				67.65
	04/25/06	Well Not Located				N/A
	07/17/06	25.48				66.57
	10/17/06	Well Not Located				N/A
	01/15/07	Well Not Located				N/A
	04/25/07	24.00				68.05
	07/23/07	Well Not Located				N/A
	12/13/07	33.72				58.33
	04/08/08	Well Not Located				N/A
MW-24	08/18/03	19.76			97.74	77.98
	11/17/03	22.42				75.32
	03/11/04	22.44				75.30
	06/30/04	24.04				73.70
	03/21/05	23.35				74.39
	10/14/05	25.15				72.59
	02/02/06	Well Not Located				N/A
	04/25/06	23.00				74.74
	07/17/06	Well Not Located				N/A
	10/17/06	28.37				69.37
	01/15/07	27.26				70.48
	04/25/07	Well Not Located				N/A
	07/23/07	27.73				70.01
	12/13/07	Well Not Located				N/A
	04/08/08	29.18				68.56
MW-25	08/18/03	21.94			99.63	77.69
	11/17/03	24.49				75.14
	03/11/04	24.44				75.19
	06/30/04	26.08				73.55
	03/21/05	27.75				71.88
	10/14/05	26.70				72.93
	02/02/06	26.72				72.91
	04/25/06	Well Not Located				N/A
	07/17/06	26.68				72.95
	10/17/06	30.03				69.60
	01/15/07	29.05				70.58
	04/25/07	26.42				73.21
	07/23/07	29.5				70.13
	12/13/07	35.63				64.00
	04/08/08	31.28				68.35

Table 1
Historical Groundwater Elevation And Product Thickness Dat
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolin
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-26	08/18/03	100+			100.22	N/M*
	11/17/03	90.02				10.20
	03/11/04	100+				N/M*
	06/30/04	100+				N/M*
	03/21/05	100+				N/M*
	10/14/05	100+				N/M*
	02/02/06	100+				N/M*
	04/25/06	100+				N/M*
	07/17/06	100+				N/M*
	07/17/06	100+				N/M*
	01/15/07	100+				N/M*
	04/25/07	100+				N/M*
	07/23/07	100+				N/M*
	12/13/07	97.57				2.65
	04/08/08	83.89				16.33

N/A = Not Applicable
N/M* = Not Measured Due To Depth of Well Exceeding 100 feet. Measuring Tape Ends at 100 feet
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) ---- where applicable

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-1	10/01/02 & 12/19/02	**2,300.00**	**29,000.00**	3,300.00	18,900.00	43.00	27.00			53,570.00
	08/18/03	**1,700.00**	1,300.00	2,600.00	13,000.00	**2,200.00**	**1,200.00**			22,000.00
	11/19/03	**1,900.00**	17,000.00	3,100.00	18,000.00	**1,700.00**	**680.00**			42,380.00
	03/11/04	**1,800.00**	14,000.00	3,300.00	16,000.00	**1,600.00**	**1,200.00**			37,900.00
	06/30/04	**1,640.00**	14,200.00	**3,490.00**	**20,200.00**	**1,770.00**	**380.00**			41,680.00
	03/21/05	**1,210.00**	8,540.00	2,440.00	13,100.00	**1,430.00**	<400			26,720.00
	10/14/05	Not Located								0.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**158.00**	**106.00**			264.00
	07/17/06	Not Located								0.00
	10/17/06	Not Located								0.00
	01/15/07	Not Located								0.00
	04/25/07	**954.00**	5,730.00	**3,350.00**	17,700.00	**1,200.00**	**691.00**			29,625.00
	07/23/07	**1,170.00**	4,650.00	3,230.00	14,200.00	**1,260.00**	**538.00**			25,048.00
	12/13/07	**1,960.00**	16,400.00	**3,760.00**	**20,200.00**	**1,500.00**	**432.00**			44,252.00
	04/08/08	**1,080**	5,300	2,770	15,200	**1,040**	**568**			25,958
	SSTL	**65.00**	**24,700.00**	**3,300.00**	**18,900.00**	**43.00**	**27.00**			
	> SSTL	1,015.00	0.00	0.00	0.00	997.00	541.00			
MW-2	10/01/02 & 12/19/02	**10,000.00**	**26,000.00**	2,600.00	9,400.00	**1,300.00**	**520.00**			49,820.00
	08/18/03	**9,300.00**	22,000.00	2,200.00	**12,000.00**	**1,900.00**	**5,000.00**			52,400.00
	11/19/03	**12,000.00**	**29,000.00**	**3,000.00**	**15,000.00**	**5,100.00**	**2,500.00**			66,600.00
	03/11/04	**8,400.00**	21,000.00	2,100.00	**12,000.00**	**3,400.00**	**2,500.00**			49,400.00
	06/30/04	**9,890.00**	**29,900.00**	2,460.00	**14,400.00**	**3,510.00**	**1,000.00**			61,160.00
	03/21/05	**9,970.00**	21,800.00	2,060.00	**12,400.00**	**4,620.00**	<1,000			50,850.00
	10/14/05	**11,600.00**	**30,200.00**	2,180.00	**12,800.00**	**5,360.00**	<1,000			62,140.00
	02/02/06	**16,200.00**	**33,700.00**	2,450.00	**14,000.00**	**6,400.00**	<1,000			72,750.00
	04/25/06	**16,800.00**	**34,400.00**	2,290.00	**12,800.00**	**7,010.00**	**4,430.00**			77,730.00
	07/17/06	**21,900.00**	**46,200.00**	**3,150.00**	**16,400.00**	**11,700.00**	<1,000			99,350.00
	10/17/06	**20,200.00**	**49,700.00**	**2,710.00**	**13,400.00**	**12,400.00**	<1,000			98,410.00
	01/15/07	**16,700.00**	**37,800.00**	**2,720.00**	**14,800.00**	**8,650.00**	<1,000			80,670.00
	04/25/07	**13,900.00**	**33,700.00**	**2,310.00**	**14,200.00**	**5,650.00**	<1,000			69,760.00
	07/23/07	**23,300.00**	**45,000.00**	**3,400.00**	**16,000.00**	**10,800.00**	<1000			98,500.00
	12/13/07	**20,500.00**	**41,000.00**	**2,920.00**	**15,300.00**	**5,530.00**	**338.00**			85,588.00
	04/08/08	**18,000**	**43,500**	**3,220**	**17,900**	**5,170**	**540**			88,330
	SSTL	**120.00**	**24,700.00**	**2,600.00**	**9,400.00**	**43.00**	**27.00**			
	> SSTL	17,880.00	18,800.00	620.00	8,500.00	5,127.00	513.00			
MW-3	10/01/02 & 12/19/02	85.00	93.00	5.00	102.00	5.00	5.00			295.00
	08/18/03	1.60	<5.0	<1.0	<3.0	<1.0	<5.0			1.60
	11/19/03	31.00	<5.0	1.30	9.00	<1.0	<5.0			41.30
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	72.30	4.10	<2.0	19.30	<2.0	<2.0			95.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	75.40	2.80	2.30	12.10	<1.0	<2.0			92.60
	02/02/06	1.60	<1.0	<1.0	<3.0	<1.0	<2.0			1.60
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/17/06	21.20	<1.0	<1.0	4.60	<1.0	<2.0			25.80
	10/17/06	62.30	7.50	1.30	19.10	<1.0	<2.0			90.20
	01/15/07	10.50	6.80	<1.0	<3.0	<1.0	<2.0			17.30
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	46.30	2.00	<1.0	4.60	<1.0	<2.0			52.90
	12/13/07	74.70	**99.10**	**32.90**	93.10	<1.0	<2.0			299.80
	04/08/08	3.5	1.4	<0.20	0.91	<0.25	<0.44			5.81
	SSTL	**85.00**	**93.00**	**5.00**	**102.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-4	10/01/02 & 12/19/02	**5,500.00**	4,700.00	3,900.00	17,900.00	**6,400.00**	**590.00**			38,990.00
	08/18/03	**1,000.00**	15,000.00	2,900.00	14,000.00	**100.00**	**500.00**			33,500.00
	11/19/03	**1,200.00**	14,000.00	2,700.00	14,000.00	**4,900.00**	**5,000.00**			41,800.00
	03/11/04	**540.00**	8,000.00	1,000.00	8,400.00	**250.00**	**1,200.00**			19,390.00
	06/30/04	**884.00**	20,100.00	2,750.00	16,000.00	**1,000.00**	**1,000.00**			41,734.00
	03/21/05	**4,010.00**	**25,300.00**	3,020.00	16,500.00	<500	<1,000			48,830.00
	10/14/05	**1,450.00**	20,000.00	3,070.00	16,000.00	<500	<1,000			40,520.00
	02/02/06	**2,110.00**	22,400.00	3,240.00	17,700.00	<500	<1,000			45,450.00
	04/25/06	**387.00**	8,780.00	2,240.00	12,200.00	<50	<50			23,607.00
	07/17/06	**1,600.00**	23,900.00	3,850.00	**19,000.00**	<200	<400			48,350.00
	10/17/06	**4,430.00**	47,300.00	3,780.00	**19,000.00**	598.00	<1000			75,108.00
	01/15/07	**3,060.00**	**31,800.00**	3,170.00	**17,600.00**	<500	<1000			55,630.00
	04/25/07	**1,240.00**	**17,200.00**	2,970.00	**1,700.00**	<500	<1000			23,110.00
	07/23/07	**4,410.00**	**40,700.00**	**4,810.00**	**22,100.00**	**1,110.00**	<1000			73,130.00
	12/13/07	**6,820.00**	**53.800.00**	3,780.00	**19,300.00**	**3,070.00**	**275.00**			87,045.00
	04/08/08	**2,840**	**39,700**	**4,020**	**23,300**	**1,080**	**467**			71,407
	SSTL	**110.00**	**24,700.00**	**3,900.00**	**17,900.00**	**43.00**	**27.00**			
	> SSTL	2,730.00	15,000.00	120.00	5,400.00	1,037.00	440.00			
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	**20.00**	<1.0	<3.0	<1.0	<5.0			20.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	12/13/07	1.40	**17.60**	**5.60**	**25.70**	<1.0	1.50			52.00
	04/08/08	<0.20	<0.27	<0.20	<0.56	<0.25	<0.44			0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-7	10/01/02 & 12/19/02	**226,000.00**	**301,000.00**	**280,000.00**	**278,000.00**	**5,110,000.00**	**2,000.00**			6,197,000.00
	08/18/03	**3,900.00**	23,000.00	6,600.00	**37,000.00**	**500.00**	**2,500.00**			73,500.00
	11/19/03	**5,000.00**	15,000.00	**3,800.00**	**19,000.00**	**100.00**	**770.00**			43,670.00
	03/11/04	**6,200.00**	12,000.00	**3,300.00**	**15,000.00**	**500.00**	**2,500.00**			39,500.00
	06/30/04	**5,340.00**	18,400.00	**2,990.00**	**15,200.00**	**1,000.00**	**1,000.00**			43,930.00
	03/21/05	**7,710.00**	17,200.00	**2,820.00**	**13,400.00**	<500	<1,000			41,130.00
	10/14/05	**4,660.00**	12,600.00	1,730.00	7,610.00	<200	<400			26,600.00
	02/02/06	**9,810.00**	20,500.00	2,450.00	**10,800.00**	<200	<400			43,560.00
	04/25/06	**2,040.00**	5,530.00	715.00	3,190.00	<100	**102.00**			11,577.00
	07/17/06	**3,360.00**	9,310.00	1,520.00	7,050.00	<100	**321.00**			21,561.00
	10/17/06	**7,460.00**	24,700.00	2,920.00	13,700.00	<100	**471.00**			49,251.00
	01/15/07	**3,700.00**	16,900.00	4,370.00	28,200.00	<500	**5,670.00**			58,840.00
	04/25/07	**1,760.00**	5,510.00	960.00	5,170.00	<500	**233.00**			13,633.00
	07/23/07	**5,760.00**	18,600.00	2,750.00	12,000.00	<100	**575.00**			39,685.00
	12/13/07	Not Sampled, Free Product Present								39,685.00
	04/08/08	**226,000**	**301,000**	**280,000**	**278,000**	**5,110,000**	**2,000**			6,197,000
	SSTL	120.00	24,700.00	2,600.00	9,400.00	43.00	27.00			
	> SSTL	225,880	276,300	277,400	268,600	5,109,957	1,973			
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/17/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	12/13/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/08/08	<0.20	0.61	<0.20	<0.56	<0.25	<0.44			0.61
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.50	<5.0			1.50
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.70	<2.0			1.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.90	<2.0			1.90
	10/14/05	Not Located								0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	1.40	<2.0			1.40
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	12/13/07	<1.0	<1.0	<1.0	<3.0	1.60	<2.0			1.60
	04/08/08	<0.20	<0.27	<0.20	<0.56	1.6	<0.44			1.60
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	10/14/05	**73.30**	1.60	**5.60**	**57.90**	**38.20**	**10.40**			187.00
	02/02/06	**27.80**	<1.0	2.80	**16.50**	**28.70**	3.00			78.80
	04/25/06	Not Located								0.00
	07/17/06	123.00	8.90	32.20	233.00	29.90	26.80			453.80
	10/17/06	23.80	<1.0	4.60	18.80	21.40	4.50			73.10
	01/15/07	Dry								0.00
	04/25/07	**63.50**	<1.0	1.90	**21.70**	**26.10**	**7.40**			120.60
	07/23/07	**38.20**	<1.0	1.90	**17.40**	**24.20**	**8.30**			90.00
	12/13/07	Dry								0.00
	04/08/08	Dry								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	58.50	0.00	0.00	0.00	0.00	0.00			
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-13	10/01/02 & 12/19/02	**7,400**	14,000	2,500	7,700	**69,000**	**290**			100,890.00
	08/18/03	**9,500**	12,000	2,000	5,700	**7,600**	**5,000**			41,800.00
	11/19/03	**4,800**	6,500	1,000	5,400	**51,000**	**2,500**			71,200.00
	03/11/04	**9,500**	9,500	2,200	**7,800**	**93,000**	**1,200**			123,200.00
	06/30/04	**2,770**	4,000	**4,000**	**12,000**	**77,100**	**4,000**			103,870.00
	03/21/05	**11,600**	**13,900**	2,360	6,720	**104,000**	<4,000			138,580.00
	10/14/05	**10,600**	**20,500**	2,200	**8,870**	**88,100**	<2,000			130,270.00
	02/02/06	**14,300**	**24,900**	**2,710**	**10,600**	**79,400**	<2,000			131,910.00
	04/25/06	**11,800**	**23,400**	2,310	**10,900**	**85,800**	**8,420**			142,630.00
	07/17/06	**12,300**	**22,200**	2,300	**9,010**	**81,000**	<4,000			126,810.00
	10/17/06	**10,000**	**28,400**	2,280	**7,010**	**76,500**	<4,000			124,190.00
	01/15/07	**9,510**	**18,200**	<2000	**7,260**	**77,600**	<4,000			112,570.00
	04/25/07	**120**	**193**	<2000	**<300**	**5,780**	<200			6,093.00
	07/23/07	**12,100**	**20,900**	2,320	**10,200**	**83,600**	**302**			129,422.00
	12/13/07	**8,470**	**15,600**	1,070	6,610	**71,200**	<2000			102,950.00
	04/08/08	22.8	76.8	11.8	61.5	**141**	2.5			316.4
	SSTL	110	14,000	2,500	7,700	43	27			
	> SSTL	0	0	0	0	98	0			
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	**8.80**	**7.80**	2.20	12.00	**16.00**	<5.0			46.80
	11/19/03	3.70	<5.0	<1.0	3.60	<1.0	<5.0			7.30
	03/11/04	1.20	<5.0	<1.0	<3.0	<1.0	<5.0			1.20
	06/30/04	4.50	<2.0	<2.0	<6.0	<2.0	<2.0			4.50
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	**5.90**	<1.0	<1.0	<3.0	<1.0	<2.0			5.90
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	2.10	<1.0	<1.0	<3.0	<1.0	<1.0			2.10
	07/17/06	**13.00**	<1.0	<1.0	<3.0	<1.0	<2.0			13.00
	10/17/06	**8.90**	<1.0	<1.0	<3.0	<1.0	<2.0			8.90
	01/15/07	**<1.0**	4.60	**4.20**	32.50	<1.0	27.10			68.40
	04/25/07	**2.70**	<1.0	<1.0	<3.0	<1.0	<2.0			2.70
	07/23/07	**12.20**	<1.0	<1.0	<3.0	<1.0	<2.0			12.20
	12/13/07	**11.10**	**11.90**	1.90	11.00	<1.0	<2.0			35.90
	04/08/08	1.5	0.83	0.22	1.1	<0.25	<0.44			1.5
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0	0	0	0	0	0			
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	1.30	<5.0	<1.0	<3.0	**9.80**	<5.0			11.10
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0			0.74
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	12/13/07	<1.0	<1.0	<1.0	<3.0	1.30	<2.0			1.30
	04/08/08	<0.20	<0.27	<0.20	<0.56	1.2	<0.44			1.2
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	12/13/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/08/08	<0.20	<0.27	<0.20	<0.56	<0.25	<0.44			0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	Not Sampled								0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Not Sampled								0.00
	02/02/06	Well Closed								0.00
	02/02/06	Well Closed								0.00
	04/25/07	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Well Closed								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-18	10/01/02 & 12/19/02	5.00	7.00	5.00	139.00	**2,300.00**	24.00			2,480.00
	06/18/03	**370.00**	**9.90**	**6.00**	**180.00**	**520.00**	**40.00**			1,125.90
	11/19/03	**210.00**	**50.00**	**10.00**	110.00	**1,700.00**	**50.00**			2,130.00
	03/11/04	**170.00**	**25.00**	<5.0	54.00	**840.00**	**25.00**			1,114.00
	06/30/04	3.50	<2.0	<2.0	15.60	**4,420.00**	<2.0			4,439.10
	03/21/05	**121.00**	<50	<50	<150	**1,970.00**	<100			2,091.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	**3,270.00**	<2.0			3,270.00
	02/02/06	<50	<50	<50	<150	<50	<100			0.00
	04/25/06	<50	<50	<50	<150	**4,160.00**	<50			4,160.00
	07/17/06	<50	<50	<50	<150	**4,480.00**	<100			4,480.00
	10/117/06	<50	<50	<50	<150	**4,930.00**	<100			4,930.00
	01/15/07	<50	<50	<50	<150	**4,890.00**	<100			4,890.00
	04/25/07	<50	<50	<50	<150	**3,060.00**	<100			3,060.00
	07/23/07	<50	<50	<50	<150	**4,730.00**	<100			4,730.00
	12/13/07	<100	<100	<100	<300	**5,080.00**	<200			5,080.00
	04/08/08	<0.20	<0.27	<0.20	<0.56	**4,550**	<0.44			4,550.00
	SSTL	5.00	7.00	5.00	139.00	43.00	24.00			
	> SSTL	0.00	0.00	0.00	0.00	4,507.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-23	02/02/06	76.40	2.60	<1.0	3.00	244.00	<2.0			326.00
	04/25/06	Not Located								0.00
	07/17/06	1.50	<1.0	<1.0	<3.0	209.00	<2.0			210.50
	10/17/06	Not Located								
	04/25/07	4.70	<1.0	<1.0	<3.0	253.00	<2.0			257.70
	12/13/07	0.62	<2.0	<2.0	<6.0	<2.0	<4.0			0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-24	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	32.00	<5.0			32.00
	08/18/03	4.80	<5.0	<1.0	<3.0	**70.00**	<5.0			74.80
	11/19/03	**34.00**	<5.0	<1.0	5.60	**82.00**	<5.0			121.60
	03/11/04	**30.00**	<5.0	<1.0	<3.0	**54.00**	<5.0			84.00
	06/30/04	**63.40**	<2.0	<2.0	10.20	**186.00**	1.20			260.80
	03/21/05	**154.00**	<5.0	<5.0	**15.60**	**233.00**	<10			402.60
	10/14/05	<1.0	<1.0	<1.0	<3.0	**211.00**	**19.00**			230.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**170.00**	**60.50**			230.50
	07/17/06	Not Located								0.00
	10/17/06	6.20	<5.0	<1.0	<3.0	**198.00**	<5.0			204.20
	01/15/07	9.30	<1.0	<1.0	<3.0	**191.00**	<2.0			200.30
	04/25/07	Not Located								0.00
	07/23/07	2.60	<1.0	<1.0	<3.0	**276.00**	<2.0			278.60
	12/13/07	Not Located								0.00
	04/08/08	1.50	<1.4	<1.0	<2.8	**212**	<2.2			213.50
	SSTL	5.00	5.00	5.00	15.00	32.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	180.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	9.00	<5.0			9.00
	08/18/03	**170.00**	<5.0	1.40	**110.00**	**140.00**	**42.00**			463.40
	11/19/03	**42.00**	<5.0	<1.0	**47.00**	**44.00**	**6.00**			139.00
	03/11/04	**82.00**	**7.60**	2.90	**120.00**	**62.00**	**11.00**			285.50
	06/30/04	**147.00**	4.50	0.52	**113.00**	**304.00**	**15.30**			584.32
	03/21/05	**82.20**	<5.0	<5.0	**17.10**	**275.00**	<10			374.30
	10/14/05	**32.60**	<5.0	<5.0	<15	**254.00**	**99.90**			386.50
	02/02/06	**15.80**	<1.0	<1.0	<3.0	**366.00**	**12.00**			393.80
	04/25/06	Not Located								0.00
	07/17/06	<1.0	>1.0	<1.0	<3.0	**185.00**	<2.0			185.00
	10/17/06	<1.0	>1.0	<1.0	<3.0	**147.00**	<2.0			147.00
	01/15/07	<1.0	>1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	3.90	<1.0	4.00	**19.50**	<2.0			27.40
	07/23/07	<1.0	<1.0	<1.0	<3.0	**222.00**	<2.0			222.00
	12/13/07	0.62	<2.0	<2.0	<6.0	**200.00**	<4.0			200.62
	04/08/08	<0.20	<0.27	<0.20	<0.56	0.88	<0.44			0.88
	SSTL	5.00	5.00	5.00	15.00	9.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	110.00	<5.0			110.00
	08/18/03	**150.00**	**620.00**	**160.00**	**830.00**	**930.00**	**250.00**			2,940.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	**59.00**	<5.0			59.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.10	<5.0			3.10
	06/30/04	1.20	**7.50**	0.69	5.50	**208.00**	<2.0			222.89
	03/21/05	<2.0	<2.0	<2.0	<6.0	**80.90**	<4.0			80.90
	10/14/05	1.60	**5.60**	<1.0	3.50	**73.10**	<2.0			83.80
	02/02/06	1.30	**5.50**	<1.0	6.10	38.80	<2.0			51.70
	04/25/06	1.10	**4.80**	<1.0	4.70	**77.70**	**7.50**			95.80
	07/17/06	1.00	4.20	<1.0	4.20	**78.80**	<2.0			88.20
	10/17/06	1.10	**6.00**	<1.0	5.20	**93.70**	<2.0			106.00
	01/15/07	1.20	**6.30**	<1.0	4.30	**33.90**	<2.0			45.70
	04/25/07	1.10	**5.80**	<1.0	6.40	**53.20**	<2.0			66.50
	07/23/07	<1.0	1.10	<1.0	<3.0	**63.60**	<2.0			64.70
	12/13/07	<1.0	<1.0	<1.0	<3.0	27.80	<2.0			27.80
	04/08/08	<0.20	<0.27	<0.20	<0.56	25.7	<0.44			25.7
	SSTL	5.00	5.00	5.00	15.00	43.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
TOTAL MASS										**76,201.99**
TOTAL SSTL MASS		**685**	**112,970**	**14,980**	**63,751**	**402**	**234**		**193,022**	
INITIAL MASS ABOVE SSTL									**6,295,759**	
CURRENT MASS ABOVE SSTL									**6,243,615.00**	
PERCENT TOTAL MASS REDUCTION ABOVE SSTL									**0.83**	

- Reported in parts per billion (µg/l)
- SSTL: Site Specific Target Level
- NE = Not Established
- **Bold** denotes concentrations over respective SSTL & RBSL

APPENDIX C
Field Data Information Sheets for Groundwater Sampling

SEI Environmental

SC Monitoring Well Gauging Data Sheet

Site Name: Circle Stop N Shop **WO#** 303064

Date 4/8/08

Well ID	Total Depth (feet)	Well Dia. (in.)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes
MW-1	49	2			30.41	
MW-2	40	2			29.08	
MW-3	40	2			28.24	
MW-4	40	2		33	33.34	
MW-5	45	2			26.55	Gauge only
MW-6	40	2			25.90	Gauge only Semi-annual (Apr/Oct)
MW-7	34	2	29.06		29.07	Free Product, did not sample
MW-8	40	2			31.02	Gauge only Semi-annual (Apr/Oct)
MW-9R	67	2			43.89	Gauge only Semi-annual (Apr/Oct)
MW-10R					48.16	Dry Not enough to sample
MW-11	40	2			31.17	Gauge only
MW-12	40	2			27.02	Gauge only
MW-13	62	2			33.93	
MW-14	40	2			25.46	
MW-15	35	2			26.82	
MW-16	35	2			29.13	
MW-17	37	2		Facility closed		Gauge only
MW-18	102	2			34.75	
MW-19	37	2			21.46	Gauge only
MW-20	40	2			23.30	Gauge only
MW-21	41	2	Facility Closed			Gauge only
MW-22	46	2	Facility Closed			Gauge only
MW-23		2			Could Not Find	
MW-24	70	2			29.18	
MW-25	65	2			31.28	
MW-26	100+	2			83.89	

MW-9 39.70

Analysis: **EPA Method 8260B for BTEX, MTBE, and Naphthalene**

2-inch diameter well: Well Volume = (water column) x (0.163 gallon/foot)
4-inch diameter well: Well Volume = (water column) x (0.652 gallon/foot)
Purge amount = Well Volume x 3

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

05/12/08

Technical Report for

SEI-Columbia, SC

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC

303064

Accutest Job Number: F56792

Sampling Date: 04/08/08

Report to:

SEI-Daytona Beach, FL

dbrewster@sei-environmental.com

ATTN: David Brewster

Total number of pages in report: 24

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Test results relate only to samples analyzed.

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Sample Summary

SEI-Columbia, SC

Job No: F56792

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F56792-1	04/08/08	10:50 SS	04/10/08	AQ	Ground Water	MW-15
F56792-2	04/08/08	10:55 SS	04/10/08	AQ	Ground Water	MW-16
F56792-3	04/08/08	11:10 SS	04/10/08	AQ	Ground Water	MW-14
F56792-4	04/08/08	11:15 SS	04/10/08	AQ	Ground Water	MW-6
F56792-5	04/08/08	11:25 SS	04/10/08	AQ	Ground Water	MW-3
F56792-6	04/08/08	11:35 SS	04/10/08	AQ	Ground Water	MW-26
F56792-7	04/08/08	11:40 SS	04/10/08	AQ	Ground Water	MW-4
F56792-8	04/08/08	11:45 SS	04/10/08	AQ	Ground Water	MW-18
F56792-9	04/08/08	11:50 SS	04/10/08	AQ	Ground Water	MW-13
F56792-10	04/08/08	12:15 SS	04/10/08	AQ	Ground Water	MW-8
F56792-11	04/08/08	12:00 SS	04/10/08	AQ	Ground Water	MW-2
F56792-12	04/08/08	12:05 SS	04/10/08	AQ	Ground Water	MW-24
F56792-13	04/08/08	12:30 SS	04/10/08	AQ	Ground Water	MW-1

Sample Summary
(continued)

SEI-Columbia, SC

Job No: F56792

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F56792-14	04/08/08	12:40 SS	04/10/08	AQ	Ground Water	MW-25
F56792-15	04/08/08	12:50 SS	04/10/08	AQ	Ground Water	MW-9R

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-15		
Lab Sample ID:	F56792-1	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025888.D	1	04/16/08	KW	n/a	n/a	VN1089
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.2	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	95%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-16		
Lab Sample ID:	F56792-2	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025889.D	1	04/16/08	KW	n/a	n/a	VN1089
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		87-116%
17060-07-0	1,2-Dichloroethane-D4	95%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	F56792-3	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025932.D	1	04/17/08	KW	n/a	n/a	VN1090
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.5	1.0	0.20	ug/l	
108-88-3	Toluene	0.83	1.0	0.27	ug/l	J
100-41-4	Ethylbenzene	0.22	1.0	0.20	ug/l	J
1330-20-7	Xylene (total)	1.1	3.0	0.56	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	95%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	F56792-4	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025893.D	1	04/16/08	KW	n/a	n/a	VN1089
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		87-116%
17060-07-0	1,2-Dichloroethane-D4	94%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	F56792-5	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025894.D	1	04/16/08	KW	n/a	n/a	VN1089
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	3.5	1.0	0.20	ug/l	
108-88-3	Toluene	1.4	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	0.91	3.0	0.56	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%		87-116%
17060-07-0	1,2-Dichloroethane-D4	94%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-26		
Lab Sample ID:	F56792-6	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025895.D	1	04/16/08	KW	n/a	n/a	VN1089
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	25.7	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		87-116%
17060-07-0	1,2-Dichloroethane-D4	94%		76-127%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F56792-7	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025935.D	100	04/17/08	KW	n/a	n/a	VN1090
Run #2	M0026647.D	500	04/18/08	KW	n/a	n/a	VM1104

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	2840	100	20	ug/l	
108-88-3	Toluene	39700 [a]	500	140	ug/l	
100-41-4	Ethylbenzene	4020	100	20	ug/l	
1330-20-7	Xylene (total)	23300	300	56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1080	100	25	ug/l	
91-20-3	Naphthalene	467	200	44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%	94%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	95%	76-127%
2037-26-5	Toluene-D8	99%	106%	86-112%
460-00-4	4-Bromofluorobenzene	103%	105%	84-120%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	F56792-8	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025933.D	1	04/17/08	KW	n/a	n/a	VN1090
Run #2	M0026648.D	50	04/18/08	KW	n/a	n/a	VM1104

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4550 [a]	50	13	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	95%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	99%	76-127%
2037-26-5	Toluene-D8	106%	108%	86-112%
460-00-4	4-Bromofluorobenzene	107%	105%	84-120%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-13		
Lab Sample ID:	F56792-9	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025934.D	1	04/17/08	KW	n/a	n/a	VN1090
Run #2	M0026649.D	5	04/18/08	KW	n/a	n/a	VM1104

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	22.8	1.0	0.20	ug/l	
108-88-3	Toluene	76.8	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	11.8	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	61.5	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	141 [a]	5.0	1.3	ug/l	
91-20-3	Naphthalene	2.5	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	96%	91%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	97%	76-127%
2037-26-5	Toluene-D8	104%	109%	86-112%
460-00-4	4-Bromofluorobenzene	108%	104%	84-120%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	F56792-10	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0025922.D	1	04/17/08	KW	n/a	n/a	VN1090
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	0.61	1.0	0.27	ug/l	J
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		87-116%
17060-07-0	1,2-Dichloroethane-D4	94%		76-127%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F56792-11	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C054854.D	500	04/16/08	LD	n/a	n/a	VC2220
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	18000	500	100	ug/l	
108-88-3	Toluene	43500	500	140	ug/l	
100-41-4	Ethylbenzene	3220	500	100	ug/l	
1330-20-7	Xylene (total)	17900	1500	280	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5170	500	130	ug/l	
91-20-3	Naphthalene	540	1000	220	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-24		
Lab Sample ID:	F56792-12	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C054857.D	5	04/16/08	LD	n/a	n/a	VC2220
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.5	5.0	1.0	ug/l	J
108-88-3	Toluene	ND	5.0	1.4	ug/l	
100-41-4	Ethylbenzene	ND	5.0	1.0	ug/l	
1330-20-7	Xylene (total)	ND	15	2.8	ug/l	
1634-04-4	Methyl Tert Butyl Ether	212	5.0	1.3	ug/l	
91-20-3	Naphthalene	ND	10	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	108%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	F56792-13	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C054858.D	200	04/16/08	LD	n/a	n/a	VC2220
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1080	200	40	ug/l	
108-88-3	Toluene	5300	200	54	ug/l	
100-41-4	Ethylbenzene	2770	200	40	ug/l	
1330-20-7	Xylene (total)	15200	600	110	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1040	200	50	ug/l	
91-20-3	Naphthalene	568	400	88	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	106%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-25		
Lab Sample ID:	F56792-14	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C054875.D	1	04/17/08	LD	n/a	n/a	VC2221
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	0.88	1.0	0.25	ug/l	J
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	109%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@76320 10:57 12-May-2008

Report of Analysis

Client Sample ID:	MW-9R		
Lab Sample ID:	F56792-15	Date Sampled:	04/08/08
Matrix:	AQ - Ground Water	Date Received:	04/10/08
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C054860.D	1	04/16/08	LD	n/a	n/a	VC2220
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.6	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	99%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	111%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #: F56792
Accutest Control #:

Client Information

Name: SEI Environmental
Address: 2025 Progress Ct.
City: Raleigh State: NC Zip: 27608
Send Report to:
Phone #: 919-832-2535

Facility Information

Project Name: Circle Stop N Shop
Location: 3287 Columbia Hwy Leesville, SC. WO#303064
Project No.:
FAX #: 919-832-5914

Analytical Information

Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	Preservation: Voc	NaOH	HNO3	H2SO4	None	BTEX, MTBE Naphthalene
MW-15	4/9/08	10:50	SS, HP	GW	3	3					X
MW-16		10:55									X
MW-14		11:10									X
MW-6		11:15									X
MW-3		11:25									X
MW-26		11:35									X
MW-4		11:40									X
MW-18		11:45									X
MW-13		11:50									X
MW-8		12:15									X

Turnaround Information

- [x] 21 Day Standard
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	4/9/08 16:10	1 FX	2 FX	4-10-08	2 J. Coppel 09:00
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐ 1.0

Revised 09/2005 RS

F56792: Chain of Custody
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ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #: F56792
Accutest Control #:

Client Information

Name: SEI Environmental
Address: 2025 Progress Ct.
City: Raleigh State: NC Zip: 27608
Send Report to:
Phone #: 919-832-2535

Facility Information

Project Name: Circle Stop N Shop
Location: Leesville, S.C. 3380 Columbia Hwy
Project No. 303064
FAX #: 919-832-5914

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Voc	NaOH	HNO3	H2SO4	None	8260B - BTEX, MTBE Naphthalene
MW-2	4/8/08	12:00	SS.HP	GW	3	3					X
MW-24	↓	12:05	↓	↓	↓	↓					X
MW-1		12:30									X
MW-25		12:40									X
MW-9R		12:50									X

Turnaround Information

- [x] 21 Day Standard
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
[signature]	4/9/08 16:10	1 FX	2 FX	4-10-08	2 J. Cornel 09:00
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐ 1.0

Revised 09/2005 RS

F56792: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F56792 CLIENT: SEI PROJECT: CIRCLE STOP N SHOP

DATE/TIME RECEIVED: 4-10-08 09:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 1.0

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8639 1417 2580

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET
- [ ] WET ICE RECEIVED IN COOLER

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OF LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE SE 4-10-08 TECHNICIAN SIGNATURE/DATE ASBD 12/17/07

F56792: Chain of Custody
Page 3 of 3

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

RANDY CASEY
SEI ENVIRONMENTAL INC
2025 PROGRESS CT
RALEIGH NC 27608

SEP 04 2008

Re: **CASE Review**
Circle Stop-N-Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit # 05981; CA #17203
SB-21914-03/25/03, PO # 463655
Corrective Action System Evaluation (CASE) received September 2, 2008
Saluda County

Dear Mr. Casey:

As you are aware, free product persists in monitoring well MW-7. SEI Environmental originally estimated a clean-up time frame of 3 years. It is now approaching 5 years and the CASE did not document the completion of any corrective actions during this reporting period. SEI's approach of solely monitoring with the completion of one Aggressive Fluid Vapor Recovery (AFVR) event is inadequate.

A Corrective Action Plan for the continuation of corrective actions was due on or before May 1, 2008, but has not yet been received.

Further, the first quarter 2008 Corrective Action System Evaluation (CASE) report was to be submitted on or before June 1, 2008. Instead, it was submitted three months late on September 2, 2008. The 2nd quarter 2008 CASE report is also past due as it was due September 1, 2008.

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

UST DOCKET
11 tech

CC: Technical File
Joan Boozer, 273 Aull Rd., Leesville, SC 29070
Louise Clark, 2920 Prosperity Hwy, Leesville, SC 29070
Contractor Certification File

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JOAN BOOZER
3287 COLUMBIA HWY
LEESVILLE SC 29070-7216

JAN 14 2008

Re: **Responsibility for Release**
Circle Stop-N-Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit # 05981
Release reported December 27, 1991
Saluda County

Dear Ms. Boozer:

Thank you for your inquiry regarding environmental responsibility for the release reported December 27, 1991. The South Carolina Underground Storage Tank Regulations R.61-92 places the responsibility for corrective actions on the person who owned and operated the underground storage tank system.

According to the DHEC's records, Ms. Gail Smith registered herself as the owner of the USTs on February 4, 1986. On August 27, 2001, ownership of one multi-compartment UST was transferred to you. Because Ms. Smith was the owner of the USTs when the release was reported on December 27, 1991, she remains responsible for the release that was reported on December 27, 1991. If a different person, other than Ms. Smith, operated the USTs in December 1991, that person shares equal responsibility with Ms. Smith. This office does not have records that indicate who operated the USTs.

After ownership of the USTs was transferred to you on August 27, 2001, you became responsible for the one remaining multi-compartment UST and any releases that took place on or after that date. That final UST was removed from the ground on October 19, 2006. One suspected release was reported on October 21, 2003 after SEI Environmental hit a product line. This suspected release was never confirmed and was closed November 20, 2003.

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

UST DOCKET
12 tech

CC: Technical File

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

NOV 16 2009

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

UST DOCKET 13T

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 thirteen (13) 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#
04581	Donahue Grocery	Spartanburg	2	M. River	ASAP	BTEXMN-RUSH analysis	37562	37563
11756	EZ Shop 25	Orangeburg	18	R. Miner	12/18/09	BTEXMN, DCA, EDB, & Oxygenates	37673	37674
16093	Frye Enterprises	Jasper	15	J. Koon	12/18/09	BTEXMN, DCA, & EDB	37624	37625
14429	Carmichael 66	Dillon	17	S. Fulmer	12/18/09	BTEXMN, DCA, EDB, & Oxygenates	37540	37539
12030	Curgins Corner	Aiken	19	J. Koon	12/18/09	BTEXMN, DCA, EDB, & Oxygenates	37358	37359
18906	Beaton's Grocery	Jasper	33	J. Koon	12/18/09	BTEXMN, DCA, EDB, & Oxygenates	37622	37623
03439	Highway 11 Grocery	Oconee	21	J. Padgett	12/18/09	BTEXMN, DCA, EDB, Oxygenates, & total Pb	37520	37519
05981	Circle Stop & Shop	Saluda	24	R. Miner	12/18/09	BTEXMN, DCA, EDB, & Oxygenates	37500	37501
15930	Lloyd's Place	Lancaster	21	S. Fulmer	12/18/09	BTEXMN, DCA, EDB, & Oxygenates	37517	37516
10114	Jim's Variety Shop	Chesterfield	15	S. Fulmer	12/18/09	BTEXMN, DCA, EDB, & Oxygenates	37532	37531
04622	Lil Cricket 855	Greenville	12	S. Briney	12/18/09	BTEXMN, DCA, EDB, Oxygenates, & total pb	37542	37543
09160	Rock Hill Maint.	York	15	D. Thoma	12/18/09	BTEXMN & DCA	37439	37440

02233	Danny Melton	Chesterfield	22	S. Fulmer	12/18/09	BTEXMN, DCA, & EDB	37477	37476
18212	Frm Engle's Store	Charleston	42	J. Padgett	12/18/09	42-BTEXMN, DCA 1-EDB 3-Oxygenates	37481	37482
11180	Fleet Operations	Horry	23	J. Martin	12/18/09	BTEXMN, DCA, & EDB	37378	37377
06155	Food Fair 3	Richland	19	S. Fulmer	12/18/09	Sampling already completed	36705	36704

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 37500

Facility: 05981 CIRCLE STOP N SHOP
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	24.0000	23.00	552.00
		F	EDB	24.0000	25.00	600.00
		P	8 OXYGENATES	24.0000	30.00	720.00
				Total Amount		1,872.00

Approved Cost Agreement 37501

Facility: 05981 CIRCLE STOP N SHOP
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	2.0000	150.00	300.00
10 SAMPLE COLLECTION						
		A	GROUND WATER	7.0000	12.00	84.00
		C	WATER SUPPLY	1.0000	10.00	10.00
		D	GROUNDWATER NO-PURGE	16.0000	10.00	160.00
17 DISPOSAL						
		A1	WASTEWATER - PURGING/SAMPLING	100.0000	0.30	30.00
				Total Amount		584.00

Midlands Environmental Consultants, Inc.

February 5, 2010

UST
FEB 2 2 2010
PROGRAM

UST DOCKET

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
Circle Stop & Shop
Leesville, South Carolina
SCDHEC Site ID Number 05981, CA # 37501
MECI Project Number 09-2558
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 February 2, 2010, twenty one monitoring wells were sampled. Nine monitoring wells (MW-9, MW-13 and MW-14, MW-18 through MW-20 and MW-24 through MW-26) were purged prior to sampling. Monitoring wells MW-10R and MW-23 were not located. Water supply well DW-1 was found to be non operational and was not sampled. 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 139.0 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.

Brian J. 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

Site Activity Summary

UST Permit #: 05981
Facility Name: Circle Stop & Shop
County: Saluda
Field Personnel: John Womack, Kyle 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)	# Gals. Purged	Comments
MW-1	Y	2/2/10	13:10	29-49	***	29.48	***	***	Odor
MW-2	Y	2/2/10	12:09	20-40	***	28.38	***	***	Odor
MW-3	Y	2/2/10	12:50	20-40	***	26.75	***	***	No Odor
MW-4	Y	2/2/10	10:45	20-40	***	32.51	***	***	Odor, Added 2 Bolts
MW-5	Y	2/2/10	9:47	25-45	***	25.03	***	***	No Odor
MW-6	Y	2/2/10	9:40	20-40	***	24.53	***	***	No Odor
MW-7	Y	2/2/10	8:57	15-35	***	28.60	***	***	Odor
MW-8	Y	2/2/10	11:58	20-40	***	30.40	***	***	No Odor
MW-9R	Y	2/2/10	13:41	57-67	***	44.57	***	5.0	No Odor
MW-10R	N	2/2/10	NL	57-67	NL	NL	***	***	Not on map. Not Located.
MW-11	Y	2/2/10	10:18	20-40	***	28.98	***	***	No Odor
MW-12	Y	2/2/10	10:10	20-40	***	25.88	***	***	No Odor
MW-13	Y	2/2/10	10:48	57-62	***	33.30	***	8.0	Odor, Added 2 Bolts
MW-14	Y	2/2/10	9:34	25-40	***	23.91	***	8.0	Odor, Added 3 Bolts
MW-15	Y	2/2/10	8:50	25-35	***	26.28	***	***	No Odor
								21.0	**TOTAL GALLONS PURGED**

Site Activity Summary

UST Permit #: 05981
Facility Name: Circle Stop & Shop
County: Saluda
Field Personnel: John Womack, Kyle 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)	# Gals. Purged	Comments
MW-16	Y	2/2/10	9:06	25-35	***	27.72	***	***	No Odor, Added 2 Bolts
MW-18	Y	2/2/10	12:09	97-102	***	59.00	***	22.0	No Odor, Added 2 Bolts
MW-19	Y	2/2/10	8:42	22-37	***	18.60	***	9.0	No Odor, Added 3 Bolts
MW-20	Y	2/2/10	8:25	25-40	***	21.20	***	9.0	No Odor, Added 3 Bolts
MW-23	N	2/2/10	NL	30-45	NL	NL	NL	NL	Used metal detector, Not Located
MW-24	Y	2/2/10	13:03	65-70	***	28.38	***	20.0	No Odor
MW-25	Y	2/2/10	13:27	60-65	***	30.80	***	18.0	Odor
MW-26	Y	2/2/10	11:23	140-145	***	34.20	***	40.0	Odor
DW-1	N	2/2/10	***	***	***	***	***	***	No spiggot, Not in use
								139.0	**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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **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)	44.57			feet
Total Well Depth (TWD)	67			feet
Length of the water column (LWC=TWD-DGW)			22.43	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.66	gallons
3 casing volume (3 X CV)=		3	10.97	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)	13:37	13:40						
pH (s.u.)	6.81	6.67						
Specific Conductivity (µmhos/cm)	56.8	50.5						
Water Temperature (°C)	16.7	17.3						
Dissolved Oxygen	3.17	3.46						
PID readings, if required								

Remarks: Sample Time: 13:41 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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **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)	33.30	feet
Total Well Depth (TWD)	62	feet
Length of the water column (LWC=TWD-DGW)	28.7	feet
1 casing volume (CV=LWC X C)= _____ X 0.163	4.68	gallons
3 casing volume (3 X CV)= 3	14.03	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)	10:40	10:45						
pH (s.u.)	8.58	6.54						
Specific Conductivity (µmhos/cm)	104.5	164.9						
Water Temperature (°C)	14.4	15.5						
Dissolved Oxygen	3.42	2.47						
PID readings, if required								

Remarks: Sample Time: 10:48 Dry @ 8

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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **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)	23.91		feet
Total Well Depth (TWD)	40		feet
Length of the water column (LWC=TWD-DGW)		16.09	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	2.62	gallons
3 casing volume (3 X CV)=	3	7.87	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)	9:25	9:28	9:31	9:34				
pH (s.u.)	3.86	6.91	6.77	6.47				
Specific Conductivity (µmhos/cm)	165.0	197.3	88.6	140.5				
Water Temperature (°C)	18.2	19.2	18.9	19.6				
Dissolved Oxygen	1.89	1.45	2.30	2.08				
PID readings, if required								

Remarks: Sample Time: 9:34

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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **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)	59.00	feet
Total Well Depth (TWD)	102	feet
Length of the water column (LWC=TWD-DGW)	43	feet
1 casing volume (CV=LWC X C)= _____ X 0.163	7.01	gallons
3 casing volume (3 X CV)= 3	21.03	gallons

Total Volume of Water Purged Before Sampling 22 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)	11:34	11:44	11:58	12:05				
pH (s.u.)	7.75	9.42	9.78	9.61				
Specific Conductivity (µmhos/cm)	113.0	202.2	225.3	216.7				
Water Temperature (°C)	17.6	17.1	17.4	17.4				
Dissolved Oxygen	4.68	3.60	2.70	2.94				
PID readings, if required								

Remarks: Sample Time: 12:09

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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **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)	18.60		feet
Total Well Depth (TWD)	37		feet
Length of the water column (LWC=TWD-DGW)		18.4	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	3.00	gallons
3 casing volume (3 X CV)=	3	9.00	gallons

Total Volume of Water Purged Before Sampling 9 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)	8:30	8:32	8:36	8:40				
pH (s.u.)	5.87	5.62	5.55	5.73				
Specific Conductivity (µmhos/cm)	36.9	33.9	30.9	30.8				
Water Temperature (°C)	18.9	19.3	19.7	19.6				
Dissolved Oxygen	4.88	4.40	3.74	3.62				
PID readings, if required								

Remarks: Sample Time: 8:42

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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **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)	21.20			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			18.8	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.06	gallons
3 casing volume (3 X CV)=		3	9.19	gallons

Total Volume of Water Purged Before Sampling 9 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)	8:15	8:17	8:20	8:22				
pH (s.u.)	6.71	6.04	5.54	5.70				
Specific Conductivity (µmhos/cm)	95.6	103.8	108.1	109.3				
Water Temperature (°C)	20.4	21.0	20.5	20.0				
Dissolved Oxygen	6.24	3.26	2.62	2.28				
PID readings, if required								

Remarks: Sample Time: 8:25

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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **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)	28.38		feet
Total Well Depth (TWD)	70		feet
Length of the water column (LWC=TWD-DGW)		41.62	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	6.78	gallons
3 casing volume (3 X CV)=	3	20.35	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)	12:50	12:55	12:58	13:02				
pH (s.u.)	8.50	8.74	8.57	8.04				
Specific Conductivity (µmhos/cm)	85.3	82.0	77.8	77.1				
Water Temperature (°C)	19.0	19.8	19.9	19.8				
Dissolved Oxygen	5.52	2.16	1.69	2.34				
PID readings, if required								

Remarks: Sample Time: 13:03

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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **Monitoring Well #** MW-25

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)	30.80		feet
Total Well Depth (TWD)	65		feet
Length of the water column (LWC=TWD-DGW)		34.2	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	5.57	gallons
3 casing volume (3 X CV)=	3	16.72	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)	13:15	13:20	13:23	13:26				
pH (s.u.)	7.24	6.98	7.00	6.99				
Specific Conductivity (µmhos/cm)	161.8	173.9	163.2	155.0				
Water Temperature (°C)	15.9	17.4	18.3	18.5				
Dissolved Oxygen	5.04	1.82	1.99	1.15				
PID readings, if required								

Remarks: Sample Time: 13:27

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): 2/2/2010

Field Personnel: John Womack, 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: Circle Stop & Shop

Site ID#: 05981 **Monitoring Well #** MW-26

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

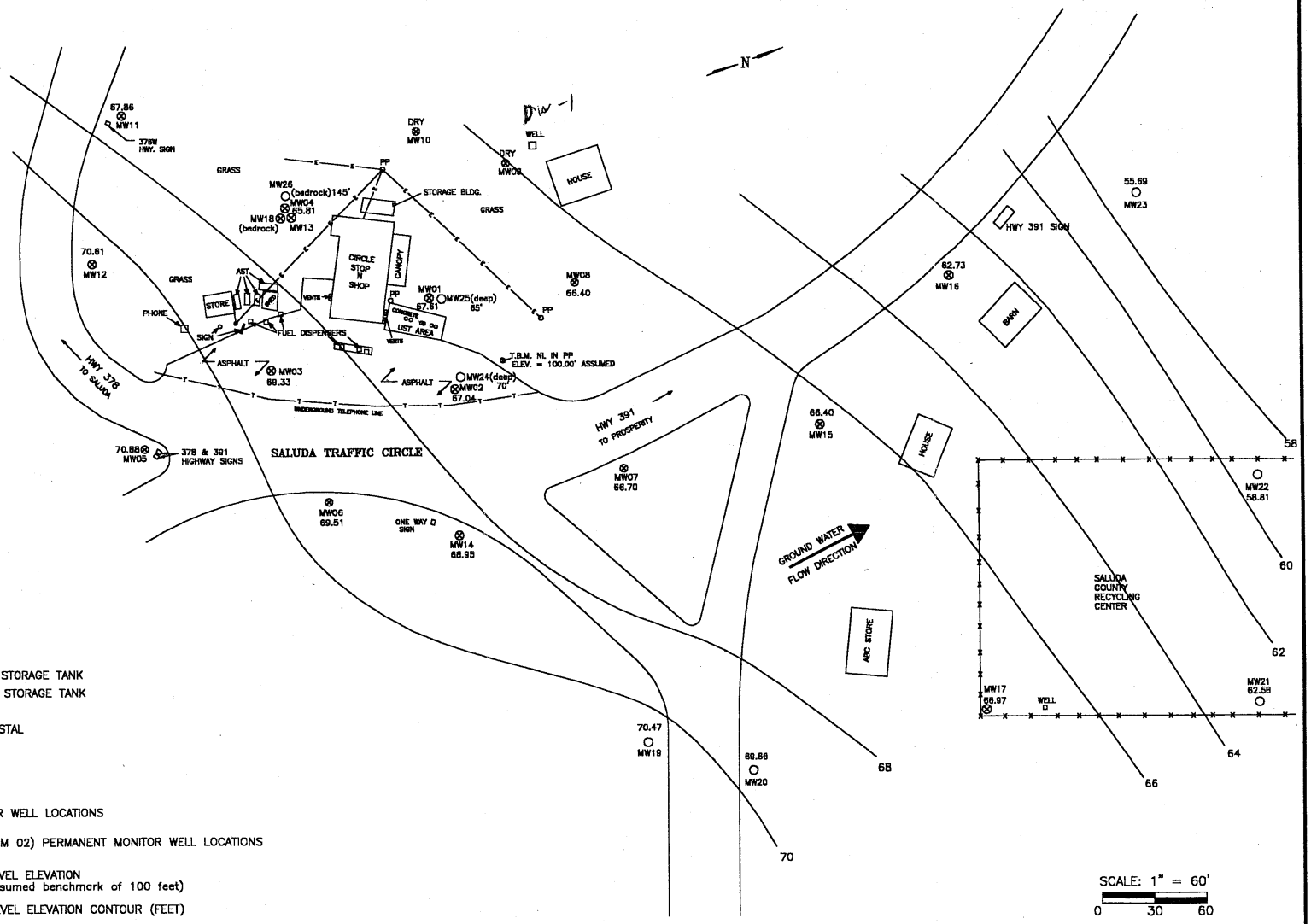
* Free Product Thickness:			feet
Depth to Free Product (DFP)			feet
Depth to Ground Water (DGW)	34.20		feet
Total Well Depth (TWD)	145		feet
Length of the water column (LWC=TWD-DGW)		110.8	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	18.06	gallons
3 casing volume (3 X CV)=	3	54.18	gallons

Total Volume of Water Purged Before Sampling 40 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)	10:57	11:10	11:20					
pH (s.u.)	7.36	7.58	7.49					
Specific Conductivity (µmhos/cm)	107.2	149.4	146.8					
Water Temperature (°C)	15.5	15.5	16.7					
Dissolved Oxygen	3.28	1.42	1.56					
PID readings, if required								

Remarks: Sample Time: 11:23 Dry @ 40



LEGEND:

AST = ABOVE GROUND STORAGE TANK
UST = UNDER GROUND STORAGE TANK
X-X-X = FENCE
TP = TELEPHONE PEDESTAL
WM = WATER METER
WV = WATER VALVE
PP = POWER POLE
LP = LIGHT POLE
⊕ = EXISTING MONITOR WELL LOCATIONS
MW07
○ = TIER II (ADDENDUM 02) PERMANENT MONITOR WELL LOCATIONS
MW20
67.61
⊕ = STATIC WATER LEVEL ELEVATION
MW01 (based on an assumed benchmark of 100 feet)
70 = STATIC WATER LEVEL ELEVATION CONTOUR (FEET)

SCALE: 1" = 60'
0 30 60

CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2001\01616\Fig 5

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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

1333794

Section A Required Client Information:

Company: SCDHEC - UST
Address: 2600 Bull St
Cola SC 29201
Email To:
Phone: 803 896 6214 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D Thomas
Copy To:
Purchase Order No.:
Project Name: Circle Stop + Shop
Project Number: 05951/37500

Section C Invoice Information:

Attention: Finance (D Thomas)
Company Name:
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

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): 8260 MTBE	1,2-DCA	1,8-DXY	DBS011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			2/2	1310		6				6					X	X	X	X		odor
2	MW-2						1209																odor
3	MW-3						1250																no odor
4	MW-4						1045																Slight odor
5	MW-5						947																no odor
6	MW-6						940																
7	MW-7						857																
8	MW-8						1158																
9	MW-9R						1241		6				6					X	X	X	X		
10	MW-10R																						not located
11	MW-11						1018		6				6					X	→	→	X		no odor
12	MW-12	WT	G			2/2	1010		6				6					X	→	→	X		no odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	2/3/10	7:27	[signature] / Pace	2/3/10	0927	

2

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: John Wonnick

SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/2/10

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

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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

1333795

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St
Cola SC 29201
Email To:
Phone: 896-6241 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D Thomas
Copy To:
Purchase Order No.:
Project Name: Circle Stop + Shop
Project Number: 37500/ 0E481

Section C Invoice Information:

Attention: Finance (D Thomas)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: K 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: BTEX MTBE, 1,2-DCA, 1,8-DCA, 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 MTBE	1,2-DCA	1,8-DCA	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-13	WT	G			2/2	1018		6				6					X	X	X	X		odor
2	MW-14						934																odor
3	MW-15						850																no odor
4	MW-16						906																
5	MW-18						1209																
6	MW-19						842																
7	MW-20	WT	G				825		6				6					X	X	X	X		
8	MW-23																						not located
9	MW-24	WT	G				1303		6				6					X	X	X	X		no odor
10	MW-25	WT	G				1327		6				6					X	X	X	X		slight odor
11	MW-26	WT	G			2/2	1123		6				6					X	X	X	X		slight odor
12	DW-1																						no sign/odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	2/3/10	1:07	Pace	2/3/10	927	

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: John Womack
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/2/10

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.

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

Midlands
Environmental
Consultants, Inc.

February 05, 2010

Re: Treatment of Purge Water
Circle Stop & Shop
Leesville, South Carolina
SCDHEC Site ID Number 05981
MECI Project Number 09-2564

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 139.0 gallons were treated on February 02, 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 J. Owen
Field Technician

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

February 11, 2010

UST
FEB 16 2010
PROGRAM

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

RE: Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on February 03, 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

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Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Charlotte Certification IDs
9800 Kincey Ave. - Ste 100 Huntersville, NC 28078
Connecticut Certification #: PH-0104
Virginia Certification #: 00213
Tennessee Certification #: 04010
South Carolina Drinking Water Cert. #: 990060003
South Carolina Certification #: 990060001
Pennsylvania Certification #: 68-00784
North Carolina Wastewater Certification #: 12
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
West Virginia Certification #: 357

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SAMPLE SUMMARY

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9262542001	MW-1	Water	02/02/10 13:10	02/03/10 14:55
9262542002	MW-2	Water	02/02/10 12:09	02/03/10 14:55
9262542003	MW-3	Water	02/02/10 12:50	02/03/10 14:55
9262542004	MW-4	Water	02/02/10 10:45	02/03/10 14:55
9262542005	MW-5	Water	02/02/10 09:47	02/03/10 14:55
9262542006	MW-6	Water	02/02/10 09:40	02/03/10 14:55
9262542007	MW-7	Water	02/02/10 08:57	02/03/10 14:55
9262542008	MW-8	Water	02/02/10 11:58	02/03/10 14:55
9262542009	MW-9R	Water	02/02/10 13:41	02/03/10 14:55
9262542010	MW-11	Water	02/02/10 10:18	02/03/10 14:55
9262542011	MW-12	Water	02/02/10 10:10	02/03/10 14:55
9262542012	MW-13	Water	02/02/10 10:48	02/03/10 14:55
9262542013	MW-14	Water	02/02/10 09:34	02/03/10 14:55
9262542014	MW-15	Water	02/02/10 08:50	02/03/10 14:55
9262542015	MW-16	Water	02/02/10 09:06	02/03/10 14:55
9262542016	MW-18	Water	02/02/10 12:09	02/03/10 14:55
9262542017	MW-19	Water	02/02/10 08:42	02/03/10 14:55
9262542018	MW-20	Water	02/02/10 08:25	02/03/10 14:55
9262542019	MW-24	Water	02/02/10 13:03	02/03/10 14:55
9262542020	MW-25	Water	02/02/10 13:27	02/03/10 14:55
9262542021	MW-26	Water	02/02/10 11:23	02/03/10 14:55

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Huntersville, NC 28078
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SAMPLE ANALYTE COUNT

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9262542001	MW-1	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542002	MW-2	EPA 8011	RES	2
		EPA 8260	DLK	21
9262542003	MW-3	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542004	MW-4	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542005	MW-5	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542006	MW-6	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542007	MW-7	EPA 8011	RES	2
		EPA 8260	DLK	21
9262542008	MW-8	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542009	MW-9R	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542010	MW-11	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542011	MW-12	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542012	MW-13	EPA 8011	RES	2
		EPA 8260	DLK	21
9262542013	MW-14	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542014	MW-15	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542015	MW-16	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542016	MW-18	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542017	MW-19	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542018	MW-20	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542019	MW-24	EPA 8011	CAH	2

REPORT OF LABORATORY ANALYSIS

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SAMPLE ANALYTE COUNT

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260	DLK	21
9262542020	**MW-25**	EPA 8011	CAH	2
		EPA 8260	DLK	21
9262542021	**MW-26**	EPA 8011	RES	2
		EPA 8260	DLK	21

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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

ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-1 **Lab ID: 9262542001** Collected: 02/02/10 13:10 Received: 02/03/10 14:55 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	02/04/10 14:31	02/05/10 04:57	106-93-4	
1-Chloro-2-bromopropane (S)	100	%	60-140		1	02/04/10 14:31	02/05/10 04:57	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1000	620	10		02/04/10 09:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	45.0	10		02/04/10 09:45	994-05-8	
Benzene	**270**	ug/L	50.0	12.0	10		02/04/10 09:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	480	10		02/04/10 09:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	270	10		02/04/10 09:45	75-65-0	
tert-Butyl Formate	ND	ug/L	500	90.0	10		02/04/10 09:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	13.0	10		02/04/10 09:45	107-06-2	
Diisopropyl ether	ND	ug/L	50.0	27.0	10		02/04/10 09:45	108-20-3	
Ethanol	ND	ug/L	2000	1700	10		02/04/10 09:45	64-17-5	
Ethylbenzene	**1800**	ug/L	50.0	11.0	10		02/04/10 09:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	46.0	10		02/04/10 09:45	637-92-3	
Methyl-tert-butyl ether	**372**	ug/L	50.0	20.0	10		02/04/10 09:45	1634-04-4	
Naphthalene	**713**	ug/L	50.0	29.0	10		02/04/10 09:45	91-20-3	
Toluene	**903**	ug/L	50.0	18.0	10		02/04/10 09:45	108-88-3	
Xylene (Total)	**11900**	ug/L	500	135	50		02/05/10 14:53	1330-20-7	
m&p-Xylene	**9040**	ug/L	500	135	50		02/05/10 14:53	1330-20-7	
o-Xylene	**2910**	ug/L	250	85.0	50		02/05/10 14:53	95-47-6	
Dibromofluoromethane (S)	107	%	70-130		10		02/04/10 09:45	1868-53-7	
Toluene-d8 (S)	98	%	70-130		10		02/04/10 09:45	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		10		02/04/10 09:45	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		10		02/04/10 09:45	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-2 **Lab ID: 9262542002** Collected: 02/02/10 12:09 Received: 02/03/10 14:55 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)	**103**	ug/L	3.8	3.8	200	02/04/10 14:32	02/05/10 16:16	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		200	02/04/10 14:32	02/05/10 16:16	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**18600**	ug/L	2000	1240	20		02/04/10 09:04	75-85-4	
tert-Amylmethyl ether	**397**	ug/L	200	90.0	20		02/04/10 09:04	994-05-8	
Benzene	**15200**	ug/L	2500	600	500		02/05/10 13:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	960	20		02/04/10 09:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	540	20		02/04/10 09:04	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	180	20		02/04/10 09:04	762-75-4	
1,2-Dichloroethane	**689**	ug/L	100	26.0	20		02/04/10 09:04	107-06-2	
Diisopropyl ether	**3540**	ug/L	100	54.0	20		02/04/10 09:04	108-20-3	
Ethanol	ND	ug/L	4000	3400	20		02/04/10 09:04	64-17-5	
Ethylbenzene	**3790**	ug/L	100	22.0	20		02/04/10 09:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	92.0	20		02/04/10 09:04	637-92-3	
Methyl-tert-butyl ether	**3970**	ug/L	2500	1000	500		02/05/10 13:02	1634-04-4	
Naphthalene	**862**	ug/L	100	58.0	20		02/04/10 09:04	91-20-3	
Toluene	**39300**	ug/L	2500	900	500		02/05/10 13:02	108-88-3	
Xylene (Total)	**16500**	ug/L	5000	1350	500		02/05/10 13:02	1330-20-7	
m&p-Xylene	**11100**	ug/L	5000	1350	500		02/05/10 13:02	1330-20-7	
o-Xylene	**5430**	ug/L	2500	850	500		02/05/10 13:02	95-47-6	
Dibromofluoromethane (S)	100	%	70-130		20		02/04/10 09:04	1868-53-7	
Toluene-d8 (S)	98	%	70-130		20		02/04/10 09:04	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		20		02/04/10 09:04	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		20		02/04/10 09:04	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-3 **Lab ID: 9262542003** Collected: 02/02/10 12:50 Received: 02/03/10 14:55 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	02/04/10 14:32	02/05/10 06:16	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/04/10 14:32	02/05/10 06:16	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 03:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 03:54	994-05-8	
Benzene	**6.5**	ug/L	5.0	1.2	1		02/04/10 03:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 03:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 03:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 03:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 03:54	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 03:54	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 03:54	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 03:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 03:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 03:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 03:54	91-20-3	
Toluene	**1.9J**	ug/L	5.0	1.8	1		02/04/10 03:54	108-88-3	
Xylene (Total)	**6.4J**	ug/L	10.0	2.7	1		02/04/10 03:54	1330-20-7	
m&p-Xylene	**4.8J**	ug/L	10.0	2.7	1		02/04/10 03:54	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 03:54	95-47-6	
Dibromofluoromethane (S)	102	%	70-130		1		02/04/10 03:54	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		02/04/10 03:54	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		02/04/10 03:54	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		1		02/04/10 03:54	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-4 **Lab ID: 9262542004** Collected: 02/02/10 10:45 Received: 02/03/10 14:55 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	02/04/10 14:32	02/05/10 06:36	106-93-4	
1-Chloro-2-bromopropane (S)	98	%	60-140		1	02/04/10 14:32	02/05/10 06:36	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1430J**	ug/L	2000	1240	20		02/04/10 09:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	200	90.0	20		02/04/10 09:24	994-05-8	
Benzene	**526**	ug/L	100	24.0	20		02/04/10 09:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2000	960	20		02/04/10 09:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2000	540	20		02/04/10 09:24	75-65-0	
tert-Butyl Formate	ND	ug/L	1000	180	20		02/04/10 09:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	100	26.0	20		02/04/10 09:24	107-06-2	
Diisopropyl ether	ND	ug/L	100	54.0	20		02/04/10 09:24	108-20-3	
Ethanol	ND	ug/L	4000	3400	20		02/04/10 09:24	64-17-5	
Ethylbenzene	**3310**	ug/L	1250	275	250		02/05/10 13:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	200	92.0	20		02/04/10 09:24	637-92-3	
Methyl-tert-butyl ether	**95.4J**	ug/L	100	40.0	20		02/04/10 09:24	1634-04-4	
Naphthalene	**825**	ug/L	100	58.0	20		02/04/10 09:24	91-20-3	
Toluene	**16300**	ug/L	1250	450	250		02/05/10 13:37	108-88-3	
Xylene (Total)	**18400**	ug/L	2500	675	250		02/05/10 13:37	1330-20-7	
m&p-Xylene	**12900**	ug/L	2500	675	250		02/05/10 13:37	1330-20-7	
o-Xylene	**5500**	ug/L	1250	425	250		02/05/10 13:37	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		20		02/04/10 09:24	1868-53-7	
Toluene-d8 (S)	98	%	70-130		20		02/04/10 09:24	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		20		02/04/10 09:24	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		20		02/04/10 09:24	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-5 **Lab ID: 9262542005** Collected: 02/02/10 09:47 Received: 02/03/10 14:55 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	02/04/10 14:32	02/05/10 06:55	106-93-4	
1-Chloro-2-bromopropane (S)	89	%	60-140		1	02/04/10 14:32	02/05/10 06:55	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 04:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 04:11	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 04:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 04:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 04:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 04:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 04:11	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 04:11	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 04:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 04:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 04:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 04:11	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 04:11	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 04:11	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 04:11	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 04:11	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 04:11	95-47-6	
Dibromofluoromethane (S)	104	%	70-130		1		02/04/10 04:11	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		02/04/10 04:11	2037-26-5	
4-Bromofluorobenzene (S)	97	%	70-130		1		02/04/10 04:11	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		1		02/04/10 04:11	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-6 **Lab ID: 9262542006** Collected: 02/02/10 09:40 Received: 02/03/10 14:55 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	02/04/10 14:33	02/05/10 07:15	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/04/10 14:33	02/05/10 07:15	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 04:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 04:29	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 04:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 04:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 04:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 04:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 04:29	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 04:29	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 04:29	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 04:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 04:29	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 04:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 04:29	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 04:29	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 04:29	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 04:29	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 04:29	95-47-6	
Dibromofluoromethane (S)	108	%	70-130		1		02/04/10 04:29	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		02/04/10 04:29	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		02/04/10 04:29	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		02/04/10 04:29	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-7 **Lab ID: 9262542007** Collected: 02/02/10 08:57 Received: 02/03/10 14:55 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)	**5.7**	ug/L	0.19	0.19	10	02/04/10 14:33	02/05/10 16:34	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		10	02/04/10 14:33	02/05/10 16:34	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**5340**	ug/L	5000	3100	50		02/04/10 10:02	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	225	50		02/04/10 10:02	994-05-8	
Benzene	**4870**	ug/L	250	60.0	50		02/04/10 10:02	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2400	50		02/04/10 10:02	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1350	50		02/04/10 10:02	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	450	50		02/04/10 10:02	762-75-4	
1,2-Dichloroethane	**66.5J**	ug/L	250	65.0	50		02/04/10 10:02	107-06-2	
Diisopropyl ether	**347**	ug/L	250	135	50		02/04/10 10:02	108-20-3	
Ethanol	ND	ug/L	10000	8500	50		02/04/10 10:02	64-17-5	
Ethylbenzene	**2010**	ug/L	250	55.0	50		02/04/10 10:02	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	230	50		02/04/10 10:02	637-92-3	
Methyl-tert-butyl ether	**151J**	ug/L	250	100	50		02/04/10 10:02	1634-04-4	
Naphthalene	**1570**	ug/L	250	145	50		02/04/10 10:02	91-20-3	
Toluene	**17200**	ug/L	1250	450	250		02/05/10 13:55	108-88-3	
Xylene (Total)	**12700**	ug/L	500	135	50		02/04/10 10:02	1330-20-7	
m&p-Xylene	**8070**	ug/L	500	135	50		02/04/10 10:02	1330-20-7	
o-Xylene	**4670**	ug/L	250	85.0	50		02/04/10 10:02	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		50		02/04/10 10:02	1868-53-7	
Toluene-d8 (S)	99	%	70-130		50		02/04/10 10:02	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		50		02/04/10 10:02	460-00-4	
1,2-Dichloroethane-d4 (S)	109	%	70-130		50		02/04/10 10:02	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-8 **Lab ID: 9262542008** Collected: 02/02/10 11:58 Received: 02/03/10 14:55 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	02/04/10 14:33	02/05/10 08:14	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/04/10 14:33	02/05/10 08:14	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 05:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 05:04	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 05:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 05:04	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 05:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 05:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 05:04	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 05:04	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 05:04	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 05:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 05:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 05:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 05:04	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 05:04	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 05:04	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 05:04	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 05:04	95-47-6	
Dibromofluoromethane (S)	107	%	70-130		1		02/04/10 05:04	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		02/04/10 05:04	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		02/04/10 05:04	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		02/04/10 05:04	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-9R **Lab ID: 9262542009** Collected: 02/02/10 13:41 Received: 02/03/10 14:55 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	02/04/10 14:33	02/05/10 08:33	106-93-4	
1-Chloro-2-bromopropane (S)	108	%	60-140		1	02/04/10 14:33	02/05/10 08:33	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 04:47	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 04:47	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 04:47	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 04:47	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 04:47	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 04:47	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 04:47	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 04:47	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 04:47	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 04:47	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 04:47	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 04:47	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 04:47	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 04:47	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 04:47	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 04:47	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 04:47	95-47-6	
Dibromofluoromethane (S)	107	%	70-130		1		02/04/10 04:47	1868-53-7	
Toluene-d8 (S)	94	%	70-130		1		02/04/10 04:47	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		02/04/10 04:47	460-00-4	
1,2-Dichloroethane-d4 (S)	111	%	70-130		1		02/04/10 04:47	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-11 **Lab ID: 9262542010** Collected: 02/02/10 10:18 Received: 02/03/10 14:55 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	02/04/10 14:33	02/05/10 08:53	106-93-4	
1-Chloro-2-bromopropane (S)	87	%	60-140		1	02/04/10 14:33	02/05/10 08:53	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 05:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 05:22	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 05:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 05:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 05:22	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 05:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 05:22	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 05:22	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 05:22	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 05:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 05:22	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 05:22	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 05:22	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 05:22	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 05:22	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 05:22	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 05:22	95-47-6	
Dibromofluoromethane (S)	106	%	70-130		1		02/04/10 05:22	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		02/04/10 05:22	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		02/04/10 05:22	460-00-4	
1,2-Dichloroethane-d4 (S)	112	%	70-130		1		02/04/10 05:22	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-12 **Lab ID: 9262542011** Collected: 02/02/10 10:10 Received: 02/03/10 14:55 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	02/04/10 14:33	02/05/10 09:13	106-93-4	
1-Chloro-2-bromopropane (S)	89	%	60-140		1	02/04/10 14:33	02/05/10 09:13	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 05:39	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 05:39	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 05:39	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 05:39	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 05:39	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 05:39	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 05:39	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 05:39	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 05:39	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 05:39	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 05:39	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 05:39	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 05:39	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 05:39	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 05:39	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 05:39	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 05:39	95-47-6	
Dibromofluoromethane (S)	106	%	70-130		1		02/04/10 05:39	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		02/04/10 05:39	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		02/04/10 05:39	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		02/04/10 05:39	17060-07-0	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-13 **Lab ID: 9262542012** Collected: 02/02/10 10:48 Received: 02/03/10 14:55 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)	**1.3**	ug/L	0.039	0.039	2	02/08/10 13:30	02/10/10 13:50	106-93-4	
1-Chloro-2-bromopropane (S)	106	%	60-140		2	02/08/10 13:30	02/10/10 13:50	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**26700**	ug/L	10000	6200	100		02/04/10 10:20	75-85-4	
tert-Amylmethyl ether	**2400**	ug/L	1000	450	100		02/04/10 10:20	994-05-8	
Benzene	**12600**	ug/L	500	120	100		02/04/10 10:20	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	4800	100		02/04/10 10:20	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	2700	100		02/04/10 10:20	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	900	100		02/04/10 10:20	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	130	100		02/04/10 10:20	107-06-2	
Diisopropyl ether	**6340**	ug/L	500	270	100		02/04/10 10:20	108-20-3	
Ethanol	ND	ug/L	20000	17000	100		02/04/10 10:20	64-17-5	
Ethylbenzene	**3820**	ug/L	500	110	100		02/04/10 10:20	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	460	100		02/04/10 10:20	637-92-3	
Methyl-tert-butyl ether	**49300**	ug/L	2500	1000	500		02/05/10 13:19	1634-04-4	
Naphthalene	**995**	ug/L	500	290	100		02/04/10 10:20	91-20-3	
Toluene	**18900**	ug/L	2500	900	500		02/05/10 13:19	108-88-3	
Xylene (Total)	**14100**	ug/L	1000	270	100		02/04/10 10:20	1330-20-7	
m&p-Xylene	**9960**	ug/L	1000	270	100		02/04/10 10:20	1330-20-7	
o-Xylene	**4130**	ug/L	500	170	100		02/04/10 10:20	95-47-6	
Dibromofluoromethane (S)	103	%	70-130		100		02/04/10 10:20	1868-53-7	
Toluene-d8 (S)	99	%	70-130		100		02/04/10 10:20	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		100		02/04/10 10:20	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		100		02/04/10 10:20	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-14 **Lab ID: 9262542013** Collected: 02/02/10 09:34 Received: 02/03/10 14:55 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	02/04/10 14:34	02/05/10 09:52	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	02/04/10 14:34	02/05/10 09:52	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/05/10 12:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/05/10 12:44	994-05-8	
Benzene	**48.6**	ug/L	5.0	1.2	1		02/05/10 12:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/05/10 12:44	624-95-3	
tert-Butyl Alcohol	**50.1J**	ug/L	100	27.0	1		02/05/10 12:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/05/10 12:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/05/10 12:44	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/05/10 12:44	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/05/10 12:44	64-17-5	
Ethylbenzene	**2.2J**	ug/L	5.0	1.1	1		02/05/10 12:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/05/10 12:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/05/10 12:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/05/10 12:44	91-20-3	
Toluene	**13.6**	ug/L	5.0	1.8	1		02/05/10 12:44	108-88-3	
Xylene (Total)	**22.5**	ug/L	10.0	2.7	1		02/05/10 12:44	1330-20-7	
m&p-Xylene	**7.7J**	ug/L	10.0	2.7	1		02/05/10 12:44	1330-20-7	
o-Xylene	**14.8**	ug/L	5.0	1.7	1		02/05/10 12:44	95-47-6	
Dibromofluoromethane (S)	101	%	70-130		1		02/05/10 12:44	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		02/05/10 12:44	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		02/05/10 12:44	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		02/05/10 12:44	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-15 **Lab ID: 9262542014** Collected: 02/02/10 08:50 Received: 02/03/10 14:55 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	02/04/10 14:34	02/05/10 10:12	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	02/04/10 14:34	02/05/10 10:12	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 05:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 05:57	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 05:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 05:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 05:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 05:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 05:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 05:57	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 05:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 05:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 05:57	637-92-3	
Methyl-tert-butyl ether	**2.7J**	ug/L	5.0	2.0	1		02/04/10 05:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 05:57	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 05:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 05:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 05:57	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 05:57	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		1		02/04/10 05:57	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		02/04/10 05:57	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		02/04/10 05:57	460-00-4	
1,2-Dichloroethane-d4 (S)	114	%	70-130		1		02/04/10 05:57	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-16 **Lab ID: 9262542015** Collected: 02/02/10 09:06 Received: 02/03/10 14:55 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	02/04/10 14:34	02/05/10 10:31	106-93-4	
1-Chloro-2-bromopropane (S)	99	%	60-140		1	02/04/10 14:34	02/05/10 10:31	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 06:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 06:14	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 06:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 06:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 06:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 06:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 06:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 06:14	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 06:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 06:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 06:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 06:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 06:14	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 06:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 06:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 06:14	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 06:14	95-47-6	
Dibromofluoromethane (S)	106	%	70-130		1		02/04/10 06:14	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		02/04/10 06:14	2037-26-5	
4-Bromofluorobenzene (S)	100	%	70-130		1		02/04/10 06:14	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		02/04/10 06:14	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-18 **Lab ID: 9262542016** Collected: 02/02/10 12:09 Received: 02/03/10 14:55 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	02/04/10 14:34	02/05/10 10:51	106-93-4	
1-Chloro-2-bromopropane (S)	82	%	60-140		1	02/04/10 14:34	02/05/10 10:51	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 06:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 06:32	994-05-8	
Benzene	**1.5J**	ug/L	5.0	1.2	1		02/04/10 06:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 06:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 06:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 06:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 06:32	107-06-2	
Diisopropyl ether	**6.6**	ug/L	5.0	2.7	1		02/04/10 06:32	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 06:32	64-17-5	
Ethylbenzene	**2.4J**	ug/L	5.0	1.1	1		02/04/10 06:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 06:32	637-92-3	
Methyl-tert-butyl ether	**61.7**	ug/L	5.0	2.0	1		02/04/10 06:32	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 06:32	91-20-3	
Toluene	**2.4J**	ug/L	5.0	1.8	1		02/04/10 06:32	108-88-3	
Xylene (Total)	**6.9J**	ug/L	10.0	2.7	1		02/04/10 06:32	1330-20-7	
m&p-Xylene	**4.8J**	ug/L	10.0	2.7	1		02/04/10 06:32	1330-20-7	
o-Xylene	**2.1J**	ug/L	5.0	1.7	1		02/04/10 06:32	95-47-6	
Dibromofluoromethane (S)	107	%	70-130		1		02/04/10 06:32	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		02/04/10 06:32	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		02/04/10 06:32	460-00-4	
1,2-Dichloroethane-d4 (S)	113	%	70-130		1		02/04/10 06:32	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-19 **Lab ID: 9262542017** Collected: 02/02/10 08:42 Received: 02/03/10 14:55 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	02/04/10 14:35	02/05/10 11:11	106-93-4	
1-Chloro-2-bromopropane (S)	85	%	60-140		1	02/04/10 14:35	02/05/10 11:11	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 06:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 06:50	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 06:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 06:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 06:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 06:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 06:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 06:50	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 06:50	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 06:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 06:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 06:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 06:50	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 06:50	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 06:50	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 06:50	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 06:50	95-47-6	
Dibromofluoromethane (S)	108	%	70-130		1		02/04/10 06:50	1868-53-7	
Toluene-d8 (S)	99	%	70-130		1		02/04/10 06:50	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		02/04/10 06:50	460-00-4	
1,2-Dichloroethane-d4 (S)	118	%	70-130		1		02/04/10 06:50	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-20 **Lab ID: 9262542018** Collected: 02/02/10 08:25 Received: 02/03/10 14:55 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	02/04/10 14:35	02/05/10 11:30	106-93-4	
1-Chloro-2-bromopropane (S)	85	%	60-140		1	02/04/10 14:35	02/05/10 11:30	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		02/04/10 07:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		02/04/10 07:07	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		02/04/10 07:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 07:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		02/04/10 07:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 07:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		02/04/10 07:07	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		02/04/10 07:07	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 07:07	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 07:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 07:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		02/04/10 07:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		02/04/10 07:07	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 07:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		02/04/10 07:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		02/04/10 07:07	1330-20-7	
o-Xylene	ND	ug/L	5.0	1.7	1		02/04/10 07:07	95-47-6	
Dibromofluoromethane (S)	111	%	70-130		1		02/04/10 07:07	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		02/04/10 07:07	2037-26-5	
4-Bromofluorobenzene (S)	99	%	70-130		1		02/04/10 07:07	460-00-4	
1,2-Dichloroethane-d4 (S)	119	%	70-130		1		02/04/10 07:07	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-24 **Lab ID: 9262542019** Collected: 02/02/10 13:03 Received: 02/03/10 14:55 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)	**0.038**	ug/L	0.019	0.019	1	02/04/10 14:35	02/05/10 11:50	106-93-4	
1-Chloro-2-bromopropane (S)	79	%	60-140		1	02/04/10 14:35	02/05/10 11:50	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1350**	ug/L	100	62.0	1		02/04/10 07:24	75-85-4	
tert-Amylmethyl ether	**12.3**	ug/L	10.0	4.5	1		02/04/10 07:24	994-05-8	
Benzene	**80.8**	ug/L	5.0	1.2	1		02/04/10 07:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		02/04/10 07:24	624-95-3	
tert-Butyl Alcohol	**103**	ug/L	100	27.0	1		02/04/10 07:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		02/04/10 07:24	762-75-4	
1,2-Dichloroethane	**16.0**	ug/L	5.0	1.3	1		02/04/10 07:24	107-06-2	
Diisopropyl ether	**192**	ug/L	5.0	2.7	1		02/04/10 07:24	108-20-3	
Ethanol	ND	ug/L	200	170	1		02/04/10 07:24	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		02/04/10 07:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		02/04/10 07:24	637-92-3	
Methyl-tert-butyl ether	**667**	ug/L	50.0	20.0	10		02/05/10 14:12	1634-04-4	
Naphthalene	**4.4J**	ug/L	5.0	2.9	1		02/04/10 07:24	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		02/04/10 07:24	108-88-3	
Xylene (Total)	**10.2**	ug/L	10.0	2.7	1		02/04/10 07:24	1330-20-7	
m&p-Xylene	**8.0J**	ug/L	10.0	2.7	1		02/04/10 07:24	1330-20-7	
o-Xylene	**2.1J**	ug/L	5.0	1.7	1		02/04/10 07:24	95-47-6	
Dibromofluoromethane (S)	108	%	70-130		1		02/04/10 07:24	1868-53-7	
Toluene-d8 (S)	98	%	70-130		1		02/04/10 07:24	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		1		02/04/10 07:24	460-00-4	
1,2-Dichloroethane-d4 (S)	122	%	70-130		1		02/04/10 07:24	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-25 **Lab ID: 9262542020** Collected: 02/02/10 13:27 Received: 02/03/10 14:55 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)	**0.045**	ug/L	0.020	0.020	1	02/08/10 13:30	02/08/10 21:43	106-93-4	
1-Chloro-2-bromopropane (S)	101	%	60-140		1	02/08/10 13:30	02/08/10 21:43	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**2010**	ug/L	500	310	5		02/04/10 08:23	75-85-4	
tert-Amylmethyl ether	**72.7**	ug/L	50.0	22.5	5		02/04/10 08:23	994-05-8	
Benzene	**83.6**	ug/L	25.0	6.0	5		02/04/10 08:23	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	240	5		02/04/10 08:23	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	135	5		02/04/10 08:23	75-65-0	
tert-Butyl Formate	ND	ug/L	250	45.0	5		02/04/10 08:23	762-75-4	
1,2-Dichloroethane	**10.9J**	ug/L	25.0	6.5	5		02/04/10 08:23	107-06-2	
Diisopropyl ether	**446**	ug/L	25.0	13.5	5		02/04/10 08:23	108-20-3	
Ethanol	ND	ug/L	1000	850	5		02/04/10 08:23	64-17-5	
Ethylbenzene	**12.7J**	ug/L	25.0	5.5	5		02/04/10 08:23	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	23.0	5		02/04/10 08:23	637-92-3	
Methyl-tert-butyl ether	**991**	ug/L	25.0	10.0	5		02/04/10 08:23	1634-04-4	
Naphthalene	**45.1**	ug/L	25.0	14.5	5		02/04/10 08:23	91-20-3	
Toluene	ND	ug/L	25.0	9.0	5		02/04/10 08:23	108-88-3	
Xylene (Total)	**53.5**	ug/L	50.0	13.5	5		02/04/10 08:23	1330-20-7	
m&p-Xylene	**29.5J**	ug/L	50.0	13.5	5		02/04/10 08:23	1330-20-7	
o-Xylene	**24.0J**	ug/L	25.0	8.5	5		02/04/10 08:23	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		5		02/04/10 08:23	1868-53-7	
Toluene-d8 (S)	98	%	70-130		5		02/04/10 08:23	2037-26-5	
4-Bromofluorobenzene (S)	102	%	70-130		5		02/04/10 08:23	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		5		02/04/10 08:23	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

Sample: MW-26 **Lab ID: 9262542021** Collected: 02/02/10 11:23 Received: 02/03/10 14:55 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)	**0.039**	ug/L	0.019	0.019	1	02/04/10 14:22	02/05/10 15:57	106-93-4	
1-Chloro-2-bromopropane (S)	105	%	60-140		1	02/04/10 14:22	02/05/10 15:57	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1610**	ug/L	500	310	5		02/04/10 08:44	75-85-4	
tert-Amylmethyl ether	**109**	ug/L	50.0	22.5	5		02/04/10 08:44	994-05-8	
Benzene	**149**	ug/L	25.0	6.0	5		02/04/10 08:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	240	5		02/04/10 08:44	624-95-3	
tert-Butyl Alcohol	**344J**	ug/L	500	135	5		02/04/10 08:44	75-65-0	
tert-Butyl Formate	ND	ug/L	250	45.0	5		02/04/10 08:44	762-75-4	
1,2-Dichloroethane	**7.8J**	ug/L	25.0	6.5	5		02/04/10 08:44	107-06-2	
Diisopropyl ether	**844**	ug/L	25.0	13.5	5		02/04/10 08:44	108-20-3	
Ethanol	ND	ug/L	1000	850	5		02/04/10 08:44	64-17-5	
Ethylbenzene	ND	ug/L	25.0	5.5	5		02/04/10 08:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	23.0	5		02/04/10 08:44	637-92-3	
Methyl-tert-butyl ether	**5140**	ug/L	250	100	50		02/05/10 14:33	1634-04-4	
Naphthalene	**36.9**	ug/L	25.0	14.5	5		02/04/10 08:44	91-20-3	
Toluene	ND	ug/L	25.0	9.0	5		02/04/10 08:44	108-88-3	
Xylene (Total)	**112**	ug/L	50.0	13.5	5		02/04/10 08:44	1330-20-7	
m&p-Xylene	**60.8**	ug/L	50.0	13.5	5		02/04/10 08:44	1330-20-7	
o-Xylene	**51.1**	ug/L	25.0	8.5	5		02/04/10 08:44	95-47-6	
Dibromofluoromethane (S)	106	%	70-130		5		02/04/10 08:44	1868-53-7	
Toluene-d8 (S)	97	%	70-130		5		02/04/10 08:44	2037-26-5	
4-Bromofluorobenzene (S)	101	%	70-130		5		02/04/10 08:44	460-00-4	
1,2-Dichloroethane-d4 (S)	108	%	70-130		5		02/04/10 08:44	17060-07-0	

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QUALITY CONTROL DATA

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

QC Batch: OEXT/9192 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP

Associated Lab Samples: 9262542001, 9262542002, 9262542003, 9262542004, 9262542005, 9262542006, 9262542007, 9262542008, 9262542009, 9262542010, 9262542011, 9262542013, 9262542014, 9262542015, 9262542016, 9262542017, 9262542018, 9262542019

METHOD BLANK: 398383 — Matrix: Water

Associated Lab Samples: 9262542001, 9262542002, 9262542003, 9262542004, 9262542005, 9262542006, 9262542007, 9262542008, 9262542009, 9262542010, 9262542011, 9262542013, 9262542014, 9262542015, 9262542016, 9262542017, 9262542018, 9262542019

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.019	02/05/10 03:58	
1-Chloro-2-bromopropane (S)	%	100	60-140	02/05/10 03:58	

LABORATORY CONTROL SAMPLE & LCSD: 398384 398385

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	0.30	110	108	60-140	4	20	
1-Chloro-2-bromopropane (S)	%				105	104	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 398386 398387

Parameter	Units	9262542001 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	0.30	0.32	108	116	60-140	7	20	
1-Chloro-2-bromopropane (S)	%						102	103	60-140			

SAMPLE DUPLICATE: 398388

Parameter	Units	9262542006 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	101	100	0		

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QUALITY CONTROL DATA

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

QC Batch: OEXT/9193
QC Batch Method: EPA 8011
Analysis Method: EPA 8011
Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9262542021

METHOD BLANK: 398389
Matrix: Water
Associated Lab Samples: 9262542021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	02/04/10 23:29	
1-Chloro-2-bromopropane (S)	%	104	60-140	02/04/10 23:29	

LABORATORY CONTROL SAMPLE & LCSD: 398390 398391

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	0.29	0.31	102	110	60-140	6	20	
1-Chloro-2-bromopropane (S)	%				102	109	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 398392 398393

Parameter	Units	9262531001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.28	0.28	100	102	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						101	102	60-140			

SAMPLE DUPLICATE: 398394

Parameter	Units	9262531003 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	99	105	5		

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QUALITY CONTROL DATA

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

QC Batch: OEXT/9214 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9262542012, 9262542020

METHOD BLANK: 399652 — Matrix: Water
Associated Lab Samples: 9262542012, 9262542020

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.019	02/08/10 20:23	
1-Chloro-2-bromopropane (S)	%	118	60-140	02/08/10 20:23	

LABORATORY CONTROL SAMPLE & LCSD: 399653 399654

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	0.31	102	112	60-140	9	20	
1-Chloro-2-bromopropane (S)	%				104	109	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 399655 399656

Parameter	Units	9262719001 Result	MS Spike Conc.	MSD Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	% Rec Limits	RPD	Max RPD	Qual
1,2-Dibromoethane (EDB)	ug/L	ND	.28	.28	0.28	0.30	102	108	60-140	6	20	
1-Chloro-2-bromopropane (S)	%						100	104	60-140			

SAMPLE DUPLICATE: 399657

Parameter	Units	9262719007 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	127	111	13		

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QUALITY CONTROL DATA

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

QC Batch: MSV/9856 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Oxygenates SC

Associated Lab Samples: 9262542001, 9262542002, 9262542003, 9262542004, 9262542005, 9262542006, 9262542008, 9262542009, 9262542010, 9262542011, 9262542013, 9262542014, 9262542015, 9262542016, 9262542017, 9262542018, 9262542019, 9262542020, 9262542021

METHOD BLANK: 398656 — Matrix: Water

Associated Lab Samples: 9262542001, 9262542002, 9262542003, 9262542004, 9262542005, 9262542006, 9262542008, 9262542009, 9262542010, 9262542011, 9262542013, 9262542014, 9262542015, 9262542016, 9262542017, 9262542018, 9262542019, 9262542020, 9262542021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	02/04/10 02:26	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	02/04/10 02:26	
Benzene	ug/L	ND	5.0	02/04/10 02:26	
Diisopropyl ether	ug/L	ND	5.0	02/04/10 02:26	
Ethanol	ug/L	ND	200	02/04/10 02:26	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/04/10 02:26	
Ethylbenzene	ug/L	ND	5.0	02/04/10 02:26	
m&p-Xylene	ug/L	ND	10.0	02/04/10 02:26	
Methyl-tert-butyl ether	ug/L	ND	5.0	02/04/10 02:26	
Naphthalene	ug/L	ND	5.0	02/04/10 02:26	
o-Xylene	ug/L	ND	5.0	02/04/10 02:26	
tert-Amyl Alcohol	ug/L	ND	100	02/04/10 02:26	
tert-Amylmethyl ether	ug/L	ND	10.0	02/04/10 02:26	
tert-Butyl Alcohol	ug/L	ND	100	02/04/10 02:26	
tert-Butyl Formate	ug/L	ND	50.0	02/04/10 02:26	
Toluene	ug/L	ND	5.0	02/04/10 02:26	
Xylene (Total)	ug/L	ND	10.0	02/04/10 02:26	
1,2-Dichloroethane-d4 (S)	%	103	70-130	02/04/10 02:26	
4-Bromofluorobenzene (S)	%	98	70-130	02/04/10 02:26	
Dibromofluoromethane (S)	%	100	70-130	02/04/10 02:26	
Toluene-d8 (S)	%	101	70-130	02/04/10 02:26	

LABORATORY CONTROL SAMPLE: 398657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	52.8	106	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1040	104	70-130	
Benzene	ug/L	50	49.5	99	70-130	
Diisopropyl ether	ug/L	50	52.1	104	70-130	
Ethanol	ug/L	2000	1860	93	70-130	
Ethyl-tert-butyl ether	ug/L	100	102	102	70-130	
Ethylbenzene	ug/L	50	50.5	101	70-130	
m&p-Xylene	ug/L	100	102	102	70-130	
Methyl-tert-butyl ether	ug/L	50	51.9	104	70-130	
Naphthalene	ug/L	50	54.3	109	70-130	
o-Xylene	ug/L	50	49.8	100	70-130	
tert-Amyl Alcohol	ug/L	1000	1070	107	70-130	
tert-Amylmethyl ether	ug/L	100	105	105	70-130	

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QUALITY CONTROL DATA

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

LABORATORY CONTROL SAMPLE: 398657

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Alcohol	ug/L	500	492	98	70-130	
tert-Butyl Formate	ug/L	400	417	104	70-130	
Toluene	ug/L	50	50.1	100	70-130	
Xylene (Total)	ug/L	150	152	101	70-130	
1,2-Dichloroethane-d4 (S)	%			102	70-130	
4-Bromofluorobenzene (S)	%			98	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 398658 398659

Parameter	Units	9262542009 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	59.7	60.8	119	122	70-130	2		
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	1390	1430	139	143	70-130	3		M0
Benzene	ug/L	ND	50	50	53.8	52.4	108	105	70-130	3		
Diisopropyl ether	ug/L	ND	50	50	59.5	59.0	116	115	70-130	1		
Ethanol	ug/L	ND	2000	2000	2190	2610	110	130	70-130	17		
Ethyl-tert-butyl ether	ug/L	ND	100	100	116	116	116	116	70-130	1		
Ethylbenzene	ug/L	ND	50	50	54.1	51.7	108	103	70-130	5		
m&p-Xylene	ug/L	ND	100	100	106	102	106	102	70-130	4		
Methyl-tert-butyl ether	ug/L	ND	50	50	62.4	61.3	122	119	70-130	2		
Naphthalene	ug/L	ND	50	50	65.7	69.1	131	138	70-130	5		M0
o-Xylene	ug/L	ND	50	50	52.3	50.5	105	101	70-130	3		
tert-Amyl Alcohol	ug/L	ND	1000	1000	1390	1420	139	142	70-130	2		M0
tert-Amylmethyl ether	ug/L	ND	100	100	117	116	117	116	70-130	1		
tert-Butyl Alcohol	ug/L	ND	500	500	702	720	140	144	70-130	3		M0
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130			P5
Toluene	ug/L	ND	50	50	54.3	53.4	109	107	70-130	2		
1,2-Dichloroethane-d4 (S)	%						108	106	70-130			
4-Bromofluorobenzene (S)	%						102	102	70-130			
Dibromofluoromethane (S)	%						106	106	70-130			
Toluene-d8 (S)	%						98	98	70-130			

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QUALITY CONTROL DATA

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

QC Batch: MSV/9857
QC Batch Method: EPA 8260
Analysis Method: EPA 8260
Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9262542007, 9262542012

METHOD BLANK: 398662
Matrix: Water
Associated Lab Samples: 9262542007, 9262542012

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	02/04/10 02:08	
3,3-Dimethyl-1-Butanol	ug/L	94.3J	100	02/04/10 02:08	
Benzene	ug/L	ND	5.0	02/04/10 02:08	
Diisopropyl ether	ug/L	ND	5.0	02/04/10 02:08	
Ethanol	ug/L	ND	200	02/04/10 02:08	
Ethyl-tert-butyl ether	ug/L	ND	10.0	02/04/10 02:08	
Ethylbenzene	ug/L	ND	5.0	02/04/10 02:08	
m&p-Xylene	ug/L	4.9J	10.0	02/04/10 02:08	
Methyl-tert-butyl ether	ug/L	ND	5.0	02/04/10 02:08	
Naphthalene	ug/L	9.3	5.0	02/04/10 02:08	B+
o-Xylene	ug/L	ND	5.0	02/04/10 02:08	
tert-Amyl Alcohol	ug/L	ND	100	02/04/10 02:08	
tert-Amylmethyl ether	ug/L	ND	10.0	02/04/10 02:08	
tert-Butyl Alcohol	ug/L	ND	100	02/04/10 02:08	
tert-Butyl Formate	ug/L	ND	50.0	02/04/10 02:08	
Toluene	ug/L	ND	5.0	02/04/10 02:08	
Xylene (Total)	ug/L	4.9J	10.0	02/04/10 02:08	
1,2-Dichloroethane-d4 (S)	%	103	70-130	02/04/10 02:08	
4-Bromofluorobenzene (S)	%	99	70-130	02/04/10 02:08	
Dibromofluoromethane (S)	%	101	70-130	02/04/10 02:08	
Toluene-d8 (S)	%	100	70-130	02/04/10 02:08	

LABORATORY CONTROL SAMPLE: 398663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	51.8	104	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	932	93	70-130	
Benzene	ug/L	50	48.7	97	70-130	
Diisopropyl ether	ug/L	50	51.4	103	70-130	
Ethanol	ug/L	2000	1710	85	70-130	
Ethyl-tert-butyl ether	ug/L	100	101	101	70-130	
Ethylbenzene	ug/L	50	50.6	101	70-130	
m&p-Xylene	ug/L	100	100	100	70-130	
Methyl-tert-butyl ether	ug/L	50	49.9	100	70-130	
Naphthalene	ug/L	50	48.7	97	70-130	
o-Xylene	ug/L	50	51.0	102	70-130	
tert-Amyl Alcohol	ug/L	1000	964	96	70-130	
tert-Amylmethyl ether	ug/L	100	102	102	70-130	
tert-Butyl Alcohol	ug/L	500	473	95	70-130	
tert-Butyl Formate	ug/L	400	398	100	70-130	
Toluene	ug/L	50	49.8	100	70-130	

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QUALITY CONTROL DATA

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

LABORATORY CONTROL SAMPLE: 398663

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	151	101	70-130	
1,2-Dichloroethane-d4 (S)	%			101	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Dibromofluoromethane (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

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QUALIFIERS

Project: CIRCLE STOP & SHOP 05981
Pace Project No.: 9262542

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.

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

ANALYTE QUALIFIERS

B+	Analyte was detected in the associated method blank as well as in the sample.
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.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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without the written consent of Pace Analytical Services, Inc..

ACCREDITED IN ACCORDANCE WITH nelac

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

1333794

Section A Required Client Information:

Company: SCDHEC - UST
Address: 2600 Bull St
Cola, SC 29201
Email To:
Phone: 803 896 6244 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D Thoma
Copy To:
Purchase Order No.:
Project Name: Circle Stop + Shop
Project Number: 05981/37500

Section C Invoice Information:

Attention: Finance (D Thoma)
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: R Spencer
Pace Profile #: 849-5

REGULATORY AGENCY: NPDES, GROUND WATER, DRINKING WATER, UST (X), 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): Analysis Test: BTEX, naph, MTBE; 1,2-DCA; 1,8-DXY; EDB 8011

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	Analysis Test (Y/N)	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9262542
1	MW-1	WT	G			2/2	1310		6				6					X X X X		odor 001
2	MW-2						1209													odor 002
3	MW-3						1250													no odor 003
4	MW-4						1045													Slight odor 004
5	MW-5						947													no odor 005
6	MW-6						940													006
7	MW-7						857													007
8	MW-8						1158													008
9	MW-9R						1341		6				6					X X X X		009
10	MW-10R																			not located
11	MW-11						1018		6				6					X → X		no odor 010
12	MW-12	WT	G			2/2	1010		6				6					X → X		no odor 011

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	2/3/10	9:07	[signature]	2/3/10	927				
	[signature] Pace	2/3/10	1455	[signature]	2/3/10	1455	2.2	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: John Womack
SIGNATURE of SAMPLER: [signature]
DATE Signed (MM/DD/YY): 2/2/10

*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 on 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.

1333795

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull St
Col9, SC 29201
Email To:
Phone: 896-6245 Fax:
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D Thoma
Copy To:
Purchase Order No.:
Project Name: Circle Stop + Shop
Project Number: 37500/05981

Section C Invoice Information:

Attention: Finance (D Thoma)
Company Name:
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)	Requested Analysis Filtered (Y/N): BTEX, MTBE	1,2-DCA	1,2-DBA	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 9262542	
1	MW-13	WT	G			2/2	1048		6				6						X	X	X	X		odor	012
2	MW-14						934																	odor	013
3	MW-15						850																	no odor	014
4	MW-16						906																		015
5	MW-18						1209																		016
6	MW-19						842																		017
7	MW-20	WT	G				825		6				6						X	X	X	X			018
8	MW-23																							not located	
9	MW-24	WT	G				1303		6				6						X	X	X	X		no odor	019
10	MW-25	WT	G				1327		6				6						X	X	X	X		slight odor	020
11	MW-26	WT	G			2/2	1123		6				6						X	X	X	X		slight odor	021
12	DW-1																							no spigot/not in use	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	2/3/10	9:27	[signature] / Pace	2/3/10	927				
	[signature] / Pace	2/3/10	1455	[signature] / Pace	2/3/10	1455	2.2	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: John Woodard
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 2/2/10

*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.

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071

JUL 09 2010

15tech UST DOCKET

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 Permit #	Facility	County	# wells	UST Project Manager	Sampling Due Date	Parameters-Groundwater	PACE CA#	MECI CA#
08872	Youngs 21	Sumter	5	D. Thoma	ASAP	BTEXMN & DCA	39162	39163
09352	Val-Mart	York	32	D. Thoma	ASAP	BTEXMN, DCA, EDB and 17-oxygenates	39062	39063
08551	JC Morrow	Spartanburg	15	M. Rivers	08/15/10	BTEXMN, DCA, EDB, Oxygenates & total lead	39238	39237
09947	Camden Shell	Kershaw	20	D. Thoma	08/15/10	BTEXMN & DCA	37873	37874
11890	Stanco-Harmon	Lexington	9	J. Skowronek	08/15/10	BTEXMN	39264	39265
00140	Majik Market	Aiken	25	J. Koon	08/15/10	BTEXMN, DCA, & EDB	39208	39207
12342	R&S Grocery	Darlington	29	J. Martin	08/15/10	BTEXMN & DCA	39212	39214
07686	Corner Pantry 103	Richland	15	S. Fulmer	08/15/10	BTEXMN & 3-TMB, butyl-, isopropyl-, & n-propyl benzene	38146	38145
03118	Palmetto Edgefield	Edgefield	7	C. Ridgley	08/15/10	BTEXMN, DCA, EDB, Oxygenates, & total lead	36539	34408
14469	Great Falls Exxon	Chester	12	S. Briney	08/15/10	BTEXMN, DCA, EDB, Oxygenates, & total lead	39297	39298
05981	Circle Stop N Shop	Saluda	23	R. Miner	08/15/10	BTEXMN, DCA, EDB, & Oxygenates	39354	39355
15475	Rockland Parking	Bamberg	50	J. Koon	08/15/10	BTEXMN, DCA, EDB, & Oxygenates	39327	39328

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 cceptance 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.)

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORMATION SHEET

UST PROGRAM SEP 17 2010 Rec'd

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of UST Permit # 05981, I would like to use the contractor or person(s)* listed below and request that they represent me for: (check one)

( ) Initial Groundwater Assessment
( ) Other (please specify)_____
(X) all future assessments scopes. **

Name of Contractor/Person(s): Midlands Environmental Consultants, Inc.

Address: 235-B Dooley Road, Lexington, SC 29073

Telephone Number: (803) 808-2043

UST DOCKET

Note: Site rehabilitation activities must be performed by a SCDHEC Certified Site Rehabilitation Contractor in accordance with R.61-98.

*indicate if the person listed is your own employee

** if you would like the contractor to perform all future assessment activities at this and/or other facilities that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter.

2. FINANCIAL OR FAMILIAL RELATIONSHIP

Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above? _____ Yes _X_ No (please initial)

Financial Relationship: A connection or association through a material interest of sources of income which exceed five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancee.

3. PAYMENT

You can pay the contractor and, upon the submittal of the canceled check (or a notarized statement from the contractor), be compensated from the SUPERB Account, or have payment issued directly from us to the contractor.

I request that payment be made to me after I have paid the contractor. _____ Yes _____ No (please initial)
I request that payment be made directly to the contractor. _X_ Yes _____ No (please initial)

Note: All costs must receive prior financial approval from the Department regardless of payment option.

Underground Storage Tank Owner/Operator Signature _____
Date 9/10/2010

Midlands
Environmental
Consultants, Inc.

September 22, 2010

UST
SEP 2 9 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
Circle Stop N Shop
Leesville, South Carolina
SCDHEC Site ID Number 05981, CA # 39355
MECI Project Number 10-2939
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 16, 2010, twenty two monitoring wells were sampled. Seven monitoring wells (MW-9R, MW-10R, MW-13, MW-18 and MW-24 through MW-26) were purged prior to sampling. Monitoring well MW-23 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 96.5 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

UST
DOCKET
#17

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

Site Activity Summary

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

UST Permit #: 05981
Facility Name: Circle Stop N Shop
County: Saluda
Field Personnel: Brendon Kelly, Jeff Coleman

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-1	Y	9/16/10	13:30	29-49	***	31.32	***	***	Odor, Added 1 Bolt
MW-2	Y	9/16/10	14:00	20-40	***	29.36	***	***	Odor, Added Cap, Sheen
MW-3	Y	9/16/10	14:30	20-40	***	30.39	***	***	Odor, Added 1 Bolt
MW-4	Y	9/16/10	10:25	20-40	***	33.65	***	***	Odor
MW-5	Y	9/16/10	10:00	25-45	***	30.19	***	***	No Odor
MW-6	Y	9/16/10	9:50	20-40	***	28.14	***	***	No Odor, Added 1 Bolt
MW-7	Y	9/16/10	9:30	15-35	***	29.02	***	***	Sheen, Odor, Added 2 Bolts
MW-8	Y	9/16/10	13:20	20-40	***	32.27	***	***	No Odor, Added 2 Bolts
MW-9R	Y	9/16/10	13:15	57-67	***	41.57	***	8.5	No Odor
MW-10R	Y	9/16/10	13:00	57-67	***	45.58	***	6.0	No Odor, Needs New Pad
MW-11	Y	9/16/10	10:10	20-40	***	31.21	***	***	No Odor, Added 2 Bolts
MW-12	Y	9/16/10	10:05	20-40	***	29.63	***	***	No Odor
MW-13	Y	9/16/10	11:10	57-62	***	33.84	***	7.0	Odor
MW-14	Y	9/16/10	9:40	25-40	***	27.59	***	***	Odor
MW-15	Y	9/16/10	9:15	25-35	***	28.05	***	***	No Odor, Needs 3 Hole Lid
								21.5	**TOTAL GALLONS PURGED**

Site Activity Summary

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

UST Permit #: 05981
Facility Name: Circle Stop N Shop
County: Saluda
Field Personnel: Brendon Kelly, Jeff Coleman

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	# Gals. Purged	Comments
MW-16	Y	9/16/10	9:00	25-35	***	30.91	***	***	No Odor
MW-18	Y	9/16/10	11:50	97-102	***	34.60	***	35	Odor
MW-19	Y	9/16/10	9:20	22-37	***	25.10	***	***	No Odor
MW-20	Y	9/16/10	9:20	25-40	***	26.39	***	***	No Odor, Added 2 Bolts
MW-23	N	***	***	30-45	***	***	***	***	Not Located
MW-24	Y	9/16/10	14:20	65-70	***	30.07	***	13	Odor
MW-25	Y	9/16/10	13:45	60-65	***	31.60	***	17	Odor, Added 2 Bolts
MW-26	Y	9/16/10	11:03	140-145	***	105.06	***	10	No Odor, Added 1 Bolt
								96.5	**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): 9/16/2010

Field Personnel: Brendon Kelly and Jeff Coleman

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: Circle Stop & Shop

Site ID#: 05981 **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)	41.57			feet
Total Well Depth (TWD)	67			feet
Length of the water column (LWC=TWD-DGW)			25.43	feet
1 casing volume (CV=LWC X C)=	X	0.163	4.15	gallons
3 casing volume (3 X CV)=		3	12.44	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)	13:05	13:10	13:15					
pH (s.u.)	6.11	6.08	6.19					
Specific Conductivity (µmhos/cm)	52.0	50.0	53.0					
Water Temperature (°C)	18.6	19.1	18.5					
Dissolved Oxygen	3.21	3.52	3.88					
PID readings, if required								

Remarks: Sample Time: 13:15 Dry at 8.5 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): 9/16/2010

Field Personnel: Brendon Kelly and Jeff Coleman

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: Circle Stop & Shop

Site ID#: 05981 **Monitoring Well #** MW-10R

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)	45.58			feet
Total Well Depth (TWD)	67			feet
Length of the water column (LWC=TWD-DGW)			21.42	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.49	gallons
3 casing volume (3 X CV)=		3	10.47	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)	12:48	12:52	12:57					
pH (s.u.)	6.20	6.15	6.07					
Specific Conductivity (µmhos/cm)	52.0	55.0	53.0					
Water Temperature (°C)	19.6	18.2	18.1					
~~Dissolved Oxygen~~	~~1.70~~	~~2.96~~	~~2.98~~					
PID readings, if required								

Remarks: Sample Time: 12:57 Dry at 6 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): 9/16/2010

Field Personnel: Brendon Kelly and Jeff Coleman

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: Circle Stop & Shop

Site ID#: 05981 **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)	33.84			feet
Total Well Depth (TWD)	62			feet
Length of the water column (LWC=TWD-DGW)			28.16	feet
1 casing volume (CV=LWC X C)=	X	0.163	4.59	gallons
3 casing volume (3 X CV)=		3	13.77	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)	10:51	10:55	11:10					
pH (s.u.)	7.08	6.80	SAMPLE					
Specific Conductivity (µmhos/cm)	450.0	400.0	SAMPLE					
Water Temperature (°C)	19.4	18.8	SAMPLE					
~~Dissolved Oxygen~~	~~1.59~~	~~1.48~~	~~SAMPLE~~					
PID readings, if required								

Remarks: Sample Time: 11:10 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): 9/16/2010

Field Personnel: Brendon Kelly and Jeff Coleman

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: Circle Stop & Shop

Site ID#: 05981 **Monitoring Well #** MW-18

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)	34.60			feet
Total Well Depth (TWD)	102			feet
Length of the water column (LWC=TWD-DGW)			67.4	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	10.99	gallons
3 casing volume (3 X CV)=		3	32.96	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)	11:11	11:25	11:42	11:50				
pH (s.u.)	7.15	7.24	7.25	7.36				
Specific Conductivity (µmhos/cm)	219.0	195.0	192.0	188.0				
Water Temperature (°C)	19.1	19.0	20.0	19.0				
~~Dissolved Oxygen~~	~~0.77~~	~~2.54~~	~~1.66~~	~~1.02~~				
PID readings, if required								

Remarks: Sample Time: 11:50

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): 9/16/2010

Field Personnel: Brendon Kelly and Jeff Coleman

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: Circle Stop & Shop

Site ID#: 05981 **Monitoring Well #** MW-24

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)	30.07			feet
Total Well Depth (TWD)	70			feet
Length of the water column (LWC=TWD-DGW)			39.93	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.51	gallons
3 casing volume (3 X CV)=		3	19.53	gallons

Total Volume of Water Purged Before Sampling 13 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)	14:05	14:10	14:20					
pH (s.u.)	6.81	6.78	6.74					
Specific Conductivity (µmhos/cm)	93.0	91.0	91.0					
Water Temperature (°C)	23.1	21.1	21.6					
Dissolved Oxygen	1.14	1.80	2.40					
PID readings, if required								

Remarks: Sample Time: 14:20 Dry at 13 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): 9/16/2010

Field Personnel: Brendon Kelly and Jeff Coleman

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: Circle Stop & Shop

Site ID#: 05981 **Monitoring Well #** MW-25

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)	31.60			feet
Total Well Depth (TWD)	65			feet
Length of the water column (LWC=TWD-DGW)			33.4	feet
1 casing volume (CV=LWC X C)=	_____ X	0.163	5.44	gallons
3 casing volume (3 X CV)=		3	16.33	gallons

Total Volume of Water Purged Before Sampling 17 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)	13:34	13:39	13:42	13:45				
pH (s.u.)	6.42	6.59	6.54	6.64				
Specific Conductivity (μmhos/cm)	212.0	208.0	212.0	211.0				
Water Temperature (°C)	20.5	19.9	20.7	19.9				
Dissolved Oxygen	1.66	1.41	1.52	1.63				
PID readings, if required								

Remarks: Sample Time: 13:45

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): 9/16/2010

Field Personnel: Brendon Kelly and Jeff Coleman

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: Circle Stop & Shop

Site ID#: 05981 **Monitoring Well #** MW-26

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)	105.00			feet
Total Well Depth (TWD)	145			feet
Length of the water column (LWC=TWD-DGW)			40	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	6.52	gallons
3 casing volume (3 X CV)=		3	19.56	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)	10:31	10:50	11:03					
pH (s.u.)	10.10	10.46	SAMPLE					
Specific Conductivity (µmhos/cm)	840.0	551.0	SAMPLE					
Water Temperature (°C)	19.3	18.9	SAMPLE					
~~Dissolved Oxygen~~	~~6.18~~	~~13.08~~	~~SAMPLE~~					
PID readings, if required								

Remarks: Sample Time: 13:45 Dry at 10 Gallons

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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

1410391

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull Street, Columbia, SC 29201
Email To:
Phone: 803-896-4210 Fax: 896-6213
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thomas
Copy To:
Purchase Order No.: 719459
Project Name: Circle Stop N Shop
Project Number: 05981 / Pace CA 39554

Section C Invoice Information:

Attention: Finance (D. Thomas)
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

Requested Analysis Filtered (Y/N)

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	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Analysis Test (Y/N): Btex, Naph, Methyl Ether	1,2-DCA 8260-B	4-Oxys	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			9/16/10	13:30		6				X					X	X	X	X		Odor
2	MW-2						14:00																Odor/Sheen
3	MW-3						14:30																Odor
4	MW-4						10:25																Odor
5	MW-5						10:00																No Odor
6	MW-6						9:50																No Odor
7	MW-7						9:30																Odor/Sheen
8	MW-8						13:20																No Odor
9	MW-9R						13:15																
10	MW-10R						13:00																
11	MW-11						10:10																
12	MW-12	WT	G			9/16/10	10:05		6				X					X	X	X	X		No Odor

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
		9/17/10	1035		9-17-10	1031	

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Brandon Kelly
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 9/16/10

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.

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

1410390

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull Street
Columbia, SC 29201
Email To:
Phone: 803-896-6240 Fax: 896-6243
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Circle Stop N. Shop
Project Number: 05981 / Pace CA 34354

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

Requested Analysis Filtered (Y/N): BTEX Naph, MTBE; 1,2-DCA; 8260-B; 5-Oxys; EDB 8011

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	8260-B 5-Oxys		EDB 8011							Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-13	WT	G			9/16/10	11:10		6				X						X	X	X		X								Odor
2	MW-14	↓	↓			↓	9:40		↓				↓						↓	↓	↓		↓								Slight Odor
3	MW-15	↓	↓			↓	9:15		↓				↓						↓	↓	↓		↓								No Odor
4	MW-16	↓	↓			↓	9:00		↓				↓						↓	↓	↓		↓								No Odor
5	MW-18	↓	↓			↓	11:50		↓				↓						↓	↓	↓		↓								Odor
6	MW-19	↓	↓			↓	9:20		↓				↓						↓	↓	↓		↓								No Odor
7	MW-20	WT	G			9/16/10	9:20		6				X						X	X	X		X								No Odor
8	~~MW-23~~	—					—		—				—																		Not Located
9	MW-24	WT	G			9/16/10	14:20		6				X						X	X	X		X								Slight Odor
10	MW-25	WT	G			9/16/10	13:45		6				X						X	X	X		X								Odor
11	MW-26	WT	G			9/16/10	11:03		6				X						X	X	X		X								No odor
12																															

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS
	[signature]	9-17-10	1035	[signature] Pace	9-17-10	1035	

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brandon Kelly

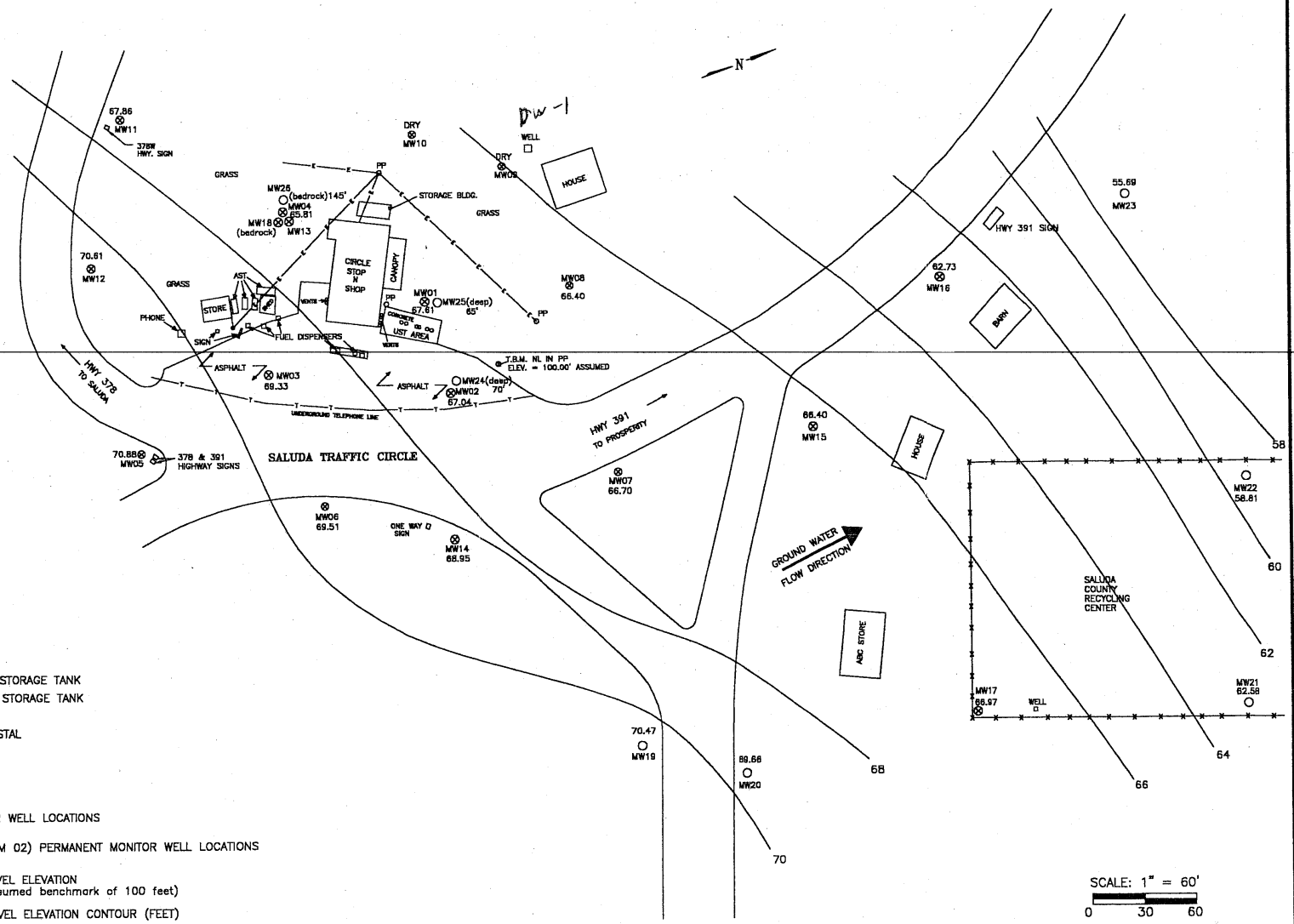
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 9/16/10

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.

67270



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2001\01616\Fig 5

Midlands
Environmental
Consultants, Inc.

September 22, 2010

Re: Treatment of Purge Water
Circle Stop N Shop
Leesville, South Carolina
SCDHEC Site ID Number 05981
MECI Project Number 10-2939

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

Circle Stop N Shop
Leesville, SC

September 22, 2010

A total of 96.5 gallons were treated on September 16, 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 J. Owen
Field Technician

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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

September 24, 2010

UST
SEP 2 9 2010
PROGRAM

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

RE: Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Dear Ms. Thoma:
Enclosed are the analytical results for sample(s) received by the laboratory on September 17, 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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Pace Analytical Services, Inc.
9800 Kincey Ave. Suite 100
Huntersville, NC 28078
(704)875-9092

CERTIFICATIONS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

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: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Lab ID	Sample ID	Matrix	Date Collected	Date Received
9277878001	MW-1	Water	09/16/10 13:30	09/17/10 14:40
9277878002	MW-2	Water	09/16/10 14:00	09/17/10 14:40
9277878003	MW-3	Water	09/16/10 14:30	09/17/10 14:40
9277878004	MW-4	Water	09/16/10 10:25	09/17/10 14:40
9277878005	MW-5	Water	09/16/10 10:00	09/17/10 14:40
9277878006	MW-6	Water	09/16/10 09:50	09/17/10 14:40
9277878007	MW-7	Water	09/16/10 09:30	09/17/10 14:40
9277878008	MW-8	Water	09/16/10 13:20	09/17/10 14:40
9277878009	MW-9R	Water	09/16/10 13:15	09/17/10 14:40
9277878010	MW-10R	Water	09/16/10 13:00	09/17/10 14:40
9277878011	MW-11	Water	09/16/10 10:10	09/17/10 14:40
9277878012	MW-12	Water	09/16/10 10:05	09/17/10 14:40
9277878013	MW-13	Water	09/16/10 11:10	09/17/10 14:40
9277878014	MW-14	Water	09/16/10 09:40	09/17/10 14:40
9277878015	MW-15	Water	09/16/10 09:15	09/17/10 14:40
9277878016	MW-16	Water	09/16/10 09:00	09/17/10 14:40
9277878017	MW-18	Water	09/16/10 11:50	09/17/10 14:40
9277878018	MW-19	Water	09/16/10 09:20	09/17/10 14:40
9277878019	MW-20	Water	09/16/10 09:20	09/17/10 14:40
9277878020	MW-24	Water	09/16/10 14:20	09/17/10 14:40
9277878021	MW-25	Water	09/16/10 13:45	09/17/10 14:40
9277878022	MW-26	Water	09/16/10 11:03	09/17/10 14:40

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

SAMPLE ANALYTE COUNT

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Lab ID	Sample ID	Method	Analysts	Analytes Reported
9277878001	MW-1	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878002	MW-2	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878003	MW-3	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878004	MW-4	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878005	MW-5	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878006	MW-6	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878007	MW-7	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878008	MW-8	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878009	MW-9R	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878010	MW-10R	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878011	MW-11	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878012	MW-12	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878013	MW-13	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878014	MW-14	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878015	MW-15	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878016	MW-16	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878017	MW-18	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878018	MW-19	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878019	MW-20	EPA 8011	RES	2

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(828)254-7176

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

SAMPLE ANALYTE COUNT

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Lab ID	Sample ID	Method	Analysts	Analytes Reported
		EPA 8260	MCK	21
9277878020	**MW-24**	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878021	**MW-25**	EPA 8011	RES	2
		EPA 8260	MCK	21
9277878022	**MW-26**	EPA 8011	RES	2
		EPA 8260	MCK	21

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-1 **Lab ID: 9277878001** Collected: 09/16/10 13:30 Received: 09/17/10 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	09/20/10 16:06	09/20/10 21:29	106-93-4	
1-Chloro-2-bromopropane (S)	116	%	60-140		1	09/20/10 16:06	09/20/10 21:29	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	5000	3100	50		09/21/10 19:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	500	225	50		09/21/10 19:19	994-05-8	
Benzene	**304**	ug/L	250	60.0	50		09/21/10 19:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	5000	2400	50		09/21/10 19:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	5000	1350	50		09/21/10 19:19	75-65-0	
tert-Butyl Formate	ND	ug/L	2500	450	50		09/21/10 19:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	250	65.0	50		09/21/10 19:19	107-06-2	
Diisopropyl ether	ND	ug/L	250	135	50		09/21/10 19:19	108-20-3	
Ethanol	ND	ug/L	10000	8500	50		09/21/10 19:19	64-17-5	
Ethylbenzene	**1800**	ug/L	250	55.0	50		09/21/10 19:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	500	230	50		09/21/10 19:19	637-92-3	
Methyl-tert-butyl ether	**352**	ug/L	250	100	50		09/21/10 19:19	1634-04-4	
Naphthalene	**409**	ug/L	250	145	50		09/21/10 19:19	91-20-3	
Toluene	**1380**	ug/L	250	90.0	50		09/21/10 19:19	108-88-3	
Xylene (Total)	**9290**	ug/L	500	135	50		09/21/10 19:19	1330-20-7	
m&p-Xylene	**7090**	ug/L	500	135	50		09/21/10 19:19	179601-23-1	D3
o-Xylene	**2200**	ug/L	250	85.0	50		09/21/10 19:19	95-47-6	
Dibromofluoromethane (S)	119	%	70-130		50		09/21/10 19:19	1868-53-7	
Toluene-d8 (S)	104	%	70-130		50		09/21/10 19:19	2037-26-5	
4-Bromofluorobenzene (S)	113	%	70-130		50		09/21/10 19:19	460-00-4	
1,2-Dichloroethane-d4 (S)	130	%	70-130		50		09/21/10 19:19	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-2 **Lab ID: 9277878002** Collected: 09/16/10 14:00 Received: 09/17/10 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)	**127**	ug/L	3.9	3.9	200	09/20/10 16:06	09/21/10 10:10	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		200	09/20/10 16:06	09/21/10 10:10	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**36800**	ug/L	25000	15500	250		09/21/10 12:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	2500	1120	250		09/21/10 12:00	994-05-8	
Benzene	**17700**	ug/L	1250	300	250		09/21/10 12:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	25000	12000	250		09/21/10 12:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	25000	6750	250		09/21/10 12:00	75-65-0	
tert-Butyl Formate	ND	ug/L	12500	2250	250		09/21/10 12:00	762-75-4	
1,2-Dichloroethane	**990J**	ug/L	1250	325	250		09/21/10 12:00	107-06-2	
Diisopropyl ether	**4440**	ug/L	1250	675	250		09/21/10 12:00	108-20-3	
Ethanol	ND	ug/L	50000	42500	250		09/21/10 12:00	64-17-5	
Ethylbenzene	**2790**	ug/L	1250	275	250		09/21/10 12:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	2500	1150	250		09/21/10 12:00	637-92-3	
Methyl-tert-butyl ether	**8400**	ug/L	1250	500	250		09/21/10 12:00	1634-04-4	
Naphthalene	ND	ug/L	1250	725	250		09/21/10 12:00	91-20-3	
Toluene	**42900**	ug/L	1250	450	250		09/21/10 12:00	108-88-3	
Xylene (Total)	**17100**	ug/L	2500	675	250		09/21/10 12:00	1330-20-7	
m&p-Xylene	**11000**	ug/L	2500	675	250		09/21/10 12:00	179601-23-1	
o-Xylene	**6070**	ug/L	1250	425	250		09/21/10 12:00	95-47-6	
Dibromofluoromethane (S)	115	%	70-130		250		09/21/10 12:00	1868-53-7	
Toluene-d8 (S)	101	%	70-130		250		09/21/10 12:00	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		250		09/21/10 12:00	460-00-4	
1,2-Dichloroethane-d4 (S)	121	%	70-130		250		09/21/10 12:00	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-3 **Lab ID: 9277878003** Collected: 09/16/10 14:30 Received: 09/17/10 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	09/20/10 16:06	09/20/10 22:06	106-93-4	
1-Chloro-2-bromopropane (S)	93	%	60-140		1	09/20/10 16:06	09/20/10 22:06	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**202**	ug/L	100	62.0	1		09/21/10 12:19	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 12:19	994-05-8	
Benzene	**67.4**	ug/L	5.0	1.2	1		09/21/10 12:19	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 12:19	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 12:19	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 12:19	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 12:19	107-06-2	
Diisopropyl ether	**6.9**	ug/L	5.0	2.7	1		09/21/10 12:19	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 12:19	64-17-5	
Ethylbenzene	**3.9J**	ug/L	5.0	1.1	1		09/21/10 12:19	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 12:19	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 12:19	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 12:19	91-20-3	
Toluene	**18.7**	ug/L	5.0	1.8	1		09/21/10 12:19	108-88-3	
Xylene (Total)	**11.0**	ug/L	10.0	2.7	1		09/21/10 12:19	1330-20-7	
m&p-Xylene	**6.8J**	ug/L	10.0	2.7	1		09/21/10 12:19	179601-23-1	
o-Xylene	**4.2J**	ug/L	5.0	1.7	1		09/21/10 12:19	95-47-6	
Dibromofluoromethane (S)	113	%	70-130		1		09/21/10 12:19	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		09/21/10 12:19	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		1		09/21/10 12:19	460-00-4	
1,2-Dichloroethane-d4 (S)	120	%	70-130		1		09/21/10 12:19	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-4 **Lab ID: 9277878004** Collected: 09/16/10 10:25 Received: 09/17/10 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)	**0.11**	ug/L	0.020	0.020	1	09/20/10 16:07	09/20/10 22:24	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	09/20/10 16:07	09/20/10 22:24	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	6200	100		09/21/10 12:37	75-85-4	
tert-Amylmethyl ether	ND	ug/L	1000	450	100		09/21/10 12:37	994-05-8	
Benzene	**237J**	ug/L	500	120	100		09/21/10 12:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	10000	4800	100		09/21/10 12:37	624-95-3	
tert-Butyl Alcohol	ND	ug/L	10000	2700	100		09/21/10 12:37	75-65-0	
tert-Butyl Formate	ND	ug/L	5000	900	100		09/21/10 12:37	762-75-4	
1,2-Dichloroethane	ND	ug/L	500	130	100		09/21/10 12:37	107-06-2	
Diisopropyl ether	ND	ug/L	500	270	100		09/21/10 12:37	108-20-3	
Ethanol	ND	ug/L	20000	17000	100		09/21/10 12:37	64-17-5	
Ethylbenzene	**3750**	ug/L	500	110	100		09/21/10 12:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	1000	460	100		09/21/10 12:37	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	500	200	100		09/21/10 12:37	1634-04-4	
Naphthalene	**432J**	ug/L	500	290	100		09/21/10 12:37	91-20-3	
Toluene	**17100**	ug/L	500	180	100		09/21/10 12:37	108-88-3	
Xylene (Total)	**20300**	ug/L	1000	270	100		09/21/10 12:37	1330-20-7	
m&p-Xylene	**13900**	ug/L	1000	270	100		09/21/10 12:37	179601-23-1	
o-Xylene	**6370**	ug/L	500	170	100		09/21/10 12:37	95-47-6	
Dibromofluoromethane (S)	109	%	70-130		100		09/21/10 12:37	1868-53-7	
Toluene-d8 (S)	104	%	70-130		100		09/21/10 12:37	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		100		09/21/10 12:37	460-00-4	
1,2-Dichloroethane-d4 (S)	120	%	70-130		100		09/21/10 12:37	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-5 **Lab ID: 9277878005** Collected: 09/16/10 10:00 Received: 09/17/10 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	09/20/10 16:07	09/20/10 22:43	106-93-4	
1-Chloro-2-bromopropane (S)	114	%	60-140		1	09/20/10 16:07	09/20/10 22:43	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 12:56	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 12:56	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 12:56	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 12:56	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 12:56	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 12:56	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 12:56	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 12:56	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 12:56	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 12:56	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 12:56	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 12:56	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 12:56	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 12:56	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 12:56	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 12:56	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 12:56	95-47-6	
Dibromofluoromethane (S)	110	%	70-130		1		09/21/10 12:56	1868-53-7	
Toluene-d8 (S)	102	%	70-130		1		09/21/10 12:56	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1		09/21/10 12:56	460-00-4	
1,2-Dichloroethane-d4 (S)	116	%	70-130		1		09/21/10 12:56	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-6 **Lab ID: 9277878006** Collected: 09/16/10 09:50 Received: 09/17/10 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	09/20/10 16:07	09/20/10 23:01	106-93-4	
1-Chloro-2-bromopropane (S)	103	%	60-140		1	09/20/10 16:07	09/20/10 23:01	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 13:14	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 13:14	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 13:14	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 13:14	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 13:14	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 13:14	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 13:14	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 13:14	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 13:14	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 13:14	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 13:14	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 13:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 13:14	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 13:14	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 13:14	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 13:14	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 13:14	95-47-6	
Dibromofluoromethane (S)	116	%	70-130		1		09/21/10 13:14	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		09/21/10 13:14	2037-26-5	
4-Bromofluorobenzene (S)	108	%	70-130		1		09/21/10 13:14	460-00-4	
1,2-Dichloroethane-d4 (S)	128	%	70-130		1		09/21/10 13:14	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-7 **Lab ID: 9277878007** Collected: 09/16/10 09:30 Received: 09/17/10 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)	**5.8**	ug/L	0.20	0.20	10	09/20/10 16:08	09/21/10 10:28	106-93-4	
1-Chloro-2-bromopropane (S)	0	%	60-140		10	09/20/10 16:08	09/21/10 10:28	301-79-56	S4
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 13:32	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 13:32	994-05-8	
Benzene	**16.7**	ug/L	5.0	1.2	1		09/21/10 13:32	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 13:32	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 13:32	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 13:32	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 13:32	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 13:32	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 13:32	64-17-5	
Ethylbenzene	**14.8**	ug/L	5.0	1.1	1		09/21/10 13:32	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 13:32	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 13:32	1634-04-4	
Naphthalene	**4.4J**	ug/L	5.0	2.9	1		09/21/10 13:32	91-20-3	
Toluene	**75.6**	ug/L	5.0	1.8	1		09/21/10 13:32	108-88-3	
Xylene (Total)	**66.4**	ug/L	10.0	2.7	1		09/21/10 13:32	1330-20-7	
m&p-Xylene	**42.5**	ug/L	10.0	2.7	1		09/21/10 13:32	179601-23-1	
o-Xylene	**23.8**	ug/L	5.0	1.7	1		09/21/10 13:32	95-47-6	
Dibromofluoromethane (S)	112	%	70-130		1		09/21/10 13:32	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		09/21/10 13:32	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1		09/21/10 13:32	460-00-4	
1,2-Dichloroethane-d4 (S)	127	%	70-130		1		09/21/10 13:32	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-8 **Lab ID: 9277878008** Collected: 09/16/10 13:20 Received: 09/17/10 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	09/20/10 16:08	09/20/10 23:38	106-93-4	
1-Chloro-2-bromopropane (S)	142	%	60-140		1	09/20/10 16:08	09/20/10 23:38	301-79-56	S3
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 13:50	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 13:50	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 13:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 13:50	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 13:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 13:50	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 13:50	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 13:50	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 13:50	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 13:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 13:50	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 13:50	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 13:50	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 13:50	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 13:50	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 13:50	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 13:50	95-47-6	
Dibromofluoromethane (S)	116	%	70-130		1		09/21/10 13:50	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		09/21/10 13:50	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		09/21/10 13:50	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	70-130		1		09/21/10 13:50	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-9R **Lab ID: 9277878009** Collected: 09/16/10 13:15 Received: 09/17/10 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	09/20/10 16:08	09/20/10 23:56	106-93-4	
1-Chloro-2-bromopropane (S)	110	%	60-140		1	09/20/10 16:08	09/20/10 23:56	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 14:09	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 14:09	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 14:09	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 14:09	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 14:09	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 14:09	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 14:09	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 14:09	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 14:09	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 14:09	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 14:09	637-92-3	
Methyl-tert-butyl ether	**2.3J**	ug/L	5.0	2.0	1		09/21/10 14:09	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 14:09	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 14:09	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 14:09	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 14:09	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 14:09	95-47-6	
Dibromofluoromethane (S)	114	%	70-130		1		09/21/10 14:09	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		09/21/10 14:09	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		1		09/21/10 14:09	460-00-4	
1,2-Dichloroethane-d4 (S)	126	%	70-130		1		09/21/10 14:09	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-10R **Lab ID: 9277878010** Collected: 09/16/10 13:00 Received: 09/17/10 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	0.018	0.018	1	09/20/10 16:08	09/21/10 00:14	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	09/20/10 16:08	09/21/10 00:14	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 14:27	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 14:27	994-05-8	
Benzene	**17.2**	ug/L	5.0	1.2	1		09/21/10 14:27	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 14:27	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 14:27	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 14:27	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 14:27	107-06-2	
Diisopropyl ether	**26.2**	ug/L	5.0	2.7	1		09/21/10 14:27	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 14:27	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 14:27	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 14:27	637-92-3	
Methyl-tert-butyl ether	**43.3**	ug/L	5.0	2.0	1		09/21/10 14:27	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 14:27	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 14:27	108-88-3	
Xylene (Total)	**21.9**	ug/L	10.0	2.7	1		09/21/10 14:27	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 14:27	179601-23-1	
o-Xylene	**21.2**	ug/L	5.0	1.7	1		09/21/10 14:27	95-47-6	
Dibromofluoromethane (S)	116	%	70-130		1		09/21/10 14:27	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		09/21/10 14:27	2037-26-5	
4-Bromofluorobenzene (S)	105	%	70-130		1		09/21/10 14:27	460-00-4	
1,2-Dichloroethane-d4 (S)	128	%	70-130		1		09/21/10 14:27	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-11 **Lab ID: 9277878011** Collected: 09/16/10 10:10 Received: 09/17/10 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	09/20/10 16:08	09/21/10 00:33	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	09/20/10 16:08	09/21/10 00:33	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 14:45	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 14:45	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 14:45	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 14:45	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 14:45	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 14:45	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 14:45	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 14:45	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 14:45	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 14:45	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 14:45	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 14:45	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 14:45	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 14:45	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 14:45	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 14:45	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 14:45	95-47-6	
Dibromofluoromethane (S)	113	%	70-130		1		09/21/10 14:45	1868-53-7	
Toluene-d8 (S)	97	%	70-130		1		09/21/10 14:45	2037-26-5	
4-Bromofluorobenzene (S)	107	%	70-130		1		09/21/10 14:45	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130		1		09/21/10 14:45	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-12 **Lab ID: 9277878012** Collected: 09/16/10 10:05 Received: 09/17/10 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	09/20/10 17:03	09/20/10 22:06	106-93-4	
1-Chloro-2-bromopropane (S)	104	%	60-140		1	09/20/10 17:03	09/20/10 22:06	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 15:04	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 15:04	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 15:04	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 15:04	624-95-8	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 15:04	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 15:04	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 15:04	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 15:04	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 15:04	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 15:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 15:04	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 15:04	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 15:04	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 15:04	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 15:04	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 15:04	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 15:04	95-47-6	
Dibromofluoromethane (S)	112	%	70-130		1		09/21/10 15:04	1868-53-7	
Toluene-d8 (S)	104	%	70-130		1		09/21/10 15:04	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		1		09/21/10 15:04	460-00-4	
1,2-Dichloroethane-d4 (S)	132	%	70-130		1		09/21/10 15:04	17060-07-0	S3

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-13 **Lab ID: 9277878013** Collected: 09/16/10 11:10 Received: 09/17/10 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)	**0.95**	ug/L	0.020	0.020	1	09/20/10 17:03	09/20/10 23:07	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	09/20/10 17:03	09/20/10 23:07	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	50000	31000	500		09/21/10 15:22	75-85-4	
tert-Amylmethyl ether	ND	ug/L	5000	2250	500		09/21/10 15:22	994-05-8	
Benzene	**10900**	ug/L	2500	600	500		09/21/10 15:22	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	50000	24000	500		09/21/10 15:22	624-95-3	
tert-Butyl Alcohol	ND	ug/L	50000	13500	500		09/21/10 15:22	75-65-0	
tert-Butyl Formate	ND	ug/L	25000	4500	500		09/21/10 15:22	762-75-4	
1,2-Dichloroethane	ND	ug/L	2500	650	500		09/21/10 15:22	107-06-2	
Diisopropyl ether	**5050**	ug/L	2500	1350	500		09/21/10 15:22	108-20-3	
Ethanol	ND	ug/L	100000	85000	500		09/21/10 15:22	64-17-5	
Ethylbenzene	**3170**	ug/L	2500	550	500		09/21/10 15:22	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	5000	2300	500		09/21/10 15:22	637-92-3	
Methyl-tert-butyl ether	**51600**	ug/L	2500	1000	500		09/21/10 15:22	1634-04-4	
Naphthalene	ND	ug/L	2500	1450	500		09/21/10 15:22	91-20-3	
Toluene	**13500**	ug/L	2500	900	500		09/21/10 15:22	108-88-3	
Xylene (Total)	**10500**	ug/L	5000	1350	500		09/21/10 15:22	1330-20-7	
m&p-Xylene	**7690**	ug/L	5000	1350	500		09/21/10 15:22	179601-23-1	
o-Xylene	**2850**	ug/L	2500	850	500		09/21/10 15:22	95-47-6	
Dibromofluoromethane (S)	112	%	70-130		500		09/21/10 15:22	1868-53-7	
Toluene-d8 (S)	102	%	70-130		500		09/21/10 15:22	2037-26-5	
4-Bromofluorobenzene (S)	109	%	70-130		500		09/21/10 15:22	460-00-4	
1,2-Dichloroethane-d4 (S)	122	%	70-130		500		09/21/10 15:22	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-14 **Lab ID: 9277878014** Collected: 09/16/10 09:40 Received: 09/17/10 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	09/20/10 17:03	09/20/10 23:27	106-93-4	
1-Chloro-2-bromopropane (S)	102	%	60-140		1	09/20/10 17:03	09/20/10 23:27	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**148**	ug/L	100	62.0	1		09/22/10 15:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/22/10 15:11	994-05-8	
Benzene	**102**	ug/L	5.0	1.2	1		09/22/10 15:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/22/10 15:11	624-95-3	
tert-Butyl Alcohol	**195**	ug/L	100	27.0	1		09/22/10 15:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/22/10 15:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/22/10 15:11	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/22/10 15:11	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/22/10 15:11	64-17-5	
Ethylbenzene	**1.1J**	ug/L	5.0	1.1	1		09/22/10 15:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/22/10 15:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/22/10 15:11	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/22/10 15:11	91-20-3	
Toluene	**2.6J**	ug/L	5.0	1.8	1		09/22/10 15:11	108-88-3	
Xylene (Total)	**6.8J**	ug/L	10.0	2.7	1		09/22/10 15:11	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/22/10 15:11	179601-23-1	
o-Xylene	**4.3J**	ug/L	5.0	1.7	1		09/22/10 15:11	95-47-6	
Dibromofluoromethane (S)	105	%	70-130		1		09/22/10 15:11	1868-53-7	
Toluene-d8 (S)	96	%	70-130		1		09/22/10 15:11	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1		09/22/10 15:11	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		09/22/10 15:11	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-15 **Lab ID: 9277878015** Collected: 09/16/10 09:15 Received: 09/17/10 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	09/20/10 17:04	09/21/10 00:08	106-93-4	
1-Chloro-2-bromopropane (S)	114	%	60-140		1	09/20/10 17:04	09/21/10 00:08	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 15:59	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 15:59	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 15:59	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 15:59	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 15:59	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 15:59	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 15:59	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 15:59	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 15:59	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 15:59	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 15:59	637-92-3	
Methyl-tert-butyl ether	**2.0J**	ug/L	5.0	2.0	1		09/21/10 15:59	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 15:59	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 15:59	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 15:59	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 15:59	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 15:59	95-47-6	
Dibromofluoromethane (S)	114	%	70-130		1		09/21/10 15:59	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		09/21/10 15:59	2037-26-5	
4-Bromofluorobenzene (S)	110	%	70-130		1		09/21/10 15:59	460-00-4	
1,2-Dichloroethane-d4 (S)	123	%	70-130		1		09/21/10 15:59	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-16 **Lab ID: 9277878016** Collected: 09/16/10 09:00 Received: 09/17/10 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	09/20/10 17:04	09/21/10 00:28	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	09/20/10 17:04	09/21/10 00:28	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 16:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 16:17	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 16:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 16:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 16:17	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 16:17	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 16:17	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 16:17	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 16:17	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 16:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 16:17	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 16:17	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 16:17	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 16:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 16:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 16:17	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 16:17	95-47-6	
Dibromofluoromethane (S)	117	%	70-130		1		09/21/10 16:17	1868-53-7	
Toluene-d8 (S)	101	%	70-130		1		09/21/10 16:17	2037-26-5	
4-Bromofluorobenzene (S)	104	%	70-130		1		09/21/10 16:17	460-00-4	
1,2-Dichloroethane-d4 (S)	129	%	70-130		1		09/21/10 16:17	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-18 **Lab ID: 9277878017** Collected: 09/16/10 11:50 Received: 09/17/10 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	09/20/10 17:04	09/21/10 00:48	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140		1	09/20/10 17:04	09/21/10 00:48	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1070**	ug/L	100	62.0	1		09/21/10 16:35	75-85-4	
tert-Amylmethyl ether	**97.4**	ug/L	10.0	4.5	1		09/21/10 16:35	994-05-8	
Benzene	**115**	ug/L	5.0	1.2	1		09/21/10 16:35	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 16:35	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 16:35	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 16:35	762-75-4	
1,2-Dichloroethane	**7.7**	ug/L	5.0	1.3	1		09/21/10 16:35	107-06-2	
Diisopropyl ether	**609**	ug/L	500	270	100		09/22/10 14:16	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 16:35	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 16:35	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 16:35	637-92-3	
Methyl-tert-butyl ether	**3940**	ug/L	500	200	100		09/22/10 14:16	1634-04-4	
Naphthalene	**11.7**	ug/L	5.0	2.9	1		09/21/10 16:35	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 16:35	108-88-3	
Xylene (Total)	**65.6**	ug/L	10.0	2.7	1		09/21/10 16:35	1330-20-7	
m&p-Xylene	**31.0**	ug/L	10.0	2.7	1		09/21/10 16:35	179601-23-1	
o-Xylene	**34.7**	ug/L	5.0	1.7	1		09/21/10 16:35	95-47-6	
Dibromofluoromethane (S)	111	%	70-130		1		09/21/10 16:35	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		09/21/10 16:35	2037-26-5	
4-Bromofluorobenzene (S)	110	%	70-130		1		09/21/10 16:35	460-00-4	
1,2-Dichloroethane-d4 (S)	121	%	70-130		1		09/21/10 16:35	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-19 **Lab ID: 9277878018** Collected: 09/16/10 09:20 Received: 09/17/10 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	09/20/10 17:04	09/21/10 01:08	106-93-4	
1-Chloro-2-bromopropane (S)	113	%	60-140		1	09/20/10 17:04	09/21/10 01:08	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**125**	ug/L	100	62.0	1		09/21/10 16:54	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 16:54	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 16:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 16:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 16:54	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 16:54	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 16:54	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 16:54	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 16:54	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 16:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 16:54	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 16:54	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 16:54	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 16:54	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 16:54	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 16:54	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 16:54	95-47-6	
Dibromofluoromethane (S)	113	%	70-130		1		09/21/10 16:54	1868-53-7	
Toluene-d8 (S)	103	%	70-130		1		09/21/10 16:54	2037-26-5	
4-Bromofluorobenzene (S)	109	%	70-130		1		09/21/10 16:54	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	70-130		1		09/21/10 16:54	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-20 **Lab ID: 9277878019** Collected: 09/16/10 09:20 Received: 09/17/10 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	09/20/10 17:05	09/21/10 01:28	106-93-4	
1-Chloro-2-bromopropane (S)	107	%	60-140		1	09/20/10 17:05	09/21/10 01:28	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/21/10 17:12	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/21/10 17:12	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/21/10 17:12	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/21/10 17:12	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/21/10 17:12	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/21/10 17:12	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/21/10 17:12	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	2.7	1		09/21/10 17:12	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/21/10 17:12	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/21/10 17:12	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/21/10 17:12	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	2.0	1		09/21/10 17:12	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/21/10 17:12	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/21/10 17:12	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/21/10 17:12	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/21/10 17:12	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/21/10 17:12	95-47-6	
Dibromofluoromethane (S)	113	%	70-130		1		09/21/10 17:12	1868-53-7	
Toluene-d8 (S)	100	%	70-130		1		09/21/10 17:12	2037-26-5	
4-Bromofluorobenzene (S)	98	%	70-130		1		09/21/10 17:12	460-00-4	
1,2-Dichloroethane-d4 (S)	130	%	70-130		1		09/21/10 17:12	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-24 **Lab ID: 9277878020** Collected: 09/16/10 14:20 Received: 09/17/10 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)	**0.057**	ug/L	0.020	0.020	1	09/20/10 17:05	09/21/10 01:48	106-93-4	
1-Chloro-2-bromopropane (S)	98	%	60-140		1	09/20/10 17:05	09/21/10 01:48	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**955**	ug/L	500	310	5		09/21/10 17:33	75-85-4	
tert-Amylmethyl ether	ND	ug/L	50.0	22.5	5		09/21/10 17:33	994-05-8	
Benzene	**141**	ug/L	25.0	6.0	5		09/21/10 17:33	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	240	5		09/21/10 17:33	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	135	5		09/21/10 17:33	75-65-0	
tert-Butyl Formate	ND	ug/L	250	45.0	5		09/21/10 17:33	762-75-4	
1,2-Dichloroethane	**34.1**	ug/L	25.0	6.5	5		09/21/10 17:33	107-06-2	
Diisopropyl ether	**231**	ug/L	25.0	13.5	5		09/21/10 17:33	108-20-3	
Ethanol	ND	ug/L	1000	850	5		09/21/10 17:33	64-17-5	
Ethylbenzene	ND	ug/L	25.0	5.5	5		09/21/10 17:33	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	23.0	5		09/21/10 17:33	637-92-3	
Methyl-tert-butyl ether	**710**	ug/L	25.0	10.0	5		09/21/10 17:33	1634-04-4	
Naphthalene	ND	ug/L	25.0	14.5	5		09/21/10 17:33	91-20-3	
Toluene	ND	ug/L	25.0	9.0	5		09/21/10 17:33	108-88-3	
Xylene (Total)	**18.2J**	ug/L	50.0	13.5	5		09/21/10 17:33	1330-20-7	
m&p-Xylene	ND	ug/L	50.0	13.5	5		09/21/10 17:33	179601-23-1	
o-Xylene	ND	ug/L	25.0	8.5	5		09/21/10 17:33	95-47-6	
Dibromofluoromethane (S)	113	%	70-130		5		09/21/10 17:33	1868-53-7	
Toluene-d8 (S)	103	%	70-130		5		09/21/10 17:33	2037-26-5	
4-Bromofluorobenzene (S)	103	%	70-130		5		09/21/10 17:33	460-00-4	
1,2-Dichloroethane-d4 (S)	125	%	70-130		5		09/21/10 17:33	17060-07-0	

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Huntersville, NC 28078
(704)875-9092

ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-25 **Lab ID: 9277878021** Collected: 09/16/10 13:45 Received: 09/17/10 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	09/20/10 17:05	09/21/10 02:09	106-93-4	
1-Chloro-2-bromopropane (S)	106	%	60-140		1	09/20/10 17:05	09/21/10 02:09	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1670**	ug/L	500	310	5		09/21/10 17:54	75-85-4	
tert-Amylmethyl ether	**72.5**	ug/L	50.0	22.5	5		09/21/10 17:54	994-05-8	
Benzene	**120**	ug/L	25.0	6.0	5		09/21/10 17:54	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	240	5		09/21/10 17:54	624-95-3	
tert-Butyl Alcohol	ND	ug/L	500	135	5		09/21/10 17:54	75-65-0	
tert-Butyl Formate	ND	ug/L	250	45.0	5		09/21/10 17:54	762-75-4	
1,2-Dichloroethane	**14.2J**	ug/L	25.0	6.5	5		09/21/10 17:54	107-06-2	
Diisopropyl ether	**469**	ug/L	25.0	13.5	5		09/21/10 17:54	108-20-3	
Ethanol	ND	ug/L	1000	850	5		09/21/10 17:54	64-17-5	
Ethylbenzene	ND	ug/L	25.0	5.5	5		09/21/10 17:54	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	23.0	5		09/21/10 17:54	637-92-3	
Methyl-tert-butyl ether	**1140**	ug/L	100	40.0	20		09/22/10 16:27	1634-04-4	
Naphthalene	**20.0J**	ug/L	25.0	14.5	5		09/21/10 17:54	91-20-3	
Toluene	ND	ug/L	25.0	9.0	5		09/21/10 17:54	108-88-3	
Xylene (Total)	**43.7J**	ug/L	50.0	13.5	5		09/21/10 17:54	1330-20-7	
m&p-Xylene	ND	ug/L	50.0	13.5	5		09/21/10 17:54	179601-23-1	
o-Xylene	**34.4**	ug/L	25.0	8.5	5		09/21/10 17:54	95-47-6	
Dibromofluoromethane (S)	114	%	70-130		5		09/21/10 17:54	1868-53-7	
Toluene-d8 (S)	100	%	70-130		5		09/21/10 17:54	2037-26-5	
4-Bromofluorobenzene (S)	106	%	70-130		5		09/21/10 17:54	460-00-4	
1,2-Dichloroethane-d4 (S)	130	%	70-130		5		09/21/10 17:54	17060-07-0	

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ANALYTICAL RESULTS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

Sample: MW-26 **Lab ID: 9277878022** Collected: 09/16/10 11:03 Received: 09/17/10 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	09/20/10 17:05	09/21/10 02:29	106-93-4	
1-Chloro-2-bromopropane (S)	95	%	60-140		1	09/20/10 17:05	09/21/10 02:29	301-79-56	
8260 MSV Oxygenates	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	62.0	1		09/22/10 15:29	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	4.5	1		09/22/10 15:29	994-05-8	
Benzene	ND	ug/L	5.0	1.2	1		09/22/10 15:29	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	48.0	1		09/22/10 15:29	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	27.0	1		09/22/10 15:29	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	9.0	1		09/22/10 15:29	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.3	1		09/22/10 15:29	107-06-2	
Diisopropyl ether	**4.9J**	ug/L	5.0	2.7	1		09/22/10 15:29	108-20-3	
Ethanol	ND	ug/L	200	170	1		09/22/10 15:29	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.1	1		09/22/10 15:29	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	4.6	1		09/22/10 15:29	637-92-3	
Methyl-tert-butyl ether	**42.4**	ug/L	5.0	2.0	1		09/22/10 15:29	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.9	1		09/22/10 15:29	91-20-3	
Toluene	ND	ug/L	5.0	1.8	1		09/22/10 15:29	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		09/22/10 15:29	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	2.7	1		09/22/10 15:29	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.7	1		09/22/10 15:29	95-47-6	
Dibromofluoromethane (S)	106	%	70-130		1		09/22/10 15:29	1868-53-7	
Toluene-d8 (S)	105	%	70-130		1		09/22/10 15:29	2037-26-5	
4-Bromofluorobenzene (S)	112	%	70-130		1		09/22/10 15:29	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		09/22/10 15:29	17060-07-0	

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QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

QC Batch: OEXT/11218 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9277878001, 9277878002, 9277878003, 9277878004, 9277878005, 9277878006, 9277878007, 9277878008, 9277878009, 9277878010, 9277878011

METHOD BLANK: 499743 — Matrix: Water
Associated Lab Samples: 9277878001, 9277878002, 9277878003, 9277878004, 9277878005, 9277878006, 9277878007, 9277878008, 9277878009, 9277878010, 9277878011

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	09/20/10 17:07	
1-Chloro-2-bromopropane (S)	%	110	60-140	09/20/10 17:07	

LABORATORY CONTROL SAMPLE & LCSD: 499744 499745

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	0.31	112	110	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				105	106	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 499746 499747

Parameter	Units	9277876020 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	0.33	0.33	118	118	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						107	107	60-140			

SAMPLE DUPLICATE: 499748

Parameter	Units	9277876021 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	102	108	6		

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QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

QC Batch: OEXT/11222 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 9277878012, 9277878013, 9277878014, 9277878015, 9277878016, 9277878017, 9277878018, 9277878019, 9277878020, 9277878021, 9277878022

METHOD BLANK: 499800 — Matrix: Water
Associated Lab Samples: 9277878012, 9277878013, 9277878014, 9277878015, 9277878016, 9277878017, 9277878018, 9277878019, 9277878020, 9277878021, 9277878022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.019	09/20/10 18:41	
1-Chloro-2-bromopropane (S)	%	103	60-140	09/20/10 18:41	

LABORATORY CONTROL SAMPLE & LCSD: 499801 499802

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	0.34	120	124	60-140	2	20	
1-Chloro-2-bromopropane (S)	%				106	107	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 499803 499804

Parameter	Units	9277878012 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	0.38	0.38	134	134	60-140	0	20	
1-Chloro-2-bromopropane (S)	%						114	114	60-140			

SAMPLE DUPLICATE: 499805

Parameter	Units	9277878014 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	102	108	7		

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QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

QC Batch: MSV/12310 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9277878002, 9277878003, 9277878004, 9277878005, 9277878006, 9277878007, 9277878008, 9277878009, 9277878010, 9277878011, 9277878012, 9277878013, 9277878015, 9277878016, 9277878017

METHOD BLANK: 499996 — Matrix: Water
Associated Lab Samples: 9277878002, 9277878003, 9277878004, 9277878005, 9277878006, 9277878007, 9277878008, 9277878009, 9277878010, 9277878011, 9277878012, 9277878013, 9277878015, 9277878016, 9277878017

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	09/21/10 10:29	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	09/21/10 10:29	
Benzene	ug/L	ND	5.0	09/21/10 10:29	
Diisopropyl ether	ug/L	ND	5.0	09/21/10 10:29	
Ethanol	ug/L	ND	200	09/21/10 10:29	
Ethyl-tert-butyl ether	ug/L	ND	10.0	09/21/10 10:29	
Ethylbenzene	ug/L	ND	5.0	09/21/10 10:29	
m&p-Xylene	ug/L	ND	10.0	09/21/10 10:29	
Methyl-tert-butyl ether	ug/L	ND	5.0	09/21/10 10:29	
Naphthalene	ug/L	ND	5.0	09/21/10 10:29	
o-Xylene	ug/L	ND	5.0	09/21/10 10:29	
tert-Amyl Alcohol	ug/L	ND	100	09/21/10 10:29	
tert-Amylmethyl ether	ug/L	ND	10.0	09/21/10 10:29	
tert-Butyl Alcohol	ug/L	ND	100	09/21/10 10:29	
tert-Butyl Formate	ug/L	ND	50.0	09/21/10 10:29	
Toluene	ug/L	ND	5.0	09/21/10 10:29	
Xylene (Total)	ug/L	ND	10.0	09/21/10 10:29	
1,2-Dichloroethane-d4 (S)	%	114	70-130	09/21/10 10:29	
4-Bromofluorobenzene (S)	%	95	70-130	09/21/10 10:29	
Dibromofluoromethane (S)	%	110	70-130	09/21/10 10:29	
Toluene-d8 (S)	%	98	70-130	09/21/10 10:29	

LABORATORY CONTROL SAMPLE: 499997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.6	113	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	786	79	70-130	
Benzene	ug/L	50	48.3	97	70-130	
Diisopropyl ether	ug/L	50	44.6	89	70-130	
Ethanol	ug/L	2000	2060	103	70-130	
Ethyl-tert-butyl ether	ug/L	100	97.3	97	70-130	
Ethylbenzene	ug/L	50	49.7	99	70-130	
m&p-Xylene	ug/L	100	104	104	70-130	
Methyl-tert-butyl ether	ug/L	50	49.1	98	70-130	
Naphthalene	ug/L	50	44.7	89	70-130	
o-Xylene	ug/L	50	50.5	101	70-130	
tert-Amyl Alcohol	ug/L	1000	929	93	70-130	
tert-Amylmethyl ether	ug/L	100	99.8	100	70-130	
tert-Butyl Alcohol	ug/L	500	509	102	70-130	
tert-Butyl Formate	ug/L	400	430	107	70-130	

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QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

LABORATORY CONTROL SAMPLE: 499997

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Toluene	ug/L	50	49.1	98	70-130	
Xylene (Total)	ug/L	150	154	103	70-130	
1,2-Dichloroethane-d4 (S)	%			113	70-130	
4-Bromofluorobenzene (S)	%			101	70-130	
Dibromofluoromethane (S)	%			106	70-130	
Toluene-d8 (S)	%			98	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 499998 499999

Parameter	Units	9277878016 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	55.7	57.7	111	115	70-130	4	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	555	591	56	59	70-130	6	30	M0
Benzene	ug/L	ND	50	50	43.3	46.2	87	92	70-130	7	30	
Diisopropyl ether	ug/L	ND	50	50	39.4	41.5	79	83	70-130	5	30	
Ethanol	ug/L	ND	2000	2000	1070	2080	53	104	70-130	65	30	M0,R1
Ethyl-tert-butyl ether	ug/L	ND	100	100	91.6	93.3	92	93	70-130	2	30	
Ethylbenzene	ug/L	ND	50	50	42.0	44.8	84	90	70-130	6	30	
m&p-Xylene	ug/L	ND	100	100	87.3	90.7	87	91	70-130	4	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	45.7	46.6	91	93	70-130	2	30	
Naphthalene	ug/L	ND	50	50	37.1	41.0	74	82	70-130	10	30	
o-Xylene	ug/L	ND	50	50	43.2	48.8	86	98	70-130	12	30	
tert-Amyl Alcohol	ug/L	ND	1000	1000	653	759	65	76	70-130	15	30	M0
tert-Amylmethyl ether	ug/L	ND	100	100	90.2	97.5	90	98	70-130	8	30	
tert-Butyl Alcohol	ug/L	ND	500	500	421	451	84	90	70-130	7	30	
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	44.8	47.3	90	95	70-130	6	30	
1,2-Dichloroethane-d4 (S)	%						121	118	70-130			
4-Bromofluorobenzene (S)	%						108	110	70-130			
Dibromofluoromethane (S)	%						111	111	70-130			
Toluene-d8 (S)	%						100	101	70-130			

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QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

QC Batch: MSV/12312 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9277878001, 9277878018, 9277878019, 9277878020, 9277878021

METHOD BLANK: 500002 — Matrix: Water
Associated Lab Samples: 9277878001, 9277878018, 9277878019, 9277878020, 9277878021

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	09/21/10 10:10	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	09/21/10 10:10	
Benzene	ug/L	ND	5.0	09/21/10 10:10	
Diisopropyl ether	ug/L	ND	5.0	09/21/10 10:10	
Ethanol	ug/L	ND	200	09/21/10 10:10	
Ethyl-tert-butyl ether	ug/L	ND	10.0	09/21/10 10:10	
Ethylbenzene	ug/L	ND	5.0	09/21/10 10:10	
m&p-Xylene	ug/L	ND	10.0	09/21/10 10:10	
Methyl-tert-butyl ether	ug/L	ND	5.0	09/21/10 10:10	
Naphthalene	ug/L	ND	5.0	09/21/10 10:10	
o-Xylene	ug/L	ND	5.0	09/21/10 10:10	
tert-Amyl Alcohol	ug/L	ND	100	09/21/10 10:10	
tert-Amylmethyl ether	ug/L	ND	10.0	09/21/10 10:10	
tert-Butyl Alcohol	ug/L	ND	100	09/21/10 10:10	
tert-Butyl Formate	ug/L	ND	50.0	09/21/10 10:10	
Toluene	ug/L	ND	5.0	09/21/10 10:10	
Xylene (Total)	ug/L	ND	10.0	09/21/10 10:10	
1,2-Dichloroethane-d4 (S)	%	112	70-130	09/21/10 10:10	
4-Bromofluorobenzene (S)	%	104	70-130	09/21/10 10:10	
Dibromofluoromethane (S)	%	111	70-130	09/21/10 10:10	
Toluene-d8 (S)	%	99	70-130	09/21/10 10:10	

LABORATORY CONTROL SAMPLE: 500003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	58.9	118	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	789	79	70-130	
Benzene	ug/L	50	47.3	95	70-130	
Diisopropyl ether	ug/L	50	42.7	85	70-130	
Ethanol	ug/L	2000	2100	105	70-130	
Ethyl-tert-butyl ether	ug/L	100	99.0	99	70-130	
Ethylbenzene	ug/L	50	48.6	97	70-130	
m&p-Xylene	ug/L	100	97.5	97	70-130	
Methyl-tert-butyl ether	ug/L	50	49.3	99	70-130	
Naphthalene	ug/L	50	45.6	91	70-130	
o-Xylene	ug/L	50	50.4	101	70-130	
tert-Amyl Alcohol	ug/L	1000	1010	101	70-130	
tert-Amylmethyl ether	ug/L	100	94.6	95	70-130	
tert-Butyl Alcohol	ug/L	500	548	110	70-130	
tert-Butyl Formate	ug/L	400	424	106	70-130	
Toluene	ug/L	50	50.1	100	70-130	

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QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

LABORATORY CONTROL SAMPLE: 500003

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	148	99	70-130	
1,2-Dichloroethane-d4 (S)	%			109	70-130	
4-Bromofluorobenzene (S)	%			108	70-130	
Dibromofluoromethane (S)	%			108	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 500004 500005

Parameter	Units	9277878018 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	65.2	61.2	130	122	70-130	6	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	1000	1000	717	628	72	63	70-130	13	30	M0
Benzene	ug/L	ND	50	50	53.1	51.9	106	104	70-130	2	30	
Diisopropyl ether	ug/L	ND	50	50	50.2	48.1	100	96	70-130	4	30	
Ethanol	ug/L	ND	2000	2000	2040	1870	102	93	70-130	9	30	
Ethyl-tert-butyl ether	ug/L	ND	100	100	112	108	112	108	70-130	3	30	
Ethylbenzene	ug/L	ND	50	50	54.5	53.0	109	106	70-130	3	30	
m&p-Xylene	ug/L	ND	100	100	108	106	108	106	70-130	2	30	
Methyl-tert-butyl ether	ug/L	ND	50	50	55.9	54.2	108	105	70-130	3	30	
Naphthalene	ug/L	ND	50	50	49.2	49.0	98	98	70-130	0	30	
o-Xylene	ug/L	ND	50	50	54.2	53.2	108	106	70-130	2	30	
tert-Amyl Alcohol	ug/L	125	1000	1000	843	779	72	65	70-130	8	30	M0
tert-Amylmethyl ether	ug/L	ND	100	100	108	106	108	106	70-130	2	30	
tert-Butyl Alcohol	ug/L	ND	500	500	561	499	112	100	70-130	12	30	
tert-Butyl Formate	ug/L	ND	400	400	ND	ND	0	0	70-130		30	P5
Toluene	ug/L	ND	50	50	53.6	54.1	107	108	70-130	1	30	
1,2-Dichloroethane-d4 (S)	%						116	112	70-130			
4-Bromofluorobenzene (S)	%						107	111	70-130			
Dibromofluoromethane (S)	%						111	107	70-130			
Toluene-d8 (S)	%						97	98	70-130			

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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

QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

QC Batch: MSV/12325 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: 8260 MSV Oxygenates SC
Associated Lab Samples: 9277878014, 9277878022

METHOD BLANK: 500678 — Matrix: Water
Associated Lab Samples: 9277878014, 9277878022

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	09/22/10 11:31	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	09/22/10 11:31	
Benzene	ug/L	ND	5.0	09/22/10 11:31	
Diisopropyl ether	ug/L	ND	5.0	09/22/10 11:31	
Ethanol	ug/L	ND	200	09/22/10 11:31	
Ethyl-tert-butyl ether	ug/L	ND	10.0	09/22/10 11:31	
Ethylbenzene	ug/L	ND	5.0	09/22/10 11:31	
m&p-Xylene	ug/L	ND	10.0	09/22/10 11:31	
Methyl-tert-butyl ether	ug/L	ND	5.0	09/22/10 11:31	
Naphthalene	ug/L	ND	5.0	09/22/10 11:31	
o-Xylene	ug/L	ND	5.0	09/22/10 11:31	
tert-Amyl Alcohol	ug/L	ND	100	09/22/10 11:31	
tert-Amylmethyl ether	ug/L	ND	10.0	09/22/10 11:31	
tert-Butyl Alcohol	ug/L	ND	100	09/22/10 11:31	
tert-Butyl Formate	ug/L	ND	50.0	09/22/10 11:31	
Toluene	ug/L	ND	5.0	09/22/10 11:31	
Xylene (Total)	ug/L	ND	10.0	09/22/10 11:31	
1,2-Dichloroethane-d4 (S)	%	115	70-130	09/22/10 11:31	
4-Bromofluorobenzene (S)	%	109	70-130	09/22/10 11:31	
Dibromofluoromethane (S)	%	111	70-130	09/22/10 11:31	
Toluene-d8 (S)	%	100	70-130	09/22/10 11:31	

LABORATORY CONTROL SAMPLE: 500679

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	56.5	113	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	558	56	70-130	L0
Benzene	ug/L	50	49.2	98	70-130	
Diisopropyl ether	ug/L	50	44.8	90	70-130	
Ethanol	ug/L	2000	1850	93	70-130	
Ethyl-tert-butyl ether	ug/L	100	96.5	96	70-130	
Ethylbenzene	ug/L	50	46.7	93	70-130	
m&p-Xylene	ug/L	100	91.8	92	70-130	
Methyl-tert-butyl ether	ug/L	50	48.9	98	70-130	
Naphthalene	ug/L	50	43.2	86	70-130	
o-Xylene	ug/L	50	44.9	90	70-130	
tert-Amyl Alcohol	ug/L	1000	740	74	70-130	
tert-Amylmethyl ether	ug/L	100	99.3	99	70-130	
tert-Butyl Alcohol	ug/L	500	408	82	70-130	
tert-Butyl Formate	ug/L	400	393	98	70-130	
Toluene	ug/L	50	50.4	101	70-130	

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(828)254-7176

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

QUALITY CONTROL DATA

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

LABORATORY CONTROL SAMPLE: 500679

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
Xylene (Total)	ug/L	150	137	91	70-130	
1,2-Dichloroethane-d4 (S)	%			110	70-130	
4-Bromofluorobenzene (S)	%			106	70-130	
Dibromofluoromethane (S)	%			105	70-130	
Toluene-d8 (S)	%			100	70-130	

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(828)254-7176

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

QUALIFIERS

Project: CIRCLE STOP N SHOP 05981
Pace Project No.: 9277878

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.
L0	Analyte recovery in the laboratory control sample (LCS) was outside QC limits.
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.
S3	Surrogate recovery exceeded laboratory control limits. Analyte presence below reporting limits in associated samples. Results unaffected by high bias.
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

1410391

Section A Required Client Information:
Company: SCDHEC-UST
Address: 2600 Bull Street, Columbia, SC 29201
Email To:
Phone: 803-896-4240 Fax: 896-6243
Requested Due Date/TAT:

Section B Required Project Information:
Report To: D. Thomas
Copy To:
Purchase Order No.: 719459
Project Name: Circle Stop N Shop
Project Number: 05981 / Pace CA 39254

Section C Invoice Information:
Attention: Finance (D. Thomas)
Company Name: SCDHEC-UST
Address:
Pace Quote Reference:
Pace Project Manager: R. Sumner
Pace Profile #: 8242-5

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): Analysis Test: Bkg Naph Mthly; 1,2 DCA 8260-B 4-days; EDB 8011

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	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW-1	WT	G			9/16/10	13:30		6				X					X X X X		Odor 001
2	MW-2						14:00													Odor/Sheen 002
3	MW-3						14:30													Odor 003
4	MW-4						10:25													Odor 004
5	MW-5						10:00													No Odor 005
6	MW-6						9:50													No Odor 006
7	MW-7						9:30													Odor/Sheen 007
8	MW-8						13:20													No Odor 008
9	MW-9R						13:15													009
10	MW-10R						13:00													010
11	MW-11						10:10													011
12	MW-12	WT	G			9/16/10	10:05		6				X					X X X X		No Odor 012

ADDITIONAL COMMENTS

RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	9-17-10	1035		9-17-10	1035
	9-17-10	1440	Pace	9/17	1440

SAMPLE CONDITIONS

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

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Brandon Kelly
SIGNATURE of SAMPLER:
DATE Signed (MM/DD/YY): 9/16/10

*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

1410390

Section A Required Client Information:

Company: SCDHEC-UST
Address: 2600 Bull Street
Columbia, SC 29201
Email To:
Phone: 803-896-6240 Fax: 896-6243
Requested Due Date/TAT:

Section B Required Project Information:

Report To: D. Thoma
Copy To:
Purchase Order No.: 719459
Project Name: Circle Stop N. Shop
Project Number: 05981 / Pace CA 39354

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

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): Bkgr Alpha, Nitrate	1,2-DCA 8260-B	8-Oxys	EDB 8011	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 927818
1	MW-13	WT	G			9/16/10	11:10		6				X					X	X	X	X		Odor 013
2	MW-14						9:40																Slight Odor 14
3	MW-15						9:15																No Odor 15
4	MW-16						9:00																No Odor 16
5	MW-18						11:50																Odor 17
6	MW-19						9:20																No Odor 18
7	MW-20	WT	G			9/16/10	9:20		6				X					X	X	X	X		No Odor 19
8	~~MW-23~~								—				—										Not Located
9	MW-24	WT	G			9/16/10	14:20		6				X					X	X	X	X		Slight Odor 20
10	MW-25	WT	G			9/16/10	13:45		6				X					X	X	X	X		Odor 21
11	MW-26	WT	G			9/16/10	11:03		6				X					X	X	X	X		No odor 22
12																							

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature] / Pace	9-17-10	1035	[signature] / Pace	9-17-10	1035				
	[signature] / Pace	9-17	1440	[signature] / Pace	9/17	1440	36	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Brandon Kelly

SIGNATURE of SAMPLER: [signature]

DATE Signed (MM/DD/YY): 9/16/10

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

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

JAN 0 3 2013

UST DOCKETING 18 tech

GAIL SMITH
143 PIONEER DR
LEESVILLE SC 29070

Re: **Corrective Action Options**
Circle Stop-N-Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit # 05981
Release reported December 27, 1991
Saluda County

Dear Ms. Smith:

The Underground Storage Tank (UST) Management Division (Division) of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced file. The report indicates that active corrective action is necessary at the site to mitigate petroleum impact to water supply wells and ensure that there is no detrimental exposure to human health or the environment.

Funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for active corrective action. The selected technology must reduce free product and petroleum chemicals of concern (CoC) concentrations to site-specific target levels (SSTLs) determined by the Agency.

The SUPERB Site Rehabilitation and Fund Access Regulations R.61-98 require the UST owner/operator to develop and implement a reasonable, cost-effective corrective action to be performed by an Agency-certified site rehabilitation contractor. As the owner/operator for the releases reported on December 27, 1991, you may choose one of two options as to how to proceed with this requirement: state lead or owner/operator lead.

State Lead Option:

- If you choose the state lead option, the Agency will procure a certified site rehabilitation contractor to perform corrective action on your behalf. The Agency will enter into an enforceable contract with the awarded contractor. As long as you do not interfere with or prohibit the work at your site, you will not be responsible in the event the state selected contractor does not perform appropriately or does not make satisfactory progress towards achieving the established corrective action goals. To utilize the state lead option, please sign and return the applicable Permission form within 15 days of the date of this letter.

Owner/Operator Lead Option:

- If you select the owner/operator lead option, you will be required to select a contractor to perform the corrective action. In order to assist you in determining the clean-up technology, time frame, clean-up levels, and associated costs, the Agency will prepare a technical specification package and provide you copies to send to contractors of your choice. In addition, the Agency will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication, to ensure that an adequate solicitation response is obtained so that a fair and competitive price can be established. This announcement will clearly indicate that you will select the contractor to implement the corrective action.
- Compensation to the contractor will be from the SUPERB Account, but you may have the obligation to pay your selected contractor for any costs not approved by the Agency.
- The Agency strongly suggests that a written contract between you and the selected contractor be developed following the completion of the solicitation process. The parties to this contract would be you and the contractor you choose; the Agency would not be a party to this contract. The Agency's function would be to monitor and ensure progress of corrective action activities.
- If the contractor you select does not or cannot complete the required activities, you will be required to find another certified contractor to complete the required activities for the remainder of the existing financial approval amount. No additional funding from the SUPERB Account may be allowed. Under R.61-92, Part 280: Underground Storage Tank Control Regulations, you as the owner/operator are ultimately responsible to the Agency for the actions of your contractor. The Agency will pursue enforcement actions against you if the contractor you select does not make satisfactory progress towards achieving established corrective actions goals. To utilize the owner/operator lead option, please sign and return the enclosed Active Corrective Action Options Form within 15 days of the date of this letter.

On all correspondence or inquiries regarding this project, please reference UST Permit #05981. If you have any questions, please contact me at (803) 896-6584 or by email at miners@dhec.sc.gov.

Sincerely,

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
UST Management Division
Bureau of Land and Waste Management

enc: Permission/Right-of-Entry forms
Active Corrective Action Options form

cc: Technical file (w/o enc)

State Lead Option

UST
JAN 16 2013
PROGRAM

UST
19 tech
DOCKETING

PERMISSION FORM

UNDERGROUND STORAGE TANK OWNER

UST Permit #05981

If you are the owner of the former or existing underground storage tanks for the release reported on December 27, 1991, please complete this form.

I, Gail L. Smith, certify that I am the identified legal owner of the underground storage tanks for the release reported on December 27, 1991 at the facility identified below or serve as the authorized representative for the owner. I grant permission to the South Carolina Department of Health and Environmental Control (Agency) to secure on my behalf contractor services to conduct assessment and corrective action activities as required. I understand that the Agency, or a contractor selected by the Agency, will contact the property owner for permission to enter this property at reasonable times only to accomplish these site rehabilitation tasks. The contractor(s) will be designated as my contractor for only the required site rehabilitation activities. Compensation to the contractor(s) will be from the SUPERB Account and I will have no obligation to pay the contractor(s). I understand that the Agency or its contractor will be responsible for notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Division of Underground Storage Tank Management in writing.

Name of Facility Circle Stop & Shop Phone # _____

Street Address of Facility 3287 Columbia Hwy.

Town, City, District, Suburb Leesville, S.C. 29070

Is the property currently leased or rented to someone? (yes or no) no. If yes, please provide their name _____ and phone number _____ _____ and let them know about the pending site rehabilitation activities. If vehicles or other mobile structures are parked over the monitoring wells, they should be moved before the Agency's contractor arrives at the site.

NAME of UST/property owner (Please Print): Gail L. Smith

Phone Number (home) 803-532-478 ~~(work)~~ Cell 803-960-2247

Signature of UST/property Owner: Gail L. Smith

Witness: _____

Date: 01 Month 14th Day 2013 Year

Please return to: Read Miner, SCDHEC UST Division, 2600 Bull St., Columbia, SC 29201

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

JUN 2 0 2013

UST 20Hed ETING

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
14989	Frm Majik Market	Florence	28-BTEXMN, DCA, Oxygenates, EDB, & total lead	M. Milenkova
08795	Blue Ridge Transfer	Sumter	23-BTEXMN, EDB, & Total Lead	J. Ford
03542	Baggett's Gulf	Florence	35-BTEXMN, DCA, Oxygenates, & EDB	M. Rivers
02115	Griffins Mart	Chester	57-BTEXMN, DCA, Oxygenates, & EDB	C. Ridgley
08317	Fowler's Grocery	Greenville	30-BTEXMN, DCA, Oxygenates, & EDB	S. Briney
04901	EZ Serve 8007	Greenville	10- BTEXMN, DCA, Oxygenates, & EDB	S. Briney
05981	Circle Stop N Shop	Saluda	27- BTEXMN, DCA, Oxygenates, & EDB	R. Miner
09314	Warrens Grocery	York	20- BTEXMN, DCA, Oxygenates, & EDB	D. Thoma
14404	Carrolls Service	Georgetown	25- BTEXMN, DCA, Oxygenates, & EDB	D. Thoma
08627	Interstate Express	Spartanburg	17- BTEXMN, DCA, Oxygenates, & EDB	M. Rivers
17195	HH Transfer	Orangeburg	4- BTEXMN, DCA, & EDB	R. Miner
14469	Great Falls Exxon	Chester	16-BTEXMN, DCA, & Oxygenates	C. Ridgley

* The number of samples may 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) 898-0631 or thomadl@dhec.sc.gov.

Sincerely,

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

Enc: Site Information Sheet

cc: Technical Files

Midlands Environmental Consultants, Inc.

June 26, 2013

UST JUL 02 2013 PROGRAM

UST DOCKETING

07-02-13A08:36 RC

Mr. Read Miner, P.G., 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: QAPP Contractor Addendum – Revision 0
Circle Stop N Shop
Saluda, South Carolina
SCDHEC Site ID Number 05981
MECI Project Number 13-4517
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached QAPP Contractor Addendum for the referenced site.

On June 24, 2013, 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
Project Biologist

Jeff L. Coleman
Senior Scientist

Post Office Box 854, Lexington SC 29071 • 235-B Dooley Road, Lexington, SC 29073
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Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Circle Stop N Shop, SCDHEC Site ID# 05981

3287 Columbia Highway, Saluda, South Carolina

Prepared by:
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(Certified Site Rehabilitation Contractor UCC-0009)
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Date: June 26, 2013

Approvals

Read Miner, P.G. SC DHEC Project Manager	_____ Signature	Date_____
Bryan T. Shane, P.G. Site Rehabilitation Contractor	BTShane Signature	Date 7-1-13
Courtney M. Sanders Contractor QA Manager	_____ Signature	Date 6-27-13
Daniel J. Wright Laboratory Director	Daniel J Wright Signature	Date 06/26/2013

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Read Miner, P.G.	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-898-0608	803-898-0673	minerrs@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
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
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
Daniel J. Wright	Laboratory Director	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	dwright@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	Read Miner, P.G.	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-898-0608	803-898-0673	minerrs@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	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	Jeff L.	Midlands Environmental	803-808-	803-808-2048	jlc@meci.net

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
	Coleman	Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	2043		
Analytical Laboratory Director	Daniel J. Wright	Shealy Environmental Services,Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	dwright@shealylab.com
Project Verifier	Courtney M. Sanders or Kyle V. Pudney	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

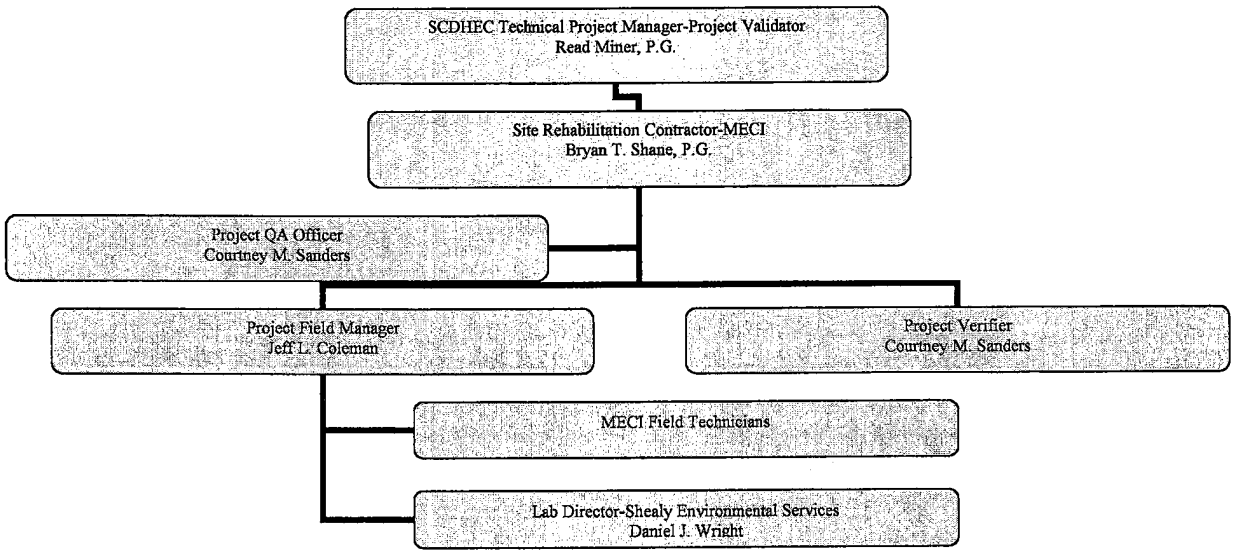


Figure 1A Organizational Chart

Project Manager (Read Miner, P.G.) – 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 (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 (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.

Analytical Laboratory Director (Daniel J. Wright)– 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 or Kyle V. Pudney) – 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 (Circle Stop N Shop) is located at 3287 Columbia Highway, Saluda, Saluda County, South Carolina. The subject site previously maintained one 550 gallon kerosene underground storage tank (UST), one 1,000 gallon diesel UST, one 2,000 gasoline UST, two 3,000 gallon gasoline UST's, and one 8,000 multiple petroleum UST. The 550 gallon kerosene, 1,000 gallon diesel, and 2,000 gallon gasoline UST were abandoned by removal from ground in September of 1998. The two 3,000 gallon gasoline UST's were abandoned by removal ground in December of 1998. The 8,000 gallon multiple petroleum UST was abandoned by removal from ground in October of 2006. The South Carolina Department of Health and Environmental Control (SCDHEC) reported and confirmed a release of petroleum product in December of 1991. The subject site is currently rated a Class 2BB.

A comprehensive sampling event is being conducted to determine current site conditions and analytical data.

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).***

A comprehensive sampling event will be conducted at the subject site (Circle Stop N Shop) to determine current site conditions and current analytical data.

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 3287 Columbia Highway, Saluda, Saluda County, South Carolina. The site is currently occupied by an old gasoline service station.

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	12/10/2012	N/A	N/A
Staff Geologist	John Bryant	OSHA 40 hr HAZWOPER	4/17/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/10/2012	N/A	N/A
Staff Biologist	Courtney Sanders	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/10/2012	N/A	N/A
Staff	Kyle Pudney	OSHA 40 hr	12/10/2010	N/A	N/A

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Biologist		HAZWOPER			
		OSHA 8 hr HAZWOPER refresher	12/10/2012	N/A	N/A
Staff Biologist	Chris Lashley	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/10/2012	N/A	N/A
Staff Biologist	Gavin Globensky	OSHA 40 hr HAZWOPER	7/29/2011	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/10/2012	N/A	N/A
Staff Biologist	Ryan Ariail	OSHA 40 hr HAZWOPER	9/23/2011	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/10/2012	N/A	N/A
Staff Geologist	Patrick Boylan	OSHA 40 hr HAZWOPER	07/20/2012	N/A	N/A
Lab Manager	Daniel J. Wright	***	***	Lab Certification	SC 32010

Table 3A Required Training and Licenses

Courtney M. Sanders 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_____Daniel J. Wright_____
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 8011).

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	Courtney Sanders	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Courtney Sanders	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Courtney Sanders	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	6/24/13	6/24/13	Already Completed
QAPP preparation	6/26/13	6/26/13	In progress
QAPP approval	6/27/13	7/18/13	Assuming three week turnaround
Monitoring well Sampling	7/19/13	8/2/13	Sampled within 2 weeks of QAPP approval
Report Preparation	8/3/13	8/24/13	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	_____20____
From Drinking/Irrigation water wells	_____
Field Duplicate Collection	_____1____
Field Blank Collection	_____1____
Trip Blank	_____1____
From surface water features	_____
Total number of Water samples	_____23____

Notes:
During the June 24, 2013 site visit, twenty (20) monitoring wells were located. Monitoring wells MW-10R, MW-17, MW-21, MW-22 and MW-23 were not located during the initial site visit. If the monitoring wells are located during sampling activities, the newly located monitoring wells will be sampled accordingly.

Please note monitoring wells MW-17, MW-21, and MW-22 are located on the Saluda County Recycling Center property enclosed by a fence and locking gate. On June 24, 2013, the Recycling Center was closed, but MECI personnel have coordinated with Saluda County and have scheduled to locate and sample the wells on one of three days of operation during the week.

During the site visit it was noted that three (3) monitoring wells were in need of bolts. A combined total of five (5) bolts are needed to properly secure the wells. Additionally, monitoring well MW-12 is in need a lid to be properly secure. **Total Bolts Needed: 5 Bolts**.

It is anticipated that one (1) field duplicate, one (1) field blank, and one (1) trip blank will be collected during the subject sampling event.

Samples will be analyzed by Shealy Environmental Services, Inc. for BTEX, Napth, MTBE, 1,2 DCA, 8-Oxygenates (8260B), and EDB (8011).

For the sample matrices indicated above, please describe how samples will be collected and the equipment needed.

Monitoring Well Sampling

Water Level Measurement

-MECI personnel utilize Electronic Water Level Indicators for Water Level Measurements. Each sampling crew carries an electronic water level indicator for use on downgradient monitoring wells and an Oil/Water Interface probe for use on source area wells or wells that have historically contained measurable free phase petroleum product.

-Prior to usage, the indicator is decontaminated with isopropanol applied by a Teflon squeeze bottle and rinsed with analyte free water. This rinse water is collected and run through a portable GAC (granulated activated carbon) unit.

-The indicator is slowly lowered into the water table, and the water level is recorded to the nearest 0.01 feet.

-When free phase petroleum product is encountered, the Oil-Water Interface probe is slowly lowered into the monitoring well until product is encountered; this measurement is recorded to the nearest 0.01 feet. The meter is then lowered through the product until water is encountered. The probe is then pulled back up through the well until product is encountered again; this measurement is recorded to the nearest 0.01 feet.

-If the total depth of a monitoring well is required, after a groundwater level is recorded, the indicator probe is lowered until the bottom of the monitoring well is encountered. This depth is recorded to the nearest 0.01 feet. Following a total depth measurement, the entire length of probe tape is decontaminated with isopropanol and rinsed with analyte free water.

-All measurements will be taken from the top of the well casing.

Monitoring Well Purging

-Where necessary, monitoring wells will be purged prior to sampling if: the well screen does not bracket the watertable, if a screened interval is not known, purging is specifically asked for by the SCDHEC project manager, or a monitoring well has not previously been sampled.

-Purging will be completed utilizing a prepackaged, clear, disposable polyethylene bailer and nylon rope. Following purging/sampling of a well, the bailer and rope will be properly disposed.

-A new set of Nitrile gloves will be worn at each monitoring well, and at any time samples are handled.

-Prior to purging, the water level of the well will be determined using an electronic water level indicator. The water level, total well depth and well diameter will be used to determine the amount of water standing in the water column. The following table presents gallons of water per foot of water column in selected diameters of wells:

Well Diameter (inches)	Gallons of Water/Foot	Well Diameter (inches)	Gallons of Water/Foot
1	0.047	8	2.611
2	0.163	10	4.08
4	0.653	12	5.875
6	1.469		

-The length of the water column multiplied by the gallons of water per foot will provide the number of gallons in one well volume of water.

-Purging will continue until three well volumes of water are evacuated, or where field measurements of pH, Specific Conductivity (uS), Temperature (°C), and Turbidity (NTU) have stabilized to within 10% of previous values or until all accessible well water is evacuated (purged dry). Field measurements of these parameters will be taken and recorded in field notes, prior to purging and after each well volume of water has been purged.

-When purging a well with a diameter larger than 2", a submersible Redi-Flo2 pump can be used.

-Prior to usage, the pump assembly will be cleaned using a laboratory grade detergent and rinsed with analyte free water.

-The pump is lowered into the water column utilizing an attached nylon rope. DO NOT LOWER THE PUMP USING THE ELECTRICAL CORD OR HOSE.

-Once the pump has been lowered to the desired depth, the nylon rope is securely attached to an anchor at the ground surface (i.e. metal stake, truck bumper, etc). The power cord is attached to the speed controller which is attached to the generator.

-Slowly increase the speed of the controller until a desired flow rate is achieved. The pump should not be allowed to run dry.

-Purge water will be treated on-site utilizing a GAC unit.

Monitoring Well Sampling

-No-purge sampling will be conducted in previously sampled monitoring wells if: the water level is within the screened interval of the well or specifically asked for by the SCDHEC project manager.

-Immediately prior to sampling, laboratory provided labels will be placed on all sample vials and containers. These labels will include the site name, sample ID, analysis to be completed, date and time.

-Sampling will be conducted utilizing prepackaged, clear, disposable polyethylene bailers and nylon rope. Following sampling of a well, the bailer and rope will be properly disposed. A new set of Nitrile gloves will be worn at each monitoring well, and at any time samples are handled.

-The bailer is lowered into the well until it encounters the watertable, the bailer is then allowed to fill with water and is extracted from the well. Samples are placed in laboratory provided and approved sampling containers. Following sample collection, the samples are immediately placed in laboratory provided coolers, pre-filled with wet ice obtained from the MECI office.

-When requested by the SCDHEC project manager, passive diffusion bags (PDB) can be used to obtain no purge samples from discreet intervals within a water column or from wells were it is not possible to treat purge water on-site (i.e. DNAPL contamination).

-Prior to installation of a PDB, all equipment used should be washed with isopropanol and rinsed with analyte free water (weights, PDB clamps, etc.).

-Wearing Nitrile gloves, the PDB is filled with analyte free water, sealed with a PDB clamp according to the manufacturer and attached to a nylon rope. The PDB is then lowered into the well to a specified depth.

-After a minimum of two weeks in the well, the PDB is removed from the well and a sample taken using a disposable, prepackaged, sealed sampling straw to puncture the bag and fill sample vials.

-Once the samples are taken, they are to be immediately placed in laboratory provided coolers, pre-filled with wet ice obtained from the MECI office.

-One field duplicate will be taken for every twenty (20) monitoring wells sampled at a site. This blank is a duplicate sample taken from a monitoring well near the source area, and is sampled in accordance with MECI Standard Operating Procedures.
-One field blank will be prepared for each day a site is sampled. A field blank is prepared using lab provided DI water placed into laboratory provided sample containers.
-One trip blank per cooler used in sampling will be used at each site. The trip blank is prepared by the laboratory.

-Once a sample has been taken, a sample time will be recorded in the field notes, along with any information about monitoring well condition that should be brought to the attention of the project manager.

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.

Prior to usage of non-disposable equipment, it is decontaminated with isopropanol applied by a Teflon squeeze bottle and rinsed with analyte free water. The sampling equipment is cleaned after each monitoring well. This rinse water is collected and run through a portable GAC (granulated activated carbon) unit.

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.

Samples will be transported to the laboratory by shipment with a lab provided courier or with a lab approved shipping company. If a courier is scheduled to visit the MECI offices the day following a sampling event, sampling coolers will be repacked with wet ice, and left at the office for pick-up. If no courier is scheduled to visit the MECI office the day following a sampling event, all sampling coolers are to be dropped off at the lab or at an approved shipping company for overnight delivery to the lab immediately following the sampling event.

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	Record method used to	Field Staff

	from known points, contact project manager for additional information.	attempt to locate the well on field sheets, and possibly reasoning for the well to be missing	

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 Sample Receiving issues	Call Client	Sample Receiving Checklist (SRC)	PM – Kelly Maberry kmaberry@shealylab.com
Analytical errors	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Daniel J. Wright dwright@shealylab.com
QA/QC Failure	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Daniel J. Wright dwright@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com
On time delivery	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Daniel J. Wright dwright@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)	All waste water produced from sampling and decontamination activities will be run

			Unit	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	C. Sanders
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	C. Sanders
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	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument

5				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

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
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 Calibration	As directed by manufacturer	+/- 10 uS	clean/replace probe tip, recalibrate	Field Staff	4.3.6
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,	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts

	Supelco			
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	C. Sanders, Field Staff
Nylon Rope	Preferred Pump	Covered with plastic	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
Nitrile Gloves	Preferred Pump	Unopened box, no holes	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
40 mL HCL preserved amber vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
250 mL HNO3 preserved metals vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
Coolers	Shealy Environmental Services	Intact	Stored in Vehicle Bay, Off of the ground	C. Sanders, Field Staff
pH Buffer	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	C. Sanders, Field Staff
Conductivity Standard	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	C. Sanders, Field Staff
DO Membranes	YSI, Enviroequipment	Clean, in box	Stored in calibration room	C. Sanders, Field Staff
Batteries	Any Store	Not previously used	Stored in calibration room	C. Sanders, 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
Small scope assessment 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	Previous assessment reports will be used to help determine the location of missing monitoring wells, and screened intervals.

		encountered.	

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).

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

Facility Name: Circle Stop N Shop

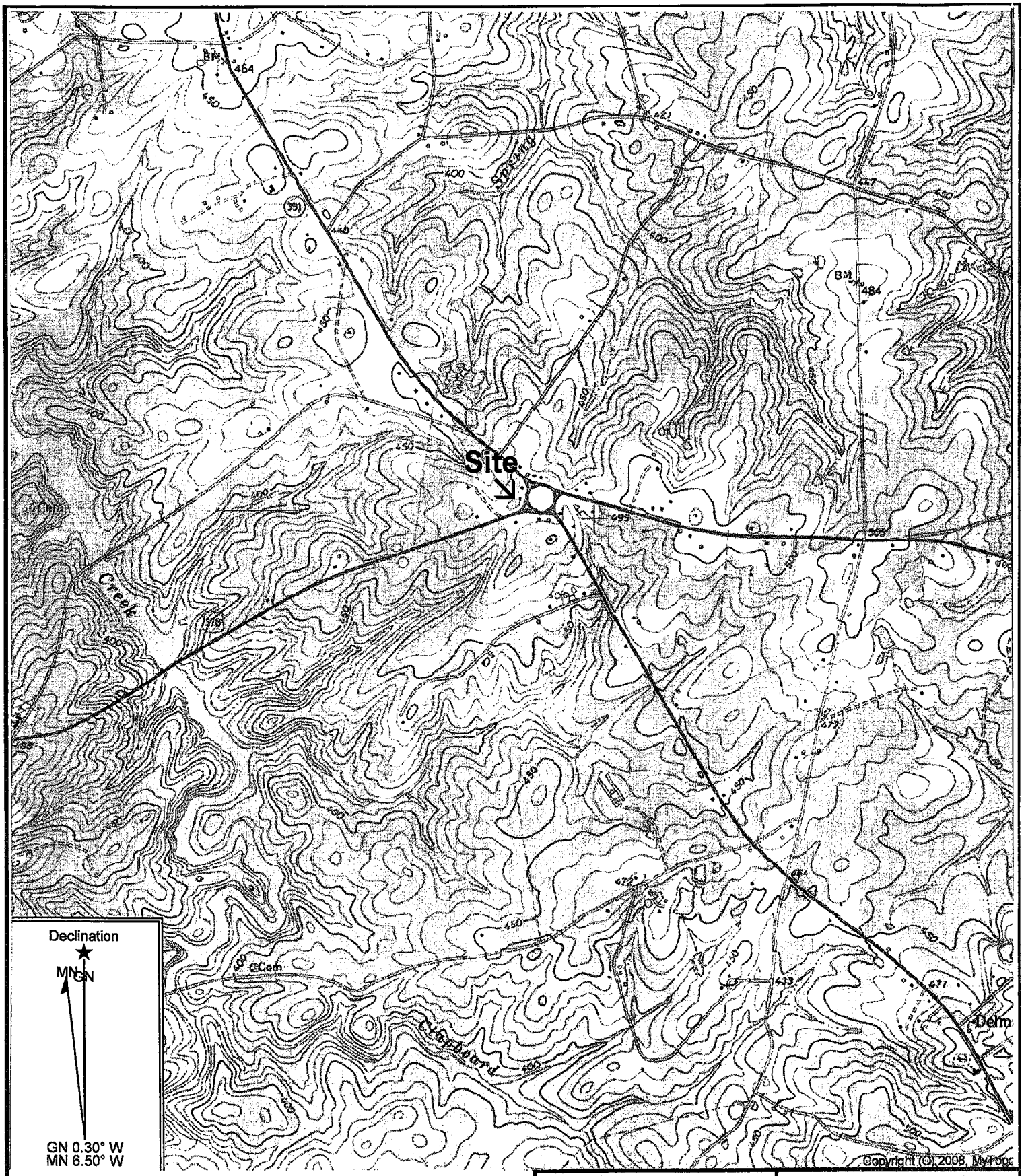
UST Permit #: 05981 **Cost Agreement #:**

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
B. Tax Map		x	$50.00	$0.00
C. Tier II or Comp. Plan /QAPP Appendix B	1	x	$525.00	$525.00
2. Receptor Survey *		x	$500.00	$0.00
3. Survey (500 x 500 feet)				
A. Comprehensive Survey		x	$1,000.00	$0.00
B. Subsurface Geophysical Survey				
1. < 10 meters below grade		x	$2,750.00	$0.00
2. > 10 meters below grade		x	$3,250.00	$0.00
C. Geophysical UST or Drum Survey		x	$1,125.00	$0.00
4. Mob/Demob (Each)				
A. Equipment		x	$575.00	$0.00
B. Personnel	2	x	$290.00	$580.00
C. Adverse Terrain Vehicle to install wells		x	$575.00	$0.00
5. Soil Borings (hand auger)* (Feet)		feet x	$14.00	$0.00
6. Soil Borings (drilled) & Field Screening *				
Rate includes collection of water sample or soil sample, and lab or other analyses				
A. Standard		feet x	$17.00	$0.00
C. Fractured Rock		feet x	$27.50	$0.00
7. Soil Leachability Model (Each)		each x	$200.00	$0.00
8. Abandonment* (per foot)				
A. 2" diameter or less		feet x	$5.00	$0.00
B. Greater than 2" to 6" diameter		feet x	$5.50	$0.00
C. Dug/Bored well (up to 6 foot diameter)		feet x	$18.00	$0.00
9. Well Installation* (per foot)				
A. Water Table (hand augered)		feet x	$20.00	$0.00
B. Water Table (drill rig)		feet x	$38.00	$0.00
C. Telescoping/ Pit Cased		feet x	$58.00	$0.00
D. Rock Drilling		feet x	$58.00	$0.00
E. 2" Rock Coring		feet x	$45.00	$0.00
G. Rock Multi-sampling ports/screens		feet x	$47.20	$0.00
H. Recovery Well (4 inch diameter)		each x	$45.00	$0.00
I. Pushed Pre-packed screen (1.25 diameter)		each x	$18.50	$0.00
J. Rotosonic (2 inch diameter)		each x	$45.00	$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product (Each)				
A. Groundwater Purge	20	wells x	$55.00	$1,100.00
B. Air or Vapors		samples x	$90.00	$0.00
C. Water Supply		samples x	$30.00	$0.00
D. Groundwater No Purge or Duplicate	1	samples x	$35.00	$35.00
E. Gauge Well only		per well x	$20.00	$0.00
F. Sample Below Product		wells x	$50.00	$0.00
G. Pasive Diffusion Bag		each x	$40.00	$0.00
H. Field Blank	1	each x	$5.00	$5.00

11. Laboratory Analyses-Groundwater (Each Sample)				
A1. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	23	samples x	$100.00	$2,300.00
AA. Lead, Filtered		samples x	$46.00	$0.00
B1. Rush EPA Method 8260B (All of item A.)		samples x	$143.00	$0.00
C1. Trimethal, Butyl, and Isopropyl Benzenes		samples x	$40.00	$0.00
D. PAH's		samples x	$120.00	$0.00
E. Lead, Unfiltered		samples x	$20.00	$0.00
F. EDB by EPA 8011	22	samples x	$55.00	$1,210.00
FF. EDB by EPA Method 8011 Rush		samples x	$75.00	$0.00
G. 8 RCRA Metals		samples x	$140.00	$0.00
H. TPH (9070)		samples x	$55.00	$0.00
I. pH		samples x	$10.00	$0.00
J. BOD		samples x	$40.00	$0.00
P1. Ethanol		samples x	$21.50	$0.00
11. Analyses-Soil (Each Sample)				
Q. BTEX + Naphth.		samples x	$100.00	$0.00
R. PAH's		samples x	$120.00	$0.00
S. 8 RCRA Metals		samples x	$150.00	$0.00
T. Oil & Grease (9071)		samples x	$60.00	$0.00
U. TPH-DRO (3550B/8015B)		samples x	$65.00	$0.00
V. TPH- GRO (5030B/8015B)		samples x	$65.00	$0.00
W. Grain size/hydrometer		samples x	$99.00	$0.00
X. Total Organic Carbon		samples x	$35.00	$0.00
11. Analyses-Air (Each Sample)				
Y. BTEX + Naphthalene		samples x	$247.50	$0.00
11. Analyses-Free Phase Product (Each Sample)				
Z. Hydrocarbon Fuel Identification		samples x	$620.00	$0.00
12. Aquifer Characterization*				
A. Pumping Test		hours x	$120.00	$0.00
B. Slug Test*		tests x	$150.00	$0.00
C. Fractured Rock		tests x	$500.00	$0.00
13. Free Product Recovery Rate Test* (Each)		tests x	$120.00	$0.00
14. Fate/Transport Modeling				
A. Mathematical Model		each x	$300.00	$0.00
B. Computer Model		each x	$500.00	$0.00
15. Risk Evaluation				
A. Tier I Risk Evaluation		x	$300.00	$0.00
B. Tier II Risk Evaluation		x	$500.00	$0.00
16. Subsequent Survey*		x	$300.00	$0.00
17. Disposal* (gallons or tons)				
A. Wastewater	200	gallons x	$0.80	$160.00
B1. Free Product		gallons x	$0.85	$0.00
C. Soil Treatment/Disposal		tons x	$72.50	$0.00
D. Drilling fluids		gallons x	$0.80	$0.00
18. Miscellaneous (attach receipts)				
		x		$0.00
		x		$0.00
		x		$0.00
20. Tier I Assessment (Use DHEC 3665 form)		x		$0.00
21. IGWA (Use DHEC 3666 form)		x		$0.00
22. Corrective Action (Use DHEC 3667 form)		x		$0.00

23. Aggressive Fluid & Vapor Recovery (AFVR)					
A. 8-hour Event*		each x	$3,000.00		$0.00
B. AFVR per-hour Continuance		per hour x	$204.00		$0.00
C. Off-gas treatment per-hour Continuance		per hour x	$35.00		$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A. New GAC System Installation*		each x	$2,500.00		$0.00
B1. Refurbished GAC Sys. Install*		each x	$1,180.00		$0.00
C. Filter replacement/removal*		each x	$450.00		$0.00
D1. GAC System removal, cleaning, & refurbishment*		each x	$720.00		$0.00
E. GAC System housing		each x	$450.00		$0.00
F. In-line particulate filter		each x	$150.00		$0.00
G. Additional piping & fittings		feet x	$4.00		$0.00
25. Well Repair					
A. Additional Copies of the Report Delivered		each x	$32.50		$0.00
B. Repair 2x2 MW pad		each x	$100.00		$0.00
C. Repair 4x4 MW pad		each x	$150.00		$0.00
D. Repair well vault	1	each x	$225.00		$225.00
F. Replace well cover bolts	5	each x	$10.00		$50.00
G. Replace locking well cap & lock		each x	$15.00		$0.00
H. Replace/Repair stick-up		each x	$137.50		$0.00
I. Convert Flush-mount to Stick-up		each x	$175.00		$0.00
J. Convert Stick-up to Flush-mount		each x	$125.00		$0.00
K. Replace missing/illegible well ID plate		each x	$22.50		$0.00
Report Prep & Project Management	15%	x	$6,190.00		$928.50
TOTAL					$7,118.50

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



GRAPHIC SCALE

0 1000 2000 4000

1IN = 2000FT

Reference: Delmar, South Carolina
USGS 7.5 Min. Quad
Contour Interval – 10 Feet

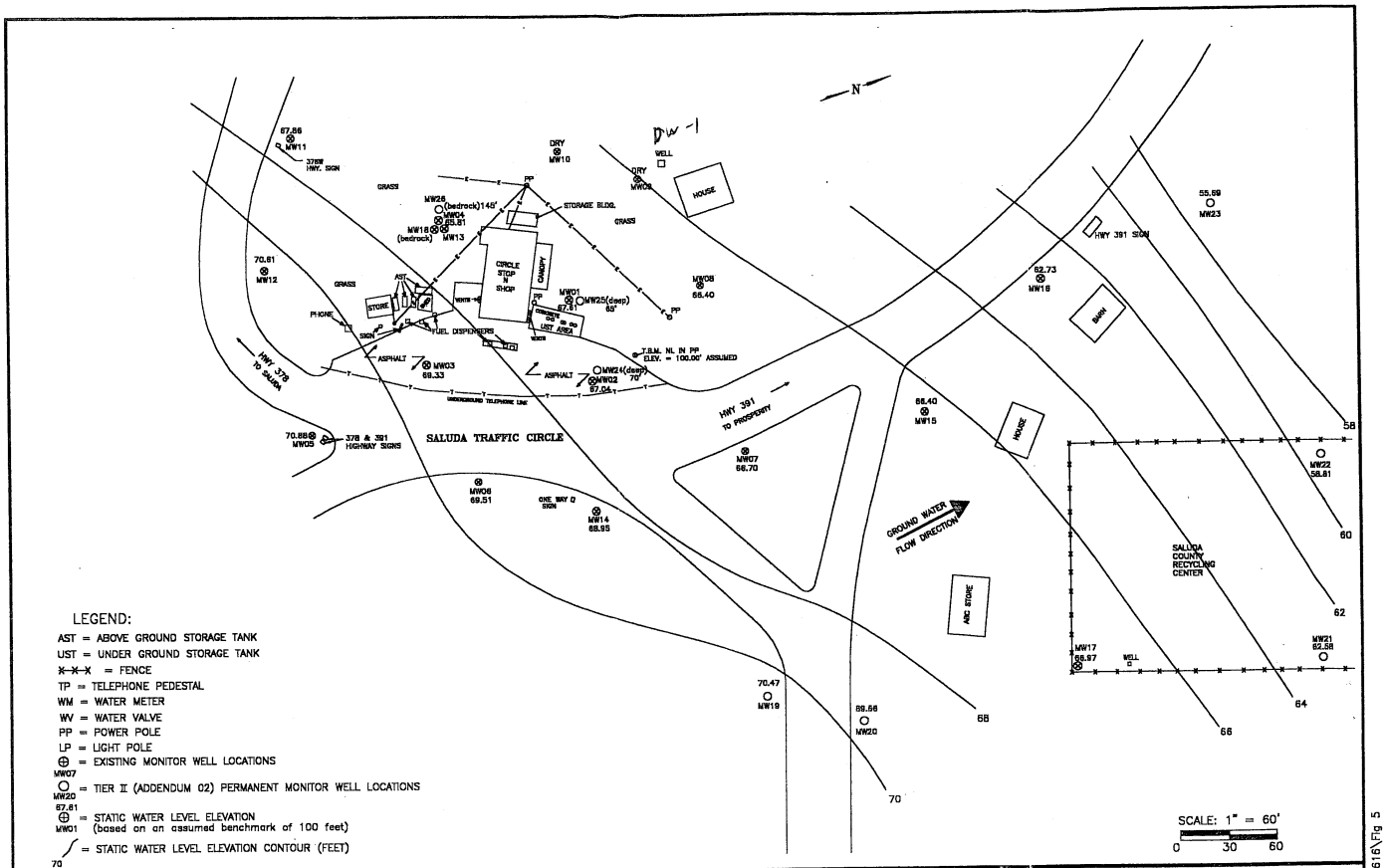
Midlands Environmental Consultants, Inc.

Site Location

Circle Stop N Shop
3287 Columbia Highway, Saluda, SC
SCDHEC Site ID# 05981

Figure 1

MECI 13-4517



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2001\01616\Fig 5

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	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 22tech

JUL 18 2013

GAIL SMITH
143 PIONEER DR
LEESVILLE SC 29070

Re: **Sample Directive**
Circle Stop-N-Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit # 05981; CA #46101
Release reported December 27, 1991
QAPP Contractor Addendum received April 19, 2013
Saluda County

Dear Ms. Smith:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced addendum submitted on your behalf by Midlands Environmental Consultants, Inc. In order to prepare a baseline for corrective action, a comprehensive sampling of the monitoring wells is necessary. All work should be conducted in accordance with the UST Quality Assurance Division Plan and must be conducted in compliance with all applicable regulations. A copy of Agency Quality Assurance Program Plan (QAPP) for the UST Management Division is available at http://www.scdhec.gov/environment/lwm/usthome/Qapp.htm.

Activities at the site should begin immediately upon receipt of this letter. Cost agreement # 46101 has been approved for the amount shown on the enclosed cost agreement form for the sampling of the monitoring wells and analysis for BTEX, naphthalene, MTBE, 1,2-DCA, oxygenates, and EDB. Analyses should be in accordance with Appendix E of the QAPP to include duplicate samples, field and trip blanks.

The Monitoring Report and invoice are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

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

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

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

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

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0608 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement
Signed Site Specific QAPP Contractor Addendum

cc: Midlands Environmental Consultants, PO Box 854, Lexington, SC 29071 (with enc.)
Technical File (with enclosures)

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Circle Stop N Shop, SCDHEC Site ID# 05981

3287 Columbia Highway, Saluda, South Carolina

Prepared by:
Courtney M. Sanders
Project Biologist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: June 26, 2013

Approvals

Read Miner, P.G. SC DHEC Project Manager	Signature	Date 7-3-13
Bryan T. Shane, P.G. Site Rehabilitation Contractor	Signature	Date 7-1-13
Courtney M. Sanders Contractor QA Manager	Signature	Date 6-27-13
Daniel J. Wright Laboratory Director	Signature	Date 06/26/2013

Approved Cost Agreement 46101

Facility: 05981 CIRCLE STOP N SHOP
MINERRS
PO Number:

Task / Description	Categories	Item Description	Qty / Pct	Unit Price	Amount
01 PLAN					
		C TIER II/COMP. PLAN/QAPP APP B	1.0000	525.00	525.00
04 MOB/DEMOB					
		B PERSONNEL	2.0000	290.00	580.00
10 SAMPLE COLLECTION					
		A GROUND WATER	23.0000	55.00	1,265.00
		D GROUNDWATER NO-PURGE	2.0000	35.00	70.00
		H FIELD BLANK	2.0000	5.00	10.00
11 ANALYSES					
	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	29.0000	100.00	2,900.00
		F EDB	29.0000	55.00	1,595.00
17 DISPOSAL					
		A WASTEWATER	200.0000	0.80	160.00
19 RPT/PROJECT MNGT & COORDINATIO					
		PCT PERCENT	0.1500	7,380.00	1,107.00
25 WELL REPAIR					
		D REPLACE WELL VAULT	1.0000	225.00	225.00
		F REPLACE WELL COVER BOLTS	5.0000	10.00	50.00
			Total Amount		8,487.00

RECEIVED
OCT 30 2006
UNDERGROUND STORAGE
TANK PROGRAM

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
July through October 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

PREPARED BY:

SEI ENVIRONMENTAL, INC.
130 Penmarc Drive, Suite 108
Raleigh, North Carolina 27603
UST Site Rehabilitation Contractor No. 354

October 26, 2006

UST PROGRAM
DOCKETING # 23 Tech

SEI Environmental, Inc.

130 Penmarc Drive, Suite 108
Raleigh, NC 27603
919.832.2535
Fax 919.832.5914

RECEIVED
OCT 30 2006
UNDERGROUND STORAGE TANK PROGRAM

October 26, 2006

Mr. John Surber, Hydrogeologist
South Carolina Department of Health and Environmental Control
Assessment & Corrective Action Section, Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Dear Mr. Surber:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the October 17, 2006, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

Brandon D. Jolly
Staff Scientist

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date: October 26, 2006
Monitoring Report Number: 10
For Period Covering: July 2006 to October, 2006
Facility Name : Circle Stop-N-Shop
Street Address: 3287 Columbia Highway
UST Permit Number: 05981
City: Leesville, South Carolina
County: Saluda
Zip Code: 29070-7216
Latitude: N 34°02'28.08"
Longitude: W 81°32'53.78"

Submitted by UST Owner/Operator:

Name: Steve & Joan Boozer
Company: Property Owners
Address: 3287 Columbia Highway
City: Leesville State: SC
Zip Code: 29070-7216
Telephone: (803) 532-4119
SEI Project Number: 303064

Prepared by Consultant/Contractor:

Name: Chris L. Boggs
Company: SEI Environmental, Inc.
Address: 130 Penmarc Drive, Suite 108
City: Raleigh State: NC
Zip Code: 27603
Telephone: (919) 832-2535
UST Site Rehabilitation Contractor No. 354

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Chris L. Boggs, P.G.
SC Reg. No. 2101
Signature:
Date: 10/26/06

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2.0 FIELD MEASUREMENTS AND SAMPLING 1, 2
3.0 LABORATORY ANALYTICAL RESULTS 2, 3
4.0 REMEDIATION SYSTEM EFFECTIVENESS 3
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FIGURE 3 Potentiometric Surface Map, October 17, 2006
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APPENDIX B Tables
APPENDIX C Field Data Information Sheets for Groundwater Sampling
APPENDIX D Laboratory Reports and Chain-of-Custody Forms

LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a Licensed Geologist registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by AccuTest Laboratories.

1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event
- April 25, 2006 – Groundwater Sampling Event
- July 17, 2006 – Groundwater Sampling Event
- October 17, 2006 – Groundwater Sampling Event

On October 17, 2006, thirteen groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On October 17, 2006, groundwater samples were collected from sixteen (MW-2 through MW-4, MW-6 through MW-8, MW-9R, MW-10R, MW-13 through MW-16, MW-18, MW-24, MW-25 and MW-26) of the twenty-six existing groundwater monitoring wells. Two (MW-1, and MW-23) monitoring wells were not sampled because they were not located. Eight (MW-5, MW-11, MW-12, MW-17, and MW-19 through MW-22) monitoring wells are only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in Appendix A is a site map depicting well locations.

Twenty groundwater monitoring wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was not detected.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient of 0.026 feet per foot between monitoring wells MW-19 and MW-16. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene). Appendix C contains Field Data Information Sheets for Groundwater Sampling.

3.0 LABORATORY ANALYTICAL RESULTS

Chemicals of Concern (CoC) were detected in nine (MW-2, MW-4, MW-7, MW-10R, MW-13, MW-14, MW-18, MW-25, and MW-26) of the thirteen monitoring wells sampled at concentrations exceeding their respective SSTL. Figure 4 in Appendix A is a site map presenting monitoring well locations and their CoC concentrations. Table 2 in Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs) have been designated for twenty (MW-1 through MW-18 and MW-24 through MW-26) monitoring wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix D.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs. Data for the April 26, 2006, sampling event was used in the calculations for monitoring well MW-1 due to the inability to locate these wells during the October 17, 2006, groundwater sampling event.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

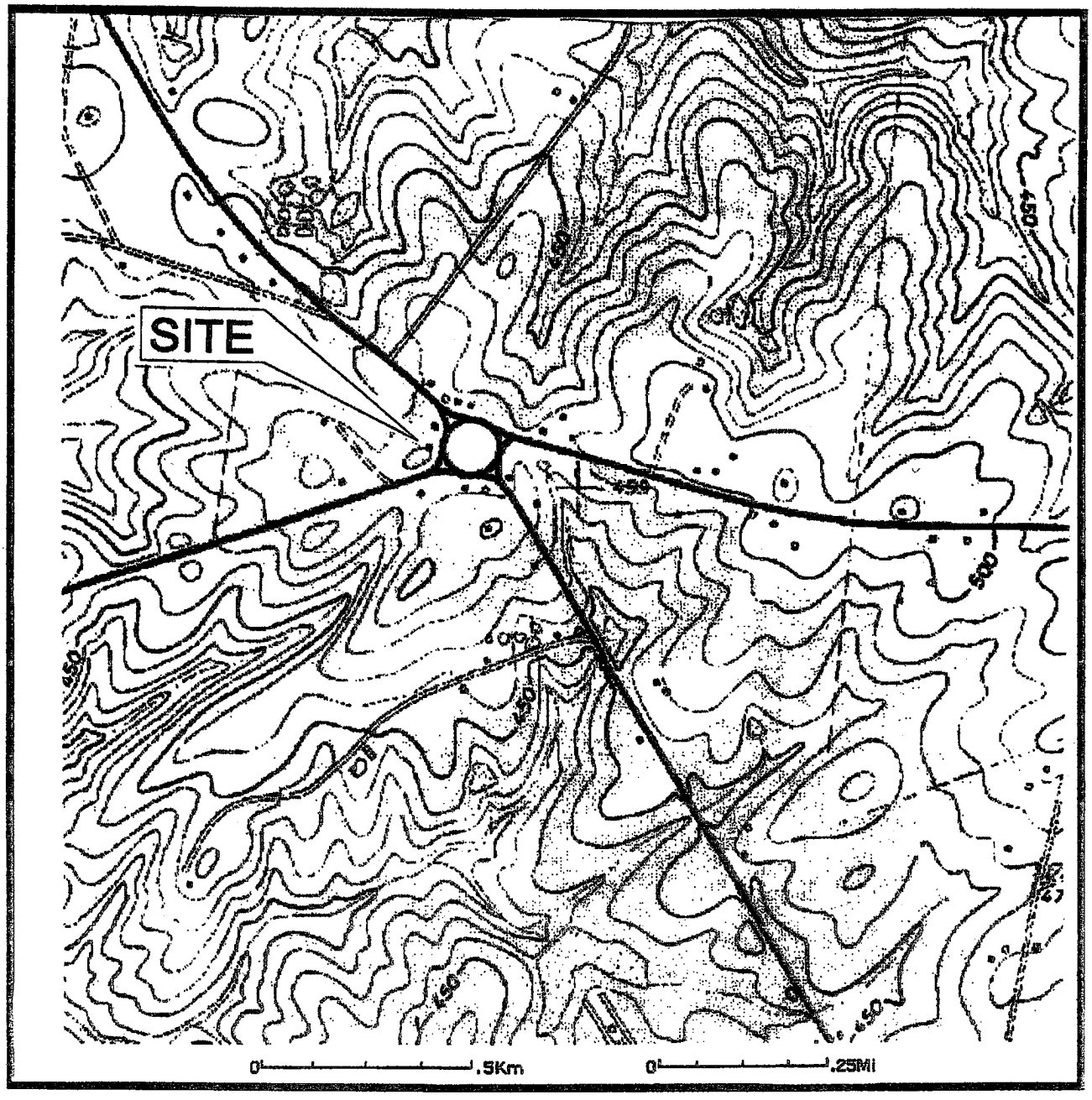
Using the current analytical results, the concentration reduction is 96.69%.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the north-northeast with a hydraulic gradient of 0.026 feet per foot. CoC were detected in nine of the thirteen monitoring wells sampled above their respective SSTLs. The percent concentration reduction has been calculated at 96.69%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. The next sampling event is scheduled for January 2006.

APPENDIX A
FIGURES

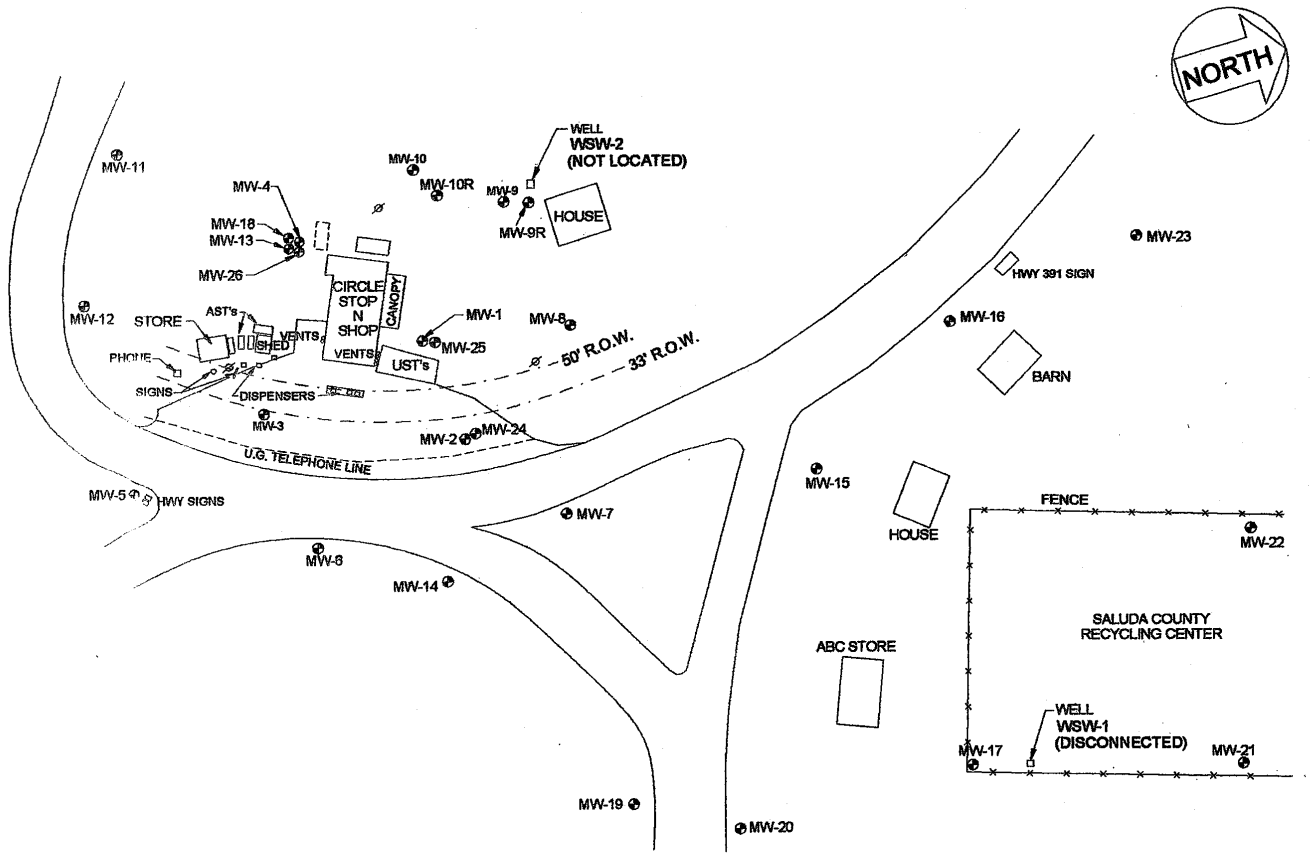
7.5 MINUTE SERIES(TOPOGRAPHIC)



SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 10/10/05
DWG #	DRAWN BY: JCJ



LEGEND:

⊕ MONITORING WELL

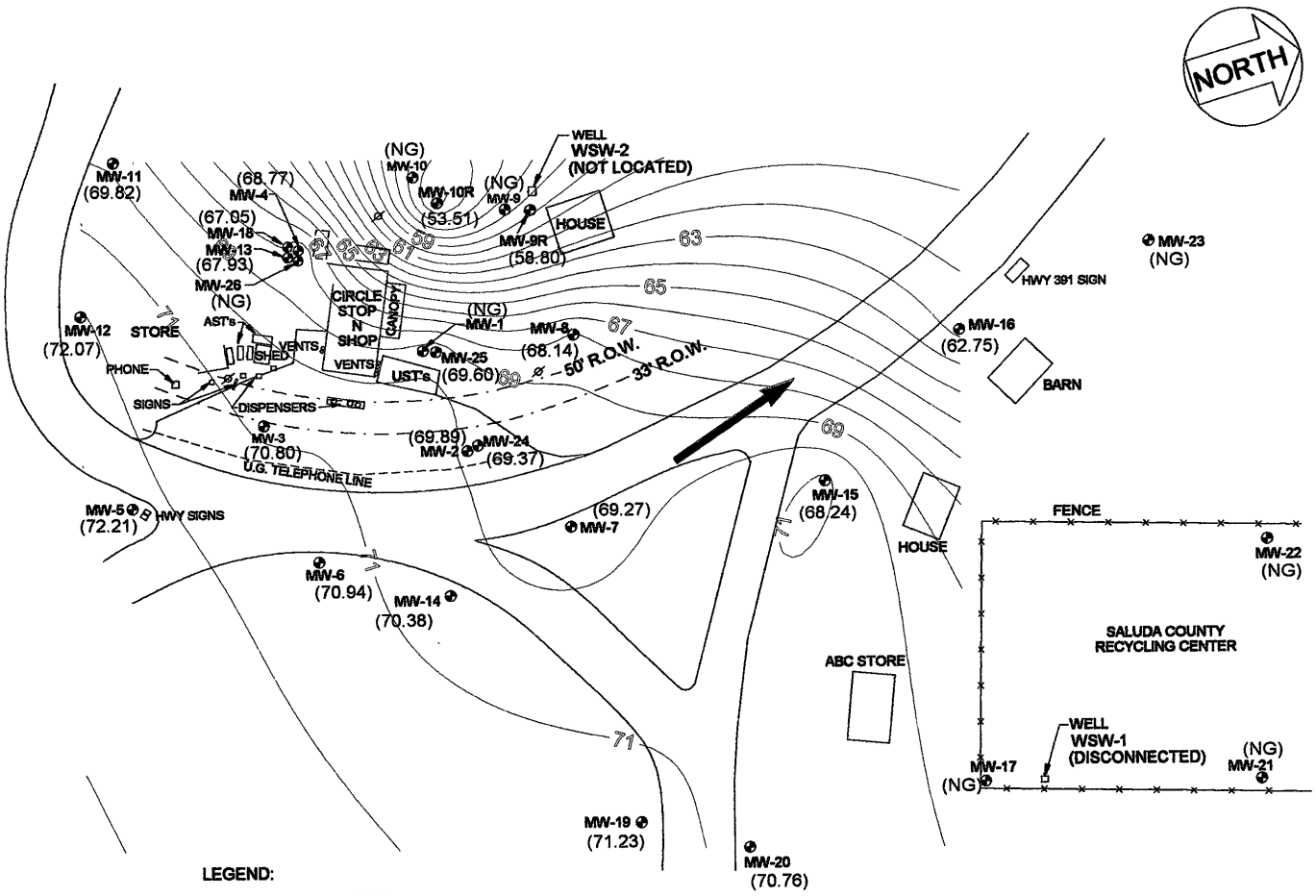
ø POWER POLE

0 40 80 FT.

SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 3/22/05
DWG #CS00642G	DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- POWER POLE
- (XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT.
  NG = NOT GAUGED
  NL = NOT LOCATED
- 75.00 GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

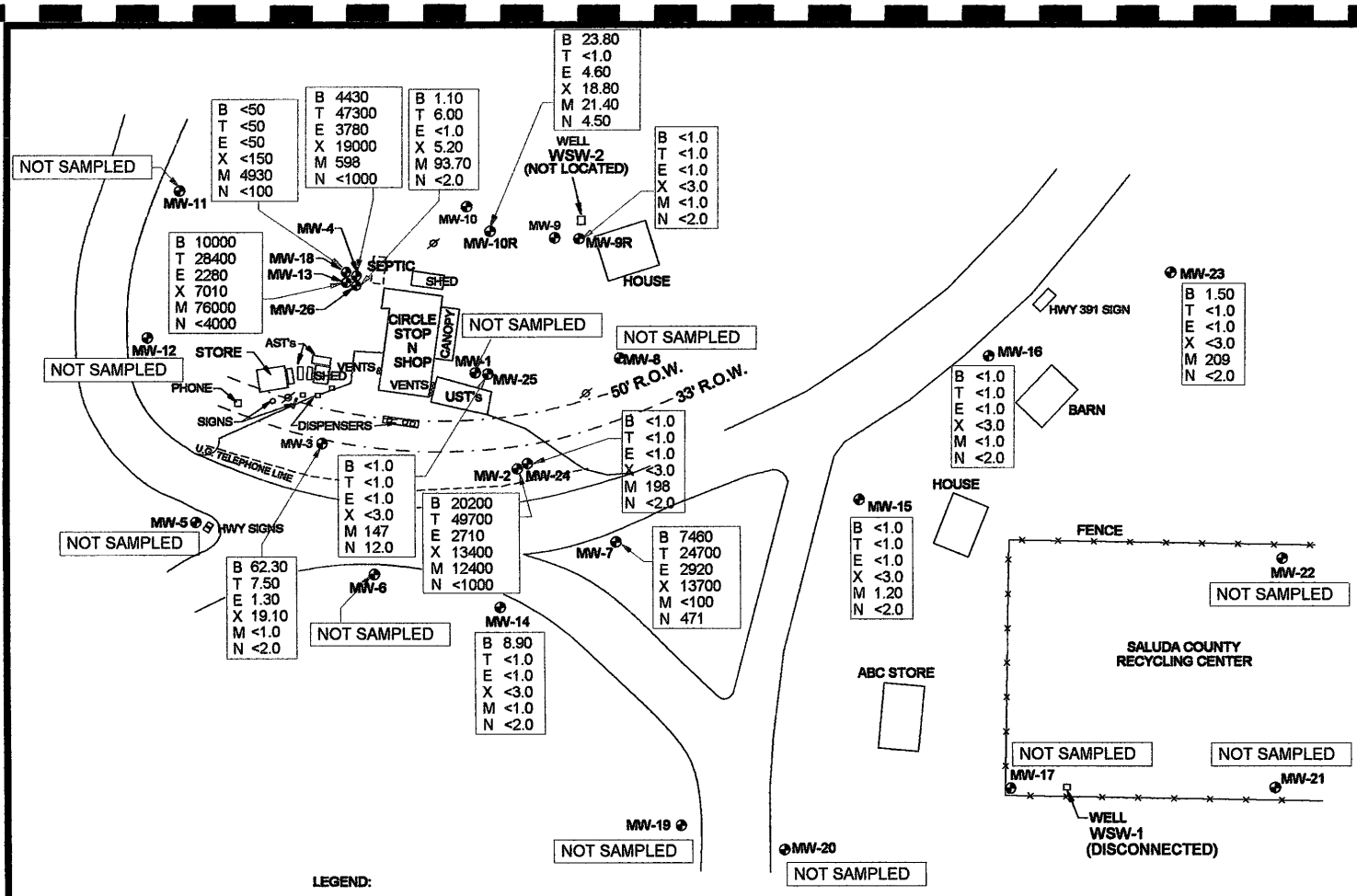
0 40 80 FT.

NOTE: WELLS GAUGED 10/17/06.

SEI Environmental, Inc.

FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 4: GROUNDWATER COC SITE MAP, 10/17/06
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 2/2/06
DWG #CS00644J	DRAWN BY: JCJ

APPENDIX B
TABLES

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-1	08/18/03	21.39			99.59	78.20
	11/17/03	23.34				76.25
	03/11/04	23.96				75.63
	06/30/04	25.22				74.37
	03/21/05	24.12				75.47
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	25.11				74.48
	07/17/06	Well Not Located				N/A
	10/17/06	Well Not Located				N/A
MW-2	08/18/03	19.82			97.68	77.86
	11/17/03	21.39				76.29
	03/11/04	22.38				75.30
	06/30/04	23.49				74.19
	03/21/05	23.47				74.21
	10/14/05	24.41				73.27
	02/02/06	24.38				73.30
	04/25/06	22.70				74.98
	07/17/06	24.90				72.78
	10/17/06	27.79				69.89
MW-3	08/18/03	18.04			99.53	81.49
	11/17/03	22.14				77.39
	03/11/04	20.98				78.55
	06/30/04	24.08				75.45
	03/21/05	22.05				77.48
	10/14/05	25.35				74.18
	02/02/06	23.48				76.05
	04/25/06	22.45				77.08
	07/17/06	25.65				73.88
	10/17/06	28.73				70.80
MW-4	08/18/03	23.31			100.28	76.97
	11/17/03	25.11				75.17
	03/11/04	25.58				74.70
	06/30/04	27.13				73.15
	03/21/05	27.01				73.27
	10/14/05	28.16				72.12
	02/02/06	27.69				72.59
	04/25/06	26.35				73.93
	07/17/06	28.50				71.78
	10/17/06	31.51				68.77

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-5	08/18/03	15.89			100.88	84.99
	11/17/03	21.84				79.04
	03/11/04	19.61				81.27
	06/30/04	22.30				78.58
	03/21/05	20.70				80.18
	10/14/05	24.40				76.48
	02/02/06	22.43				78.45
	04/25/06	22.03				78.85
	07/17/06	26.59				74.29
	10/17/06	28.67				72.21
MW-6	08/18/03	16.31			97.43	81.12
	11/17/03	19.13				78.30
	03/11/04	18.62				78.81
	06/30/04	21.84				75.59
	03/21/05	19.78				77.65
	10/14/05	23.13				74.30
	02/02/06	21.15				76.28
	04/25/06	20.19				77.24
	07/17/06	23.39				74.04
	10/17/06	26.49				70.94
MW-7	08/18/03	19.78			97.26	77.48
	11/17/03	22.14				75.12
	03/11/04	22.38				74.88
	06/30/04	23.78				73.48
	03/21/05	23.31				73.95
	10/14/05	24.75				72.51
	02/02/06	24.29				72.97
	04/25/06	22.62				74.64
	07/17/06	25.10				72.16
	10/17/06	27.99				69.27
MW-8	08/18/03	21.72			98.70	76.98
	11/17/03	24.61				74.09
	03/11/04	24.30				74.40
	06/30/04	26.21				72.49
	03/21/05	25.25				73.45
	10/14/05	24.78				73.92
	02/02/06	26.39				72.31
	04/25/06	24.97				73.73
	07/17/06	27.65				71.05
	10/17/06	30.56				68.14

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-9R	08/18/03	30.33			99.68	69.35
	11/17/03	32.11				67.57
	03/11/04	33.15				66.53
	06/30/04	34.62				65.06
	03/21/05	36.35				63.33
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	Well Not Located				N/A
	07/17/06	Well Not Located				N/A
	10/17/06	40.84				58.84
MW-10R	08/18/03	Well Not Located			100.22	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	42.57				57.65
	02/02/06	44.69				55.53
	04/25/06	Well Not Located				N/A
	07/17/06	44.04				56.18
	10/17/06	46.71				53.51
MW-11	08/18/03	19.96			100.47	80.51
	11/17/03	21.45				79.02
	03/11/04	23.01				77.46
	06/30/04	25.96				74.51
	03/21/05	23.56				76.91
	10/14/05	27.31				73.16
	02/02/06	25.79				74.68
	04/25/06	23.15				77.32
	07/17/06	27.66				72.81
	10/17/06	30.65				69.82
MW-12	08/18/03	17.51			100.62	83.11
	11/17/03	21.51				79.11
	03/11/04	19.95				80.67
	06/30/04	23.62				77.00
	03/21/05	21.06				79.56
	10/14/05	25.18				75.44
	02/02/06	22.43				78.19
	04/25/06	21.78				78.84
	07/17/06	25.40				75.22
	10/17/06	28.55				72.07

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-13	08/18/03	24.11			100.22	76.11
	11/17/03	26.78				73.44
	03/11/04	26.73				73.49
	06/30/04	27.79				72.43
	03/21/05	28.18				72.04
	10/14/05	28.88				71.34
	02/02/06	32.46				67.76
	04/25/06	27.03				73.19
	07/17/06	29.34				70.88
	10/17/06	32.29				67.93
MW-14	08/18/03	15.29			96.30	81.01
	11/17/03	19.35				76.95
	03/11/04	18.18				78.12
	06/30/04	21.22				75.08
	03/21/05	19.20				77.10
	10/14/05	22.55				73.75
	02/02/06	20.69				75.61
	04/25/06	16.69				79.61
	07/17/06	22.84				73.46
	10/17/06	25.92				70.38
MW-15	08/18/03	17.51			94.59	77.08
	11/17/03	20.39				74.20
	03/11/04	20.07				74.52
	06/30/04	21.95				72.64
	03/21/05	21.02				73.57
	10/14/05	23.10				71.49
	02/02/06	22.12				72.47
	04/25/06	20.70				73.89
	07/17/06	23.42				71.17
	10/17/06	26.35				68.24
MW-16	08/18/03	Well Not Located			92.01	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	23.86				68.15
	03/21/05	22.72				69.29
	10/14/05	26.00				66.01
	02/02/06	24.21				67.80
	04/25/06	22.98				69.03
	07/17/06	26.06				65.95
	10/17/06	29.26				62.75

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-17	08/18/03	14.26			91.65	77.39
	11/17/03	16.51				75.14
	03/11/04	Well Not Located				N/A
	06/30/04	17.42				74.23
	03/21/05	16.85				74.80
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
MW-18	08/18/03	24.82			100.05	75.23
	11/17/03	21.97				78.08
	03/11/04	27.00				73.05
	06/30/04	28.50				71.55
	03/21/05	29.10				70.95
	10/14/05	29.34				70.71
	02/02/06	29.23				70.82
	04/25/06	27.78				72.27
	07/17/06	30.07				69.98
	10/17/06	33.00				67.05
MW-19	08/18/03	11.21			94.32	83.11
	11/17/03	16.22				78.10
	03/11/04	Well Not Located				N/A
	06/30/04	17.47				76.85
	03/21/05	16.31				78.01
	10/14/05	19.44				74.88
	02/02/06	17.88				76.44
	04/25/06	20.15				74.17
	07/17/06	18.69				75.63
	10/17/06	23.09				71.23
MW-20	08/18/03	12.36			94.88	82.52
	11/17/03	17.18				77.70
	03/11/04	Well Not Located				N/A
	06/30/04	18.98				75.90
	03/21/05	16.40				78.48
	10/14/05	20.55				74.33
	02/02/06	18.27				76.61
	04/25/06	19.98				74.90
	07/17/06	20.83				74.05
	10/17/06	24.12				70.76

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-21	08/18/03	10.17			84.61	74.44
	11/17/03	14.41				70.20
	03/11/04	Well Not Located				N/A
	06/30/04	16.34				68.27
	03/21/05	14.51				70.10
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
MW-22	08/13/03	10.61			84.71	74.10
	11/17/03	17.79				66.92
	03/11/04	Well Not Located				N/A
	06/30/04	21.31				63.40
	03/21/05	17.42				67.29
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
MW-23	08/18/03	Well Not Located			92.05	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	Well Not Located				N/A
	02/02/06	24.40				67.65
	04/25/06	Well Not Located				N/A
	07/17/06	25.48				66.57
	10/17/06	Well Not Located				N/A
MW-24	08/18/03	19.76			97.74	77.98
	11/17/03	22.42				75.32
	03/11/04	22.44				75.30
	06/30/04	24.04				73.70
	03/21/05	23.35				74.39
	10/14/05	25.15				72.59
	02/02/06	Well Not Located				N/A
	04/25/06	23.00				74.74
	07/17/06	Well Not Located				N/A
	07/17/06	28.37				69.37

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-25	08/18/03	21.94			99.63	77.69
	11/17/03	24.49				75.14
	03/11/04	24.44				75.19
	06/30/04	26.08				73.55
	03/21/05	27.75				71.88
	10/14/05	26.70				72.93
	02/02/06	26.72				72.91
	04/25/06	Well Not Located				N/A
	07/17/06	26.68				72.95
	10/17/06	30.03				69.60
MW-26	08/18/03	100+			100.22	N/M*
	11/17/03	90.02				10.20
	03/11/04	100+				N/M*
	06/30/04	100+				N/M*
	03/21/05	100+				N/M*
	10/14/05	100+				N/M*
	02/02/06	100+				N/M*
	04/25/06	100+				N/M*
	07/17/06	100+				N/M*
	07/17/06	100+				N/M*

N/A = Not Applicable
N/M* = Not Measured Due To Depth of Well Exceeding 100 feet. Measuring Tape Ends at 100 feet.
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) — where applicable

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 06981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-1*	10/01/02 & 12/19/02	2,300.00	29,000.00	3,300.00	18,900.00	43.00	27.00			53,570.00
	08/18/03	1,700.00	1,300.00	2,600.00	13,000.00	2,200.00	1,200.00			22,000.00
	11/19/03	1,900.00	17,000.00	3,100.00	18,000.00	1,700.00	680.00			42,380.00
	03/11/04	1,800.00	14,000.00	3,300.00	16,000.00	1,600.00	1,200.00			37,900.00
	06/30/04	1,640.00	14,200.00	3,480.00	20,200.00	1,770.00	380.00			41,680.00
	03/21/05	1,210.00	8,540.00	2,440.00	13,100.00	1,430.00	<400			26,720.00
	10/14/05	Not Located								0.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	158.00	106.00			264.00
	07/17/06	Not Located								0.00
	10/17/06	Not Located								0.00
	SSTL	85.00	24,700.00	3,300.00	18,900.00	43.00	27.00			
	> SSTL	0.00	0.00	0.00	0.00	115.00	79.00			
MW-2	10/01/02 & 12/19/02	10,000.00	26,000.00	2,600.00	9,400.00	1,300.00	520.00			49,820.00
	08/18/03	9,300.00	22,000.00	2,200.00	12,000.00	1,900.00	5,000.00			52,400.00
	11/19/03	12,000.00	29,000.00	3,000.00	15,000.00	5,100.00	2,500.00			66,600.00
	03/11/04	8,400.00	21,000.00	2,100.00	12,000.00	3,400.00	2,500.00			49,400.00
	06/30/04	9,890.00	29,900.00	2,460.00	14,400.00	3,510.00	1,000.00			61,160.00
	03/21/05	9,970.00	21,800.00	2,060.00	12,400.00	4,620.00	<1,000			50,850.00
	10/14/05	11,600.00	30,200.00	2,180.00	12,800.00	5,360.00	<1,000			62,140.00
	02/02/06	16,200.00	33,700.00	2,450.00	14,000.00	6,400.00	<1,000			72,750.00
	04/25/06	16,800.00	34,400.00	2,290.00	12,800.00	7,010.00	4,430.00			77,730.00
	07/17/06	21,900.00	46,200.00	3,160.00	16,400.00	11,700.00	<1,000			99,350.00
	10/17/06	20,200.00	49,700.00	2,710.00	13,400.00	12,400.00	<1,000			98,410.00
	SSTL	120.00	24,700.00	2,600.00	9,400.00	43.00	27.00			
	> SSTL	20,080.00	25,000.00	110.00	4,000.00	12,357.00	0.00			
MW-3	10/01/02 & 12/19/02	85.00	93.00	5.00	102.00	5.00	5.00			295.00
	08/18/03	1.60	<5.0	<1.0	<3.0	<1.0	<5.0			1.60
	11/19/03	31.00	<5.0	1.30	9.00	<1.0	<5.0			41.30
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	72.30	4.10	<2.0	19.30	<2.0	<2.0			95.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	75.40	2.80	2.30	12.10	<1.0	<2.0			92.60
	02/02/06	1.60	<1.0	<1.0	<3.0	<1.0	<2.0			1.60
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	21.20	<1.0	<1.0	4.60	<1.0	<2.0			25.80
	10/17/06	62.30	7.50	1.30	19.10	<1.0	<2.0			90.20
	SSTL	85.00	93.00	5.00	102.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303084

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-4	10/01/02 & 12/19/02	5,600.00	4,700.00	3,900.00	17,900.00	6,400.00	590.00			38,990.00
	08/18/03	1,000.00	15,000.00	2,900.00	14,000.00	100.00	500.00			33,500.00
	11/19/03	1,200.00	14,000.00	2,700.00	14,000.00	4,900.00	5,000.00			41,800.00
	03/11/04	540.00	8,000.00	1,000.00	8,400.00	250.00	1,200.00			19,390.00
	06/30/04	884.00	20,100.00	2,750.00	16,000.00	1,000.00	1,000.00			41,734.00
	03/21/05	4,010.00	25,300.00	3,020.00	16,500.00	<500	<1,000			48,830.00
	10/14/05	1,450.00	20,000.00	3,070.00	16,000.00	<500	<1,000			40,520.00
	02/02/06	2,110.00	22,400.00	3,240.00	17,700.00	<500	<1,000			45,450.00
	04/25/06	387.00	8,780.00	2,240.00	12,200.00	<50	<50			23,607.00
	07/17/06	1,600.00	23,900.00	3,850.00	19,000.00	<200	<400			48,350.00
	10/17/06	4,430.00	47,300.00	3,780.00	19,000.00	598.00	<1000			75,108.00
	SSTL	110.00	24,700.00	3,900.00	17,900.00	43.00	27.00			
	> SSTL	4,320.00	22,600.00	0.00	1,100.00	0.00	0.00			
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	20.00	<1.0	<3.0	<1.0	<5.0			20.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-7	10/01/02 & 12/19/02	226,000.00	301,000.00	280,000.00	278,000.00	5,110,000.00	2,000.00			6,197,000.00
	08/18/03	3,900.00	23,000.00	6,600.00	37,000.00	500.00	2,500.00			73,500.00
	11/19/03	5,000.00	15,000.00	3,800.00	19,000.00	100.00	770.00			43,670.00
	03/11/04	6,200.00	12,000.00	3,300.00	15,000.00	500.00	2,500.00			39,500.00
	06/30/04	5,340.00	18,400.00	2,990.00	15,200.00	1,000.00	1,000.00			43,930.00
	03/21/05	7,710.00	17,200.00	2,820.00	13,400.00	<500	<1,000			41,130.00
	10/14/05	4,660.00	12,600.00	1,730.00	7,610.00	<200	<400			26,600.00
	02/02/06	9,810.00	20,500.00	2,450.00	10,800.00	<200	<400			43,560.00
	04/25/06	2,040.00	5,530.00	715.00	3,190.00	<100	102.00			11,577.00
	07/17/06	3,360.00	9,310.00	1,520.00	7,050.00	<100	321.00			21,561.00
	10/17/06	7,460.00	24,700.00	2,920.00	13,700.00	<100	471.00			49,251.00
	SSTL	120.00	24,700.00	2,600.00	9,400.00	43.00	27.00			
	> SSTL	7,340.00	0.00	320.00	4,300.00	0.00	444.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.50	<5.0			1.50
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.70	<2.0			1.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.90	<2.0			1.90
	10/14/05	Not Located								0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	1.40	<2.0			1.40
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	10/14/05	73.30	1.60	5.60	57.90	38.20	10.40			187.00
	02/02/06	27.80	<1.0	2.80	16.60	28.70	3.00			78.80
	04/25/06	Not Located								0.00
	07/17/06	123.00	8.90	32.20	233.00	29.90	26.80			453.80
	10/17/06	23.80	<1.0	4.60	18.80	21.40	4.50			73.10
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	18.80	0.00	0.00	3.80	16.40	0.00			
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 06981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-13	10/01/02 & 12/19/02	7,400.00	14,000.00	2,500.00	7,700.00	69,000.00	290.00			100,890.00
	08/18/03	9,500.00	12,000.00	2,000.00	5,700.00	7,600.00	5,000.00			41,800.00
	11/19/03	4,800.00	6,500.00	1,000.00	5,400.00	51,000.00	2,600.00			71,200.00
	03/11/04	9,500.00	9,500.00	2,200.00	7,800.00	93,000.00	1,200.00			123,200.00
	06/30/04	2,770.00	4,000.00	4,000.00	12,000.00	77,100.00	4,000.00			103,870.00
	03/21/05	11,600.00	13,800.00	2,360.00	6,720.00	104,000.00	<4,000			138,580.00
	10/14/05	10,600.00	20,500.00	2,200.00	8,870.00	88,100.00	<2,000			130,270.00
	02/02/06	14,300.00	24,900.00	2,710.00	10,600.00	79,400.00	<2,000			131,910.00
	04/25/06	11,800.00	23,400.00	2,310.00	10,900.00	85,800.00	8,420.00			142,630.00
	07/17/06	12,300.00	22,200.00	2,300.00	9,010.00	81,000.00	<4,000			126,810.00
	10/17/06	10,000.00	28,400.00	2,280.00	7,010.00	76,600.00	<4,000			124,190.00
	SSTL	110.00	14,000.00	2,500.00	7,700.00	43.00	27.00			
	> SSTL	9,890.00	14,400.00	0.00	0.00	76,457.00	0.00			
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	8.80	7.80	2.20	12.00	16.00	<5.0			46.80
	11/19/03	3.70	<5.0	<1.0	3.60	<1.0	<5.0			7.30
	03/11/04	1.20	<5.0	<1.0	<3.0	<1.0	<5.0			1.20
	06/30/04	4.50	<2.0	<2.0	<6.0	<2.0	<2.0			4.50
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	5.90	<1.0	<1.0	<3.0	<1.0	<2.0			5.90
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	2.10	<1.0	<1.0	<3.0	<1.0	<1.0			2.10
	07/17/06	13.00	<1.0	<1.0	<3.0	<1.0	<2.0			13.00
	10/17/06	8.90	<1.0	<1.0	<3.0	<1.0	<2.0			8.90
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	3.90	0.00	0.00	0.00	0.00	0.00			
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	1.30	<5.0	<1.0	<3.0	9.80	<5.0			11.10
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0			0.74
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303084

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	Not Sampled								0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Not Sampled								0.00
	02/02/06	Well Closed								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-18	10/01/02 & 12/19/02	5.00	7.00	5.00	139.00	2,300.00	24.00			2,480.00
	08/18/03	370.00	9.90	6.00	180.00	520.00	40.00			1,125.90
	11/19/03	210.00	50.00	10.00	110.00	1,700.00	50.00			2,130.00
	03/11/04	170.00	25.00	<5.0	54.00	840.00	25.00			1,114.00
	06/30/04	3.50	<2.0	<2.0	15.60	4,420.00	<2.0			4,439.10
	03/21/05	121.00	<50	<50	<150	1,970.00	<100			2,091.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	3,270.00	<2.0			3,270.00
	02/02/06	<50	<50	<50	<150	<50	<100			0.00
	04/25/06	<50	<50	<50	<150	4,160.00	<50			4,160.00
	07/17/06	<50	<50	<50	<150	4,480.00	<100			4,480.00
	10/117/06	<50	<50	<50	<150	4,930.00	<100			4,930.00
	SSTL	5.00	7.00	5.00	139.00	43.00	24.00			
	> SSTL	0.00	0.00	0.00	0.00	4,887.00	0.00			
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-23	02/02/06	76.40	2.60	<1.0	3.00	244.00	<2.0			326.00
	04/25/06	Not Located								0.00
	07/17/06	1.50	<1.0	<1.0	<3.0	209.00	<2.0			210.50
	10/17/06	Not Located								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-24*	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	32.00	<5.0			32.00
	08/18/03	4.80	<5.0	<1.0	<3.0	70.00	<5.0			74.80
	11/19/03	34.00	<5.0	<1.0	5.60	82.00	<5.0			121.60
	03/11/04	30.00	<5.0	<1.0	<3.0	54.00	<5.0			84.00
	06/30/04	63.40	<2.0	<2.0	10.20	186.00	1.20			260.80
	03/21/05	154.00	<5.0	<5.0	15.60	233.00	<10			402.60
	10/14/05	<1.0	<1.0	<1.0	<3.0	211.00	19.00			230.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	170.00	60.50			230.50
	07/17/06	Not Located								0.00
	10/17/06	6.20	<5.0	<1.0	<3.0	198.00	<5.0			204.20
	SSTL	5.00	5.00	5.00	15.00	32.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	138.00	55.50			
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	9.00	<5.0			9.00
	08/18/03	170.00	<5.0	1.40	110.00	140.00	42.00			463.40
	11/19/03	42.00	<5.0	<1.0	47.00	44.00	6.00			139.00
	03/11/04	82.00	7.60	2.90	120.00	62.00	11.00			285.50
	06/30/04	147.00	4.50	0.52	113.00	304.00	15.30			584.32
	03/21/05	82.20	<5.0	<5.0	17.10	275.00	<10			374.30
	10/14/05	32.60	<5.0	<5.0	<15	254.00	99.90			386.50
	02/02/06	15.80	<1.0	<1.0	<3.0	366.00	12.00			393.80
	04/25/06	Not Located								0.00
	07/17/06	<1.0	>1.0	<1.0	<3.0	185.00	<2.0			185.00
	10/17/06	<1.0	>1.0	<1.0	<3.0	147.00	<2.0			147.00
	SSTL	5.00	5.00	5.00	15.00	9.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	138.00	0.00			
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	110.00	<5.0			110.00
	08/18/03	160.00	620.00	160.00	830.00	930.00	260.00			2,940.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	59.00	<5.0			59.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.10	<5.0			3.10
	06/30/04	1.20	7.50	0.69	5.50	208.00	<2.0			222.89
	03/21/05	<2.0	<2.0	<2.0	<6.0	80.90	<4.0			80.90
	10/14/05	1.60	5.60	<1.0	3.50	73.10	<2.0			83.80
	02/02/06	1.30	5.50	<1.0	6.10	38.80	<2.0			51.70
	04/25/06	1.10	4.80	<1.0	4.70	77.70	7.80			95.80
	07/17/06	1.00	4.20	<1.0	4.20	78.80	<2.0			88.20
	10/17/06	1.10	6.00	<1.0	5.20	93.70	<2.0			106.00
	SSTL	5.00	5.00	5.00	15.00	43.00	5.00			
	> SSTL	0.00	1.00	0.00	0.00	50.70	0.00			
TOTAL MASS										352,810.10
TOTAL SSTL MASS		68[illegible]	112,970	14,980	63,751	402	23[illegible]		193,022	
INITIAL MASS ABOVE SSTL									6,295,769	
CURRENT MASS ABOVE SSTL									208,225.10	
PERCENT TOTAL MASS REDUCTION ABOVE SSTL									96.69	

- Reported in parts per billion (µg/l)
- SSTL: Site Specific Target Level
- NE = Not Established
- Bold denotes concentrations over respective SSTL & RBSL

- * = SSTL Data for Concentration Reduction Calculation for Monitoring Wells MW-1 04/26/06 Sampling Date Due to Inability to Locate Said Monitoring Wells During Current Sampling Event.

APPENDIX C
Field Data Information Sheets for Groundwater Sampling

SEI Environmental

SC Monitoring Well Gauging Data Sheet

Site Name: Circle Stop N Shop WO# 303064

Date 10/17/06

Well ID	Total Depth (feet)	Well Dia. (in.)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes
MW-1	49	2				CNF
MW-2	40	2			27.79	
MW-3	40	2			28.73	
MW-4	40	2			31.51	
MW-5	45	2			28.67	Gauge only
MW-6	40	2			26.49	Semi-annual (Mar/Sep)
MW-7	34	2			27.99	Strong odor, sheen
MW-8	40	2			30.56	Semi-annual (Mar/Sep)
MW-9R	67	2			40.84	Semi-annual (Mar/Sep)
MW-10R					46.71	
MW-11	40	2			30.65	Gauge only
MW-12	40	2			28.55	Gauge only
MW-13	62	2			32.29	
MW-14	40	2			25.92	
MW-15	35	2			26.35	
MW-16	35	2			29.26	
MW-17	37	2				Gauge only inside fence
MW-18	102	2			33.0	
MW-19	37	2			23.09	Gauge only
MW-20	40	2			24.12	Gauge only
MW-21	41	2				Gauge only inside fence
MW-22	46	2				Gauge only inside fence
MW-23		2				CNF
MW-24	70	2			28.37	Labeled MW-32
MW-25	65	2			[illegible]	
MW-26	100+	2			[illegible]	Sheen from Tape

MW-9 38.66 not on [illegible] this sheet

Analysis: EPA Method 8260B for BTEX, MTBE, and Naphthalene

2-inch diameter well: Well Volume = (water column) x (0.163 gallon/foot)
4-inch diameter well: Well Volume = (water column) x (0.652 gallon/foot)
Purge amount = Well Volume x 3

19490

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 5100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28206
Send Report to:
Phone #: 704-596-8624

Facility Information

Project Name: Circle Stop N Shop
Location:
Project No.:
FAX #: 704-596-8665

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCl	NaOH	HNO3	H2So4	None	EPA method 8260B for BTEX, MTBE + Naphthalene
MW-24	10-17-6	12:00	ZS	GW	3	3					X
MW-2		12:10									X
MW-8		12:12									X
MW-9R		12:15									X
MW-10R		12:20									X
MW-7		12:25									X
MW-25		12:30									X
MW-3		12:35									X
MW-26		12:40									X
MW-4		12:45									X

Turnaround Information

- [x] 7 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
[signature]	10-17-6 / 1540	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by Sampler:	Date Time:	Received By:	Seal #	Preserved where applica	On Ice:
5		5		☐	☐

Revised 09/2005 RS

19490

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental

Address: 5100 Reagan Dr., Suite 7

City: Charlotte State: NC Zip: 28206

Send Report to:

Phone #: 704-596-8624

Facility Information

Project Name: Circle Stop N Shop

Location:

Project No.:

FAX #: 704-596-8665

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCl	NaOH	HNO3	H2So4	None	EPA method 8260B for BTEX, MTBE, + Naphthalene
MW-18	10-17-6	12:50	ZS	GW	3	3					X
MW-13		12:55									X
MW-6		13:00									X
MW-14		13:05									X
MW-15		13:10									X
MW-16		13:15									X

Turnaround Information

- [x] 7 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify) _____
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 Zach C. Smith	10-17-6/1540	1	2		2
Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
3		3	4		4
Relinquished by Sampler:	Date Time:	Received By:	Seal #	Preserved where applica	On Ice:
5		5		☐	☐

Revised 09/2005 RS

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-16

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1315							
pH (s.u.)	5.87							
Specific Conductivity (µmhos/cm)	.063							
Water Temperature (°C)	19.6							
Dissolved Oxygen	.18							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-15

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1310							
pH (s.u.)	5.93							
Specific Conductivity (µmhos/cm)	.018							
Water Temperature (°C)	21.9							
Dissolved Oxygen	.11							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-7

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1225							
pH (s.u.)	7.65							
Specific Conductivity (µmhos/cm)	.09							
Water Temperature (°C)	21.8							
Dissolved Oxygen	.09							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-14

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet

Total Well Depth (TWD) _____ feet

Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals

3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1305							
pH (s.u.)	7.30							
Specific Conductivity (µmhos/cm)	.53							
Water Temperature (°C)	21.7							
Dissolved Oxygen	.13							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-13

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet

Total Well Depth (TWD) _____ feet

Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals

3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1255							
pH (s.u.)	7.72							
Specific Conductivity (µmhos/cm)	.24							
Water Temperature (°C)	19.0							
Dissolved Oxygen	.18							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-18

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet

Total Well Depth (TWD) _____ feet

Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals

3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1250							
pH (s.u.)	7.80							
Specific Conductivity (µmhos/cm)	.16							
Water Temperature (°C)	19.4							
Dissolved Oxygen	.21							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 30306

Site ID #: 05981 Monitoring Well #: MW-4

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1245							
pH (s.u.)	8.16							
Specific Conductivity (µmhos/cm)	.13							
Water Temperature (°C)	19.6							
Dissolved Oxygen	.07							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-26

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet

Total Well Depth (TWD) _____ feet

Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals

3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1240							
pH (s.u.)	11.14							
Specific Conductivity (µmhos/cm)	1.37							
Water Temperature (°C)	19.8							
Dissolved Oxygen	.32							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-3

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet

Total Well Depth (TWD) _____ feet

Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals

3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1235							
pH (s.u.)	5.23							
Specific Conductivity (µmhos/cm)	.026							
Water Temperature (°C)	22.4							
Dissolved Oxygen	.16							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-25

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1230							
pH (s.u.)	6.41							
Specific Conductivity (µmhos/cm)	.106							
Water Temperature (°C)	22.3							
Dissolved Oxygen	.10							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-24

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1200							
pH (s.u.)	5.96							
Specific Conductivity (µmhos/cm)	.080							
Water Temperature (°C)	22.7							
Dissolved Oxygen	.12							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-2

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet

Total Well Depth (TWD) _____ feet

Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals

3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1210							
pH (s.u.)	5.12							
Specific Conductivity (µmhos/cm)	.058							
Water Temperature (°C)	22.1							
Dissolved Oxygen	.02							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 10-17-6

Field Personnel: Zeph Smith, Ritch Rudofsky, Scott Story

General Weather Conditions: Cloudy & Rainy

Ambient Air Temperature: 65 °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-10R

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1220							
pH (s.u.)	6.32							
Specific Conductivity (µmhos/cm)	.081							
Water Temperature (°C)	19.5							
Dissolved Oxygen	.20							
PID readings, if required								

Remarks: _____

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

10/26/06

Technical Report for

SEI-Columbia, SC

Circle Stop N Shop; Leesville, SC

303064

Accutest Job Number: F44544

Sampling Date: 10/17/06

Report to:

SEI Environmental-Raleigh

cboggs@sei-environmental.com

ATTN: Chris Boggs

Total number of pages in report: 25

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Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Sample Summary

SEI-Columbia, SC

Job No: F44544

Circle Stop N Shop; Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F44544-1	10/17/06	12:00 ZS	10/18/06	AQ	Ground Water	MW-24
F44544-2	10/17/06	12:10 ZS	10/18/06	AQ	Ground Water	MW-2
F44544-3	10/17/06	12:12 ZS	10/18/06	AQ	Ground Water	MW-8
F44544-4	10/17/06	12:15 ZS	10/18/06	AQ	Ground Water	MW-9R
F44544-5	10/17/06	12:20 ZS	10/18/06	AQ	Ground Water	MW-10R
F44544-6	10/17/06	12:25 ZS	10/18/06	AQ	Ground Water	MW-7
F44544-7	10/17/06	12:30 ZS	10/18/06	AQ	Ground Water	MW-25
F44544-8	10/17/06	12:35 ZS	10/18/06	AQ	Ground Water	MW-3
F44544-9	10/17/06	12:40 ZS	10/18/06	AQ	Ground Water	MW-26
F44544-10	10/17/06	12:45 ZS	10/18/06	AQ	Ground Water	MW-4
F44544-11	10/17/06	12:50 ZS	10/18/06	AQ	Ground Water	MW-18
F44544-12	10/17/06	12:55 ZS	10/18/06	AQ	Ground Water	MW-13
F44544-13	10/17/06	13:00 ZS	10/18/06	AQ	Ground Water	MW-6

Sample Summary
(continued)

SEI-Columbia, SC

Job No: F44544

Circle Stop N Shop; Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F44544-14	10/17/06	13:05	ZS	10/18/06	AQ	Ground Water	MW-14
F44544-15	10/17/06	13:10	ZS	10/18/06	AQ	Ground Water	MW-15
F44544-16	10/17/06	13:15	ZS	10/18/06	AQ	Ground Water	MW-16

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F44544-2	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014899.D	500	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	20200	500	ug/l	
108-88-3	Toluene	49700	500	ug/l	
100-41-4	Ethylbenzene	2710	500	ug/l	
1330-20-7	Xylene (total)	13400	1500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	12400	500	ug/l	
91-20-3	Naphthalene	ND	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	109%		73-126%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	F44544-8	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014905.D	1	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	62.3	1.0	ug/l	
108-88-3	Toluene	7.5	1.0	ug/l	
100-41-4	Ethylbenzene	1.3	1.0	ug/l	
1330-20-7	Xylene (total)	19.1	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	104%		73-126%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F44544-10	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014907.D	500	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	4430	500	ug/l	
108-88-3	Toluene	47300	500	ug/l	
100-41-4	Ethylbenzene	3780	500	ug/l	
1330-20-7	Xylene (total)	19000	1500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	598	500	ug/l	
91-20-3	Naphthalene	ND	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		86-115%
17060-07-0	1,2-Dichloroethane-D4	109%		73-126%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	96%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	F44544-13	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014910.D	1	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	109%		73-126%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	100%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	F44544-6	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014903.D	100	10/20/06	CS	n/a	n/a	VN637
Run #2	N0014924.D	500	10/23/06	CS	n/a	n/a	VN638

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	7460	100	ug/l	
108-88-3	Toluene	24700 [a]	500	ug/l	
100-41-4	Ethylbenzene	2920	100	ug/l	
1330-20-7	Xylene (total)	13700	300	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/l	
91-20-3	Naphthalene	471	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	103%	86-115%
17060-07-0	1,2-Dichloroethane-D4	105%	104%	73-126%
2037-26-5	Toluene-D8	96%	99%	86-112%
460-00-4	4-Bromofluorobenzene	87%	95%	83-119%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	F44544-3	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014895.D	1	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	104%		73-126%
2037-26-5	Toluene-D8	104%		86-112%
460-00-4	4-Bromofluorobenzene	101%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-9R		
Lab Sample ID:	F44544-4	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014896.D	1	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.4	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		86-115%
17060-07-0	1,2-Dichloroethane-D4	105%		73-126%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	97%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-10R		
Lab Sample ID:	F44544-5	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014921.D	1	10/23/06	CS	n/a	n/a	VN638
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	23.8	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	4.6	1.0	ug/l	
1330-20-7	Xylene (total)	18.8	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	21.4	1.0	ug/l	
91-20-3	Naphthalene	4.5	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		86-115%
17060-07-0	1,2-Dichloroethane-D4	101%		73-126%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	95%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-13		
Lab Sample ID:	F44544-12	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014909.D	2000	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	10000	2000	ug/l	
108-88-3	Toluene	28400	2000	ug/l	
100-41-4	Ethylbenzene	2280	2000	ug/l	
1330-20-7	Xylene (total)	7010	6000	ug/l	
1634-04-4	Methyl Tert Butyl Ether	76500	2000	ug/l	
91-20-3	Naphthalene	ND	4000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		86-115%
17060-07-0	1,2-Dichloroethane-D4	112%		73-126%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	F44544-14	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014911.D	1	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	8.9	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		86-115%
17060-07-0	1,2-Dichloroethane-D4	108%		73-126%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	103%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-15		
Lab Sample ID:	F44544-15	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014912.D	1	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		86-115%
17060-07-0	1,2-Dichloroethane-D4	111%		73-126%
2037-26-5	Toluene-D8	106%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-16		
Lab Sample ID:	F44544-16	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014913.D	1	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	111%		73-126%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	102%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	F44544-11	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014908.D	50	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	50	ug/l	
108-88-3	Toluene	ND	50	ug/l	
100-41-4	Ethylbenzene	ND	50	ug/l	
1330-20-7	Xylene (total)	ND	150	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4930	50	ug/l	
91-20-3	Naphthalene	ND	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		86-115%
17060-07-0	1,2-Dichloroethane-D4	109%		73-126%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	102%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-24		
Lab Sample ID:	F44544-1	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014898.D	2	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	6.2	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	198	2.0	ug/l	
91-20-3	Naphthalene	ND	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	103%		73-126%
2037-26-5	Toluene-D8	106%		86-112%
460-00-4	4-Bromofluorobenzene	98%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-25		
Lab Sample ID:	F44544-7	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014904.D	2	10/20/06	CS	n/a	n/a	VN637
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	2.0	ug/l	
108-88-3	Toluene	ND	2.0	ug/l	
100-41-4	Ethylbenzene	ND	2.0	ug/l	
1330-20-7	Xylene (total)	ND	6.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	147	2.0	ug/l	
91-20-3	Naphthalene	ND	4.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		86-115%
17060-07-0	1,2-Dichloroethane-D4	107%		73-126%
2037-26-5	Toluene-D8	105%		86-112%
460-00-4	4-Bromofluorobenzene	100%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-26		
Lab Sample ID:	F44544-9	Date Sampled:	10/17/06
Matrix:	AQ - Ground Water	Date Received:	10/18/06
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0014928.D	1	10/23/06	CS	n/a	n/a	VN638
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1.1	1.0	ug/l	
108-88-3	Toluene	6.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	5.2	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	93.7	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		86-115%
17060-07-0	1,2-Dichloroethane-D4	101%		73-126%
2037-26-5	Toluene-D8	100%		86-112%
460-00-4	4-Bromofluorobenzene	95%		83-119%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- **Chain of Custody**

19490

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #: F44544

Accutest Control #:

Client Information

Name: SEI Environmental

Address: 5100 Reagan Dr., Suite 7

City: Charlotte State: NC Zip: 28206

Send Report to:

Phone #: 704-596-8824

Facility Information

Project Name: Circle Stop N Shop

Location: 3381 Columbia Hwy, Leesville, S.C.

Project No.: 303604

FAX #: 704-596-8605

Analytical Information

	Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation Cool	Preservation HCl	Preservation HNO3	Preservation NaOH	Preservation None	EPA method 8260B for	STEX, MTBE + 1,2,4-trimethylbenzene
1	MW-24	10-17-06	12:00	ZS	GW	3	3					X	
2	MW-2		12:10									X	
3	MW-8		12:12									X	
4	MW-9R		12:15									X	
5	MW-10R		12:20									X	
6	MW-7		12:25									X	
7	MW-25		12:30									X	
8	MW-3		12:35									X	
9	MW-26		12:40									X	
10	MW-4		12:45									X	

Turnaround Information

- [x] 28 Day Standard
- [ ] 14 Day
- [ ] 7 Days EMERGENCY
- [ ] Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Data Unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

2.8

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished by:	Date Time:	Received by:
1 [signature]	10-17-06 / 1540	1 FX	2 FX	10-18-06 09:30	2 Jorge Lopez
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished by: 4	Date Time:	Received by: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applicable ☐	On Ice ☐

Revised 09/2005 RS

F44544: Chain of Custody
Page 1 of 3

19490

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #: F44544
Accutest Control #:

Client Information

Name: SEI Environmental
Address: 8100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28206
Send Report to:
Phone #: 704-598-8824

Facility Information

Project Name: Circle Stop N Shop
Location: 3247 Carolina Hwy, Lexington, S.C.
Project No.: 303004
FAX #: 704-596-8605

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCL	Preservation Sodi	Preservation Meoh	Preservation None	EPA method 8260B for BTEX, MTBE, + Naphthalene
MW-18	10-17-06	12:50	ZS	GW	3	3				X
MW-13		12:55								X
MW-6		13:00								X
MW-14		13:05								X
MW-15		13:10								X
MW-16		13:15								X

Turnaround Information

- [x] 28 Day Standard
- [ ] 14 Day
- [ ] 7 Days EMERGENCY
- [ ] Other _____ (Days)

RUSH TAT is for FAX data
Data unless previously approved.

Approved By:

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

2.8

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
Zach C. Smith	10-17-06/1540	1 Fx	2 Fx	10-18-06 09:10	2 George Pond
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Sealed?	Preservation where applicable ☐	On Ice? ☐

Revised 09/2005 RS

3.1 3

F44544: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F44544 CLIENT: SEI PROJECT: CIRCLE STOP N SHOP

DATE/TIME RECEIVED: 10-18-06 0900 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.8

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8536 3068 0248

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [ ] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? ϕ

NUMBER OF 5035 FIELD KITS ? ϕ

NUMBER OR LAB FILTERED METALS ? ϕ

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE JE 10-18-06 TECHNICIAN SIGNATURE/DATE ASBD 10/03/06

F44544: Chain of Custody
Page 3 of 3

SEI Environmental, Inc.

130 Penmarc Drive
Suite 108
Raleigh, NC 27603-2470
800.474.7049
919.832.2535
Fax 832.5914

RECEIVED

AUG 2 1 2006

UNDERGROUND STORAGE TANK PROGRAM

August 18, 2006

Mr. John Surber, Hydrogeologist
South Carolina Department of Health and Environmental Control
Assessment & Corrective Action Section, Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Dear Mr. Surber:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the July 17, 2006, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

Brandon D. Jolly

UST PROGRAM DOCKETING # 24Tech

Brandon D. Jolly
Staff Scientist

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

SCANNED

SEI Environmental, Inc

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
April through July 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

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AUG 2 1 2006
UNDERGROUND STORAGE
TANK PROGRAM

PREPARED BY:

SEI ENVIRONMENTAL, INC.
130 Penmarc Drive, Suite 108
Raleigh, North Carolina 27603
UST Site Rehabilitation Contractor No. 354

August 18, 2006

SEI Environmental, Inc

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date: August 18, 2006
For Period Covering: April 26, 2006
Facility Name : Circle Stop-N-Shop
UST Permit Number: 05981
County: Saluda
Latitude: N 34°02'28.08"

Monitoring Report Number: 10
to July 17, 2006
Street Address: 3287 Columbia Highway
City: Leesville, South Carolina
Zip Code: 29070-7216
Longitude: W 81°32'53.78"

Submitted by UST Owner/Operator:

Name: Steve & Joan Boozer
Company: Property Owners
Address: 3287 Columbia Highway
City: Leesville State: SC
Zip Code: 29070-7216
Telephone: (803) 532-4119
SEI Project Number: 303064

Prepared by Consultant/Contractor:

Name: Chris L. Boggs
Company: SEI Environmental, Inc.
Address: 130 Penmarc Drive, Suite 108
City: Raleigh State: NC
Zip Code: 27603
Telephone: (919) 832-2535
UST Site Rehabilitation Contractor No. 354

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Chris L. Boggs
SC Reg. No. 2101
Signature:
Date:

CHRIS L. BOGGS

RECEIVED

AUG 2 1 2006

UNDERGROUND STORAGE TANK PROGRAM

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APPENDIX C Field Data Information Sheets for Groundwater Sampling
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LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a Licensed Geologist registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by AccuTest Laboratories.

1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event
- April 25, 2006 – Groundwater Sampling Event
- July 17, 2006 – Groundwater Sampling Event

On July 17, 2006, thirteen groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On July 17, 2006, groundwater samples were collected from twelve (MW-2 through MW-4, MW-7, MW-10R, MW-13 through MW-16, MW-18, MW-23, MW-25 and MW-26) of the twenty-six existing groundwater monitoring wells. Two (MW-1, and MW-24) monitoring wells were not sampled because they were not located. Eight (MW-5, MW-6, MW-8, MW-9R, MW-11, MW-12, MW-17, and MW-19 through MW-22) monitoring wells are only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in Appendix A is a site map depicting well locations.

Twenty groundwater monitoring wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was not detected.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient of 0.059 feet per foot between monitoring wells MW-19 and MW-16. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

All monitoring wells were purged prior to sampling by removing a minimum of three well volumes of water via hand bailing with a new, disposable, polyethylene bailer or until groundwater quality data stabilized, or the well went dry. The purge water was disposed of at a South Carolina licensed facility. Appendix C contains Field Data Information Sheets for Groundwater Sampling.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene).

3.0 LABORATORY ANALYTICAL RESULTS

Chemicals of Concern (CoC) were detected in nine (MW-2, MW-4, MW-7, MW-10R, MW-13, MW-14, MW-18, MW-25, and MW-26) of the thirteen monitoring wells sampled at concentrations exceeding their respective SSTL. Figure 4 in Appendix A is a site map presenting monitoring well locations and their CoC concentrations. Table 2 in

Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs) have been designated for twenty (MW-1 through MW-18 and MW-24 through MW-26) monitoring wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix D.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs. Data for the April 26, 2006, sampling event was used in the calculations for monitoring wells MW-1 and MW-24 due to the inability to locate said wells during the July 17, 2006, groundwater sampling event.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

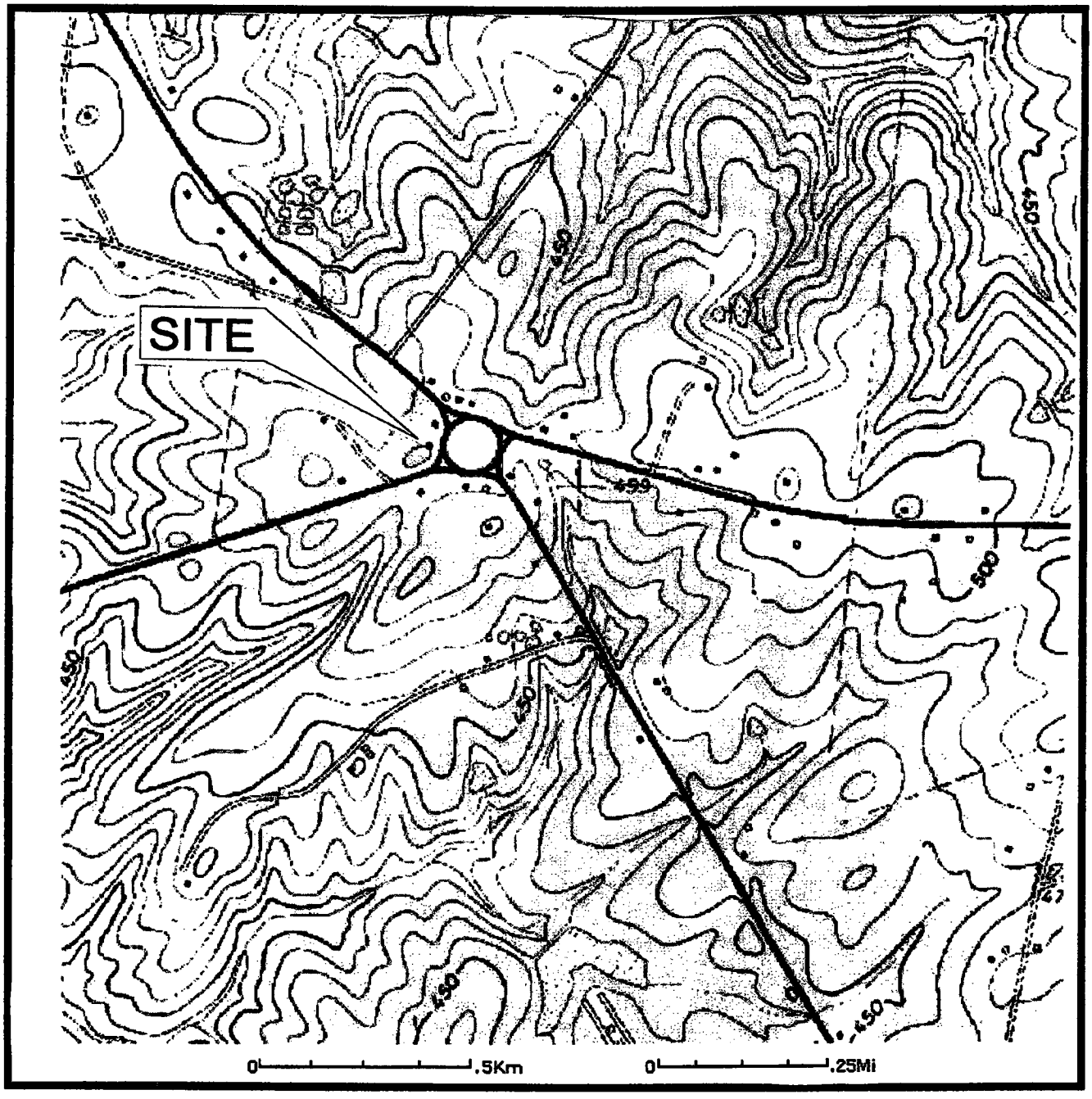
Using the current analytical results, the concentration reduction is 97.19%. Table 3 in Appendix B summarizes SSTL concentration reduction calculations.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the north-northeast with a hydraulic gradient of 0.059 feet per foot. CoC were detected in nine of the thirteen monitoring wells sampled above their respective SSTLs. The percent concentration reduction has been calculated at 97.19%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. The next sampling event is scheduled for October 2006.

APPENDIX A
FIGURES

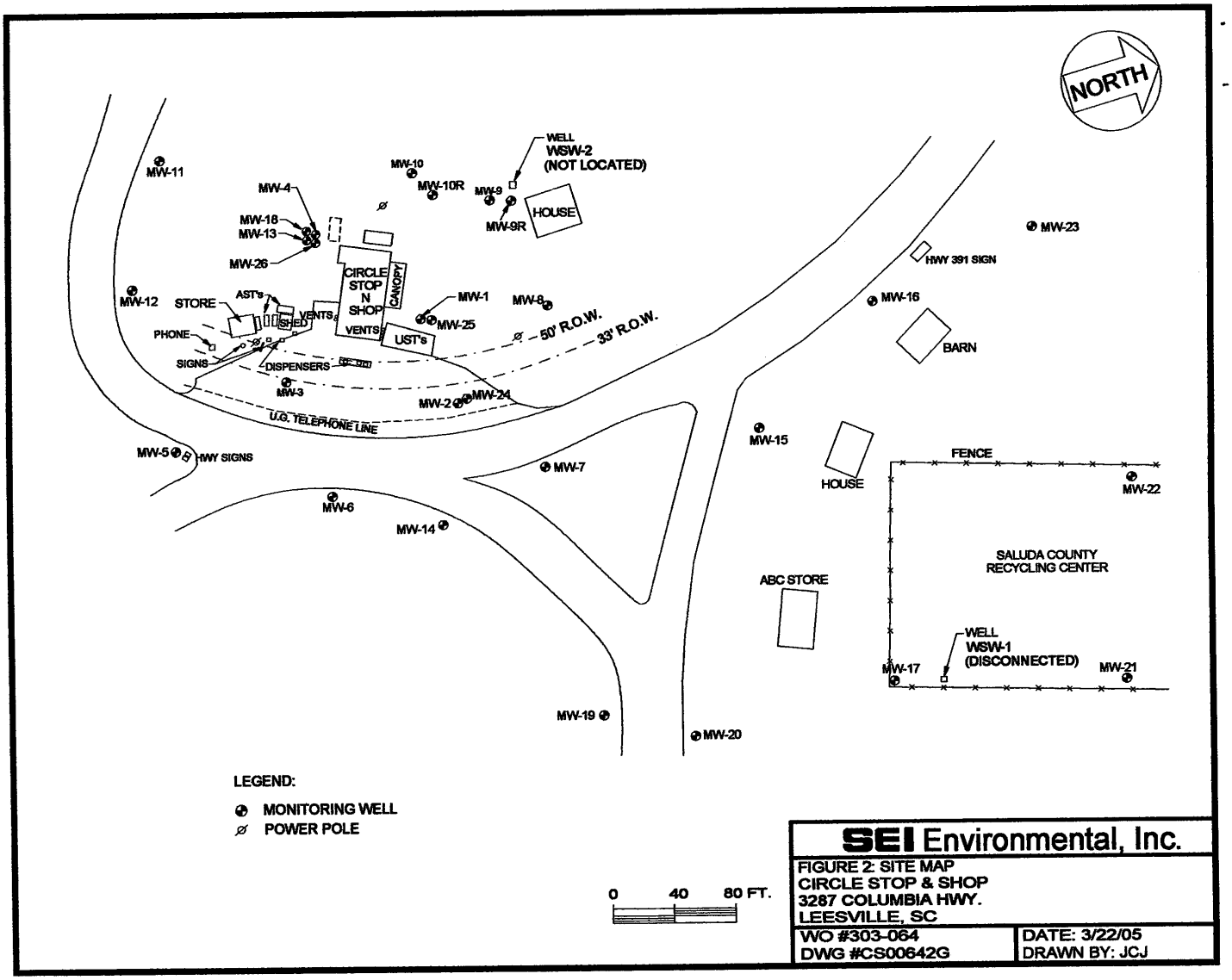
7.5 MINUTE SERIES(TOPOGRAPHIC)



SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

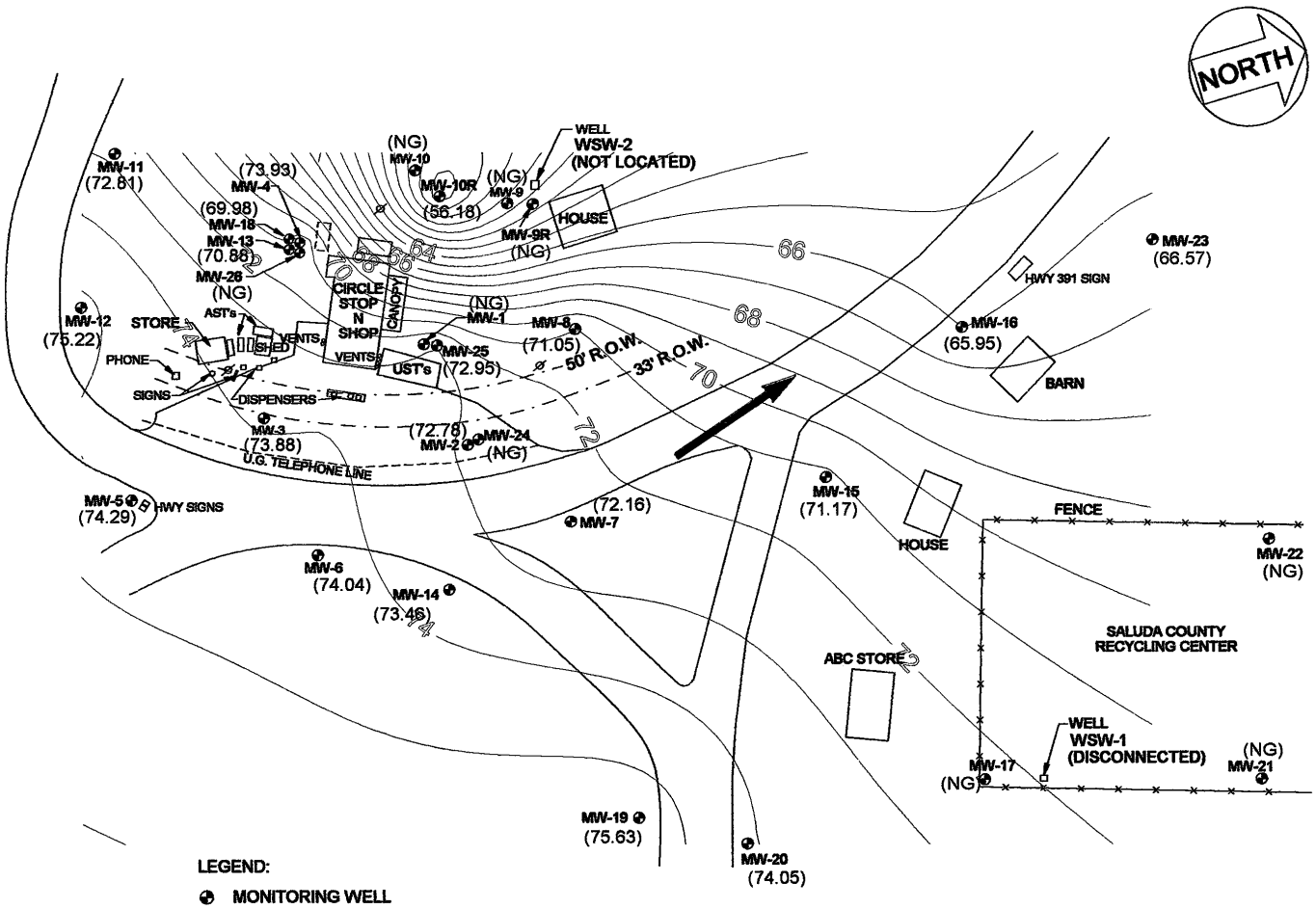
WO #303064	DATE: 10/10/05
DWG #	DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

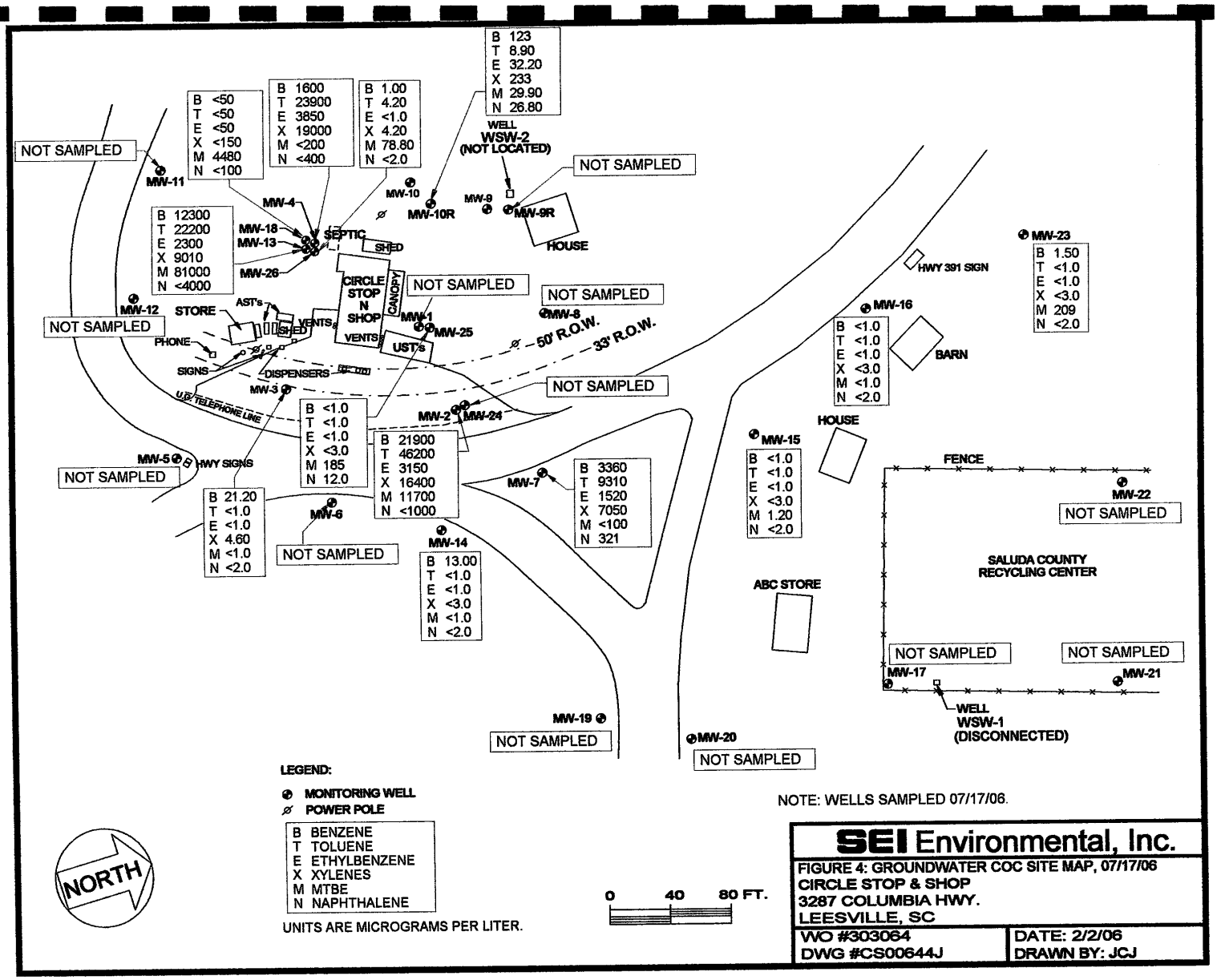
WO #303-064	DATE: 3/22/05
DWG #CS00642G	DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ


B 123
T 8.90
E 32.20
X 233
M 29.90
N 26.80
WELL
WSW-2
(NOT LOCATED)
NOT SAMPLED
B <50
T <50
E <50
X <150
M 4480
N <100
B 1600
T 23900
E 3850
X 19000
M <200
N <400
B 1.00
T 4.20
E <1.0
X 4.20
M 78.80
N <2.0
MW-11
MW-10
MW-10R
MW-9
MW-9R
MW-4
HOUSE
B 12300
T 22200
E 2300
X 9010
M 81000
N <4000
MW-18
MW-13
MW-26
SEPTIC
SHED
CIRCLE STOP N SHOP
CANOPY
VENTS
UST's
MW-1
MW-25
MW-12
STORE
AST's
PHONE
SIGNS
DISPENSERS
MW-3
U/G TELEPHONE LINE
MW-8
50' R.O.W.
33' R.O.W.
MW-2
MW-24
B <1.0
T <1.0
E <1.0
X <3.0
M 185
N 12.0
B 21900
T 46200
E 3150
X 16400
M 11700
N <1000
MW-5
HWY SIGNS
B 21.20
T <1.0
E <1.0
X 4.60
M <1.0
N <2.0
MW-6
MW-7
B 3360
T 9310
E 1520
X 7050
M <100
N 321
MW-14
B 13.00
T <1.0
E <1.0
X <3.0
M <1.0
N <2.0
MW-19
MW-20
MW-23
B 1.50
T <1.0
E <1.0
X <3.0
M 209
N <2.0
HWY 391 SIGN
MW-16
B <1.0
T <1.0
E <1.0
X <3.0
M <1.0
N <2.0
BARN
HOUSE
MW-15
B <1.0
T <1.0
E <1.0
X <3.0
M 1.20
N <2.0
FENCE
MW-22
SALUDA COUNTY RECYCLING CENTER
ABC STORE
MW-17
MW-21
WELL
WSW-1
(DISCONNECTED)
LEGEND:
MONITORING WELL
POWER POLE
B BENZENE
T TOLUENE
E ETHYLBENZENE
X XYLENES
M MTBE
N NAPHTHALENE
UNITS ARE MICROGRAMS PER LITER.
NORTH
0 40 80 FT.
NOTE: WELLS SAMPLED 07/17/06.
SEI Environmental, Inc.
FIGURE 4: GROUNDWATER COC SITE MAP, 07/17/06
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC
WO #303064
DWG #CS00644J
DATE: 2/2/06
DRAWN BY: JCJ

APPENDIX B
TABLES

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-1	08/18/03	21.39			99.59	78.20
	11/17/03	23.34				76.25
	03/11/04	23.96				75.63
	06/30/04	25.22				74.37
	03/21/05	24.12				75.47
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	25.11				74.48
	07/17/06	Well Not Located				N/A
MW-2	08/18/03	19.82			97.68	77.86
	11/17/03	21.39				76.29
	03/11/04	22.38				75.30
	06/30/04	23.49				74.19
	03/21/05	23.47				74.21
	10/14/05	24.41				73.27
	02/02/06	24.38				73.30
	04/25/06	22.70				74.98
	07/17/06	24.90				72.78
MW-3	08/18/03	18.04			99.53	81.49
	11/17/03	22.14				77.39
	03/11/04	20.98				78.55
	06/30/04	24.08				75.45
	03/21/05	22.05				77.48
	10/14/05	25.35				74.18
	02/02/06	23.48				76.05
	04/25/06	22.45				77.08
	07/17/06	25.65				73.88
MW-4	08/18/03	23.31			100.28	76.97
	11/17/03	25.11				75.17
	03/11/04	25.58				74.70
	06/30/04	27.13				73.15
	03/21/05	27.01				73.27
	10/14/05	28.16				72.12
	02/02/06	27.69				72.59
	04/25/06	26.35				73.93
	07/17/06	28.50				71.78
MW-5	08/18/03	15.89			100.88	84.99
	11/17/03	21.84				79.04
	03/11/04	19.61				81.27
	06/30/04	22.30				78.58
	03/21/05	20.70				80.18
	10/14/05	24.40				76.48
	02/02/06	22.43				78.45
	04/25/06	22.03				78.85
	07/17/06	26.59				74.29

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-6	08/18/03	16.31			97.43	81.12
	11/17/03	19.13				78.30
	03/11/04	18.62				78.81
	06/30/04	21.84				75.59
	03/21/05	19.78				77.65
	10/14/05	23.13				74.30
	02/02/06	21.15				76.28
	04/25/06	20.19				77.24
	07/17/06	23.39				74.04
MW-7	08/18/03	19.78			97.26	77.48
	11/17/03	22.14				75.12
	03/11/04	22.38				74.88
	06/30/04	23.78				73.48
	03/21/05	23.31				73.95
	10/14/05	24.75				72.51
	02/02/06	24.29				72.97
	04/25/06	22.62				74.64
	07/17/06	25.10				72.16
MW-8	08/18/03	21.72			98.70	76.98
	11/17/03	24.61				74.09
	03/11/04	24.30				74.40
	06/30/04	26.21				72.49
	03/21/05	25.25				73.45
	10/14/05	24.78				73.92
	02/02/06	26.39				72.31
	04/25/06	24.97				73.73
	07/17/06	27.65				71.05
MW-9R	08/18/03	30.33			99.68	69.35
	11/17/03	32.11				67.57
	03/11/04	33.15				66.53
	06/30/04	34.62				65.06
	03/21/05	36.35				63.33
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	Well Not Located				N/A
	07/17/06	Well Not Located				N/A
MW-10R	08/18/03	Well Not Located			100.22	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	42.57				57.65
	02/02/06	44.69				55.53
	04/25/06	Well Not Located				N/A
	07/17/06	44.04				56.18

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-11	08/18/03	19.96			100.47	80.51
	11/17/03	21.45				79.02
	03/11/04	23.01				77.46
	06/30/04	25.96				74.51
	03/21/05	23.56				76.91
	10/14/05	27.31				73.16
	02/02/06	25.79				74.68
	04/25/06	23.15				77.32
	07/17/06	27.66				72.81
MW-12	08/18/03	17.51			100.62	83.11
	11/17/03	21.51				79.11
	03/11/04	19.95				80.67
	06/30/04	23.62				77.00
	03/21/05	21.06				79.56
	10/14/05	25.18				75.44
	02/02/06	22.43				78.19
	04/25/06	21.78				78.84
	07/17/06	25.40				75.22
MW-13	08/18/03	24.11			100.22	76.11
	11/17/03	26.78				73.44
	03/11/04	26.73				73.49
	06/30/04	27.79				72.43
	03/21/05	28.18				72.04
	10/14/05	28.88				71.34
	02/02/06	32.46				67.76
	04/25/06	27.03				73.19
	07/17/06	29.34				70.88
MW-14	08/18/03	15.29			96.30	81.01
	11/17/03	19.35				76.95
	03/11/04	18.18				78.12
	06/30/04	21.22				75.08
	03/21/05	19.20				77.10
	10/14/05	22.55				73.75
	02/02/06	20.69				75.61
	04/25/06	16.69				79.61
	07/17/06	22.84				73.46
MW-15	08/18/03	17.51			94.59	77.08
	11/17/03	20.39				74.20
	03/11/04	20.07				74.52
	06/30/04	21.95				72.64
	03/21/05	21.02				73.57
	10/14/05	23.10				71.49
	02/02/06	22.12				72.47
	04/25/06	20.70				73.89
	07/17/06	23.42				71.17

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-16	08/18/03	Well Not Located			92.01	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	23.86				68.15
	03/21/05	22.72				69.29
	10/14/05	26.00				66.01
	02/02/06	24.21				67.80
	04/25/06	22.98				69.03
	07/17/06	26.06				65.95
MW-17	08/18/03	14.26			91.65	77.39
	11/17/03	16.51				75.14
	03/11/04	Well Not Located				N/A
	06/30/04	17.42				74.23
	03/21/05	16.85				74.80
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
MW-18	08/18/03	24.82			100.05	75.23
	11/17/03	21.97				78.08
	03/11/04	27.00				73.05
	06/30/04	28.50				71.55
	03/21/05	29.10				70.95
	10/14/05	29.34				70.71
	02/02/06	29.23				70.82
	04/25/06	27.78				72.27
	07/17/06	30.07				69.98
MW-19	08/18/03	11.21			94.32	83.11
	11/17/03	16.22				78.10
	03/11/04	Well Not Located				N/A
	06/30/04	17.47				76.85
	03/21/05	16.31				78.01
	10/14/05	19.44				74.88
	02/02/06	17.88				76.44
	04/25/06	20.15				74.17
	07/17/06	18.69				75.63
MW-20	08/18/03	12.36			94.88	82.52
	11/17/03	17.18				77.70
	03/11/04	Well Not Located				N/A
	06/30/04	18.98				75.90
	03/21/05	16.40				78.48
	10/14/05	20.55				74.33
	02/02/06	18.27				76.61
	04/25/06	19.98				74.90
	07/17/06	20.83				74.05

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
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Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-21	08/18/03	10.17			84.61	74.44
	11/17/03	14.41				70.20
	03/11/04	Well Not Located				N/A
	06/30/04	16.34				68.27
	03/21/05	14.51				70.10
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
MW-22	08/13/03	10.61			84.71	74.10
	11/17/03	17.79				66.92
	03/11/04	Well Not Located				N/A
	06/30/04	21.31				63.40
	03/21/05	17.42				67.29
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
MW-23	08/18/03	Well Not Located			92.05	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	Well Not Located				N/A
	02/02/06	24.40				67.65
	04/25/06	Well Not Located				N/A
	07/17/06	25.48				66.57
MW-24	08/18/03	19.76			97.74	77.98
	11/17/03	22.42				75.32
	03/11/04	22.44				75.30
	06/30/04	24.04				73.70
	03/21/05	23.35				74.39
	10/14/05	25.15				72.59
	02/02/06	Well Not Located				N/A
	04/25/06	23.00				74.74
	07/17/06	Well Not Located				N/A
MW-25	08/18/03	21.94			99.63	77.69
	11/17/03	24.49				75.14
	03/11/04	24.44				75.19
	06/30/04	26.08				73.55
	03/21/05	27.75				71.88
	10/14/05	26.70				72.93
	02/02/06	26.72				72.91
	04/25/06	Well Not Located				N/A
	07/17/06	26.68				72.95

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
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Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-26	08/18/03	100+			100.22	N/M*
	11/17/03	90.02				10.20
	03/11/04	100+				N/M*
	06/30/04	100+				N/M*
	03/21/05	100+				N/M*
	10/14/05	100+				N/M*
	02/02/06	100+				N/M*
	04/25/06	100+				N/M*
	07/17/06	100+				N/M*

N/A = Not Applicable
N/M* = Not Measured Due To Depth of Well Exceeding 100 feet. Measuring Tape Ends at 100 feet.
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) — where applicable

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-1*	10/01/02 & 12/19/02	**2,300.00**	**29,000.00**	3,300.00	18,900.00	43.00	27.00			53,570.00
	08/18/03	**1,700.00**	1,300.00	2,600.00	13,000.00	**2,200.00**	**1,200.00**			22,000.00
	11/19/03	**1,900.00**	17,000.00	3,100.00	18,000.00	**1,700.00**	**680.00**			42,380.00
	03/11/04	**1,800.00**	14,000.00	3,300.00	16,000.00	**1,600.00**	**1,200.00**			37,900.00
	06/30/04	**1,640.00**	14,200.00	**3,490.00**	**20,200.00**	**1,770.00**	**380.00**			41,680.00
	03/21/05	**1,210.00**	8,540.00	2,440.00	13,100.00	**1,430.00**	<400			26,720.00
	10/14/05	Not Located								0.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**158.00**	**106.00**			264.00
	07/17/06	Not Located								0.00
	SSTL	**65.00**	**24,700.00**	**3,300.00**	**18,900.00**	**43.00**	**27.00**			
	> SSTL	0.00	0.00	0.00	0.00	115.00	79.00			
MW-2	10/01/02 & 12/19/02	**10,000.00**	**26,000.00**	2,600.00	9,400.00	**1,300.00**	**520.00**			49,820.00
	08/18/03	**9,300.00**	22,000.00	2,200.00	**12,000.00**	**1,900.00**	**5,000.00**			52,400.00
	11/19/03	**12,000.00**	**29,000.00**	**3,000.00**	**15,000.00**	**5,100.00**	**2,500.00**			66,600.00
	03/11/04	**8,400.00**	21,000.00	2,100.00	**12,000.00**	**3,400.00**	**2,500.00**			49,400.00
	06/30/04	**9,890.00**	**29,900.00**	2,460.00	**14,400.00**	**3,510.00**	**1,000.00**			61,160.00
	03/21/05	**9,970.00**	21,800.00	2,060.00	**12,400.00**	**4,620.00**	<1,000			50,850.00
	10/14/05	**11,600.00**	**30,200.00**	2,180.00	**12,800.00**	**5,360.00**	<1,000			62,140.00
	02/02/06	**16,200.00**	**33,700.00**	2,450.00	**14,000.00**	**6,400.00**	<1,000			72,750.00
	04/25/06	**16,800.00**	**34,400.00**	2,290.00	**12,800.00**	**7,010.00**	**4,430.00**			77,730.00
	07/17/06	**21,900.00**	**46,200.00**	**3,150.00**	**16,400.00**	**11,700.00**	<1,000			99,350.00
	SSTL	**120.00**	**24,700.00**	**2,600.00**	**9,400.00**	**43.00**	**27.00**			
	> SSTL	21,780.00	21,500.00	550.00	7,000.00	11,657.00	0.00			
MW-3	10/01/02 & 12/19/02	85.00	93.00	5.00	102.00	5.00	5.00			295.00
	08/18/03	1.60	<5.0	<1.0	<3.0	<1.0	<5.0			1.60
	11/19/03	31.00	<5.0	1.30	9.00	<1.0	<5.0			41.30
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	72.30	4.10	<2.0	19.30	<2.0	<2.0			95.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	75.40	2.80	2.30	12.10	<1.0	<2.0			92.60
	02/02/06	1.60	<1.0	<1.0	<3.0	<1.0	<2.0			1.60
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	21.20	<1.0	<1.0	4.60	<1.0	<2.0			25.80
	SSTL	**85.00**	**93.00**	**5.00**	**102.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-4	10/01/02 & 12/19/02	**5,500.00**	4,700.00	3,900.00	17,900.00	**6,400.00**	**590.00**			38,990.00
	08/18/03	**1,000.00**	15,000.00	2,900.00	14,000.00	**100.00**	**500.00**			33,500.00
	11/19/03	**1,200.00**	14,000.00	2,700.00	14,000.00	**4,900.00**	**5,000.00**			41,800.00
	03/11/04	**540.00**	8,000.00	1,000.00	8,400.00	**250.00**	**1,200.00**			19,390.00
	06/30/04	**884.00**	20,100.00	2,750.00	16,000.00	**1,000.00**	**1,000.00**			41,734.00
	03/21/05	**4,010.00**	**25,300.00**	3,020.00	16,500.00	<500	<1,000			48,830.00
	10/14/05	**1,450.00**	20,000.00	3,070.00	16,000.00	<500	<1,000			40,520.00
	02/02/06	**2,110.00**	22,400.00	3,240.00	17,700.00	<500	<1,000			45,450.00
	04/25/06	**387.00**	8,780.00	2,240.00	12,200.00	<50	<50			23,607.00
	07/17/06	**1,600.00**	23,900.00	3,850.00	**19,000.00**	<200	<400			48,350.00
	SSTL	**110.00**	**24,700.00**	**3,900.00**	**17,900.00**	**43.00**	**27.00**			
	> SSTL	1,490.00	0.00	0.00	1,100.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	**20.00**	<1.0	<3.0	<1.0	<5.0			20.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-7	10/01/02 & 12/19/02	**226,000.00**	**301,000.00**	**280,000.00**	**278,000.00**	**5,110,000.00**	**2,000.00**			6,197,000.00
	08/18/03	**3,900.00**	23,000.00	6,600.00	**37,000.00**	**500.00**	**2,500.00**			73,500.00
	11/19/03	**5,000.00**	15,000.00	**3,800.00**	**19,000.00**	**100.00**	**770.00**			43,670.00
	03/11/04	**6,200.00**	12,000.00	**3,300.00**	**15,000.00**	**500.00**	**2,500.00**			39,500.00
	06/30/04	**5,340.00**	18,400.00	**2,990.00**	**15,200.00**	**1,000.00**	**1,000.00**			43,930.00
	03/21/05	**7,710.00**	17,200.00	**2,820.00**	**13,400.00**	<500	<1,000			41,130.00
	10/14/05	**4,660.00**	12,600.00	1,730.00	7,610.00	<200	<400			26,600.00
	02/02/06	**9,810.00**	20,500.00	2,450.00	**10,800.00**	<200	<400			43,560.00
	04/25/06	**2,040.00**	5,530.00	715.00	3,190.00	<100	**102.00**			11,577.00
	07/17/06	**3,360.00**	9,310.00	1,520.00	7,050.00	<100	**321.00**			21,561.00
	SSTL	**120.00**	**24,700.00**	**2,600.00**	**9,400.00**	**43.00**	**27.00**			
	> SSTL	3,240.00	0.00	0.00	0.00	0.00	294.00			
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.50	<5.0			1.50
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.70	<2.0			1.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.90	<2.0			1.90
	10/14/05	Not Located								0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	10/14/05	**73.30**	1.60	**5.60**	**57.90**	**38.20**	**10.40**			187.00
	02/02/06	**27.80**	<1.0	2.80	**16.50**	**28.70**	3.00			78.80
	04/25/06	Not Located								0.00
	07/17/06	123.00	8.90	32.20	233.00	29.90	26.80			453.80
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	118.00	3.90	27.20	218.00	24.90	21.80			
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-13	10/01/02 & 12/19/02	**7,400.00**	14,000.00	2,500.00	7,700.00	**69,000.00**	**290.00**			100,890.00
	08/18/03	**9,500.00**	12,000.00	2,000.00	5,700.00	**7,600.00**	**5,000.00**			41,800.00
	11/19/03	**4,800.00**	6,500.00	1,000.00	5,400.00	**51,000.00**	**2,500.00**			71,200.00
	03/11/04	**9,500.00**	9,500.00	2,200.00	**7,800.00**	**93,000.00**	**1,200.00**			123,200.00
	06/30/04	**2,770.00**	4,000.00	**4,000.00**	**12,000.00**	**77,100.00**	**4,000.00**			103,870.00
	03/21/05	**11,600.00**	**13,900.00**	2,360.00	6,720.00	**104,000.00**	<4,000			138,580.00
	10/14/05	**10,600.00**	**20,500.00**	2,200.00	**8,870.00**	**88,100.00**	<2,000			130,270.00
	02/02/06	**14,300.00**	**24,900.00**	**2,710.00**	**10,600.00**	**79,400.00**	<2,000			131,910.00
	04/25/06	**11,800.00**	**23,400.00**	2,310.00	**10,900.00**	**85,800.00**	**8,420.00**			142,630.00
	07/17/06	**12,300.00**	**22,200.00**	2,300.00	**9,010.00**	**81,000.00**	<4,000			126,810.00
	SSTL	**110.00**	**14,000.00**	**2,500.00**	**7,700.00**	**43.00**	**27.00**			
	> SSTL	12,190.00	8,200.00	0.00	1,310.00	80,957.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	**8.80**	**7.80**	2.20	12.00	**16.00**	<5.0			46.80
	11/19/03	3.70	<5.0	<1.0	3.60	<1.0	<5.0			7.30
	03/11/04	1.20	<5.0	<1.0	<3.0	<1.0	<5.0			1.20
	06/30/04	4.50	<2.0	<2.0	<6.0	<2.0	<2.0			4.50
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	**5.90**	<1.0	<1.0	<3.0	<1.0	<2.0			5.90
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	2.10	<1.0	<1.0	<3.0	<1.0	<1.0			2.10
	07/17/06	**13.00**	<1.0	<1.0	<3.0	<1.0	<2.0			13.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	8.00	0.00	0.00	0.00	0.00	0.00			
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	1.30	<5.0	<1.0	<3.0	**9.80**	<5.0			11.10
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0			0.74
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	Not Sampled								0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Not Sampled								0.00
	02/02/06	Well Closed								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-18	10/01/02 & 12/19/02	5.00	7.00	5.00	139.00	**2,300.00**	24.00			2,480.00
	08/18/03	**370.00**	**9.90**	**6.00**	**180.00**	**520.00**	**40.00**			1,125.90
	11/19/03	**210.00**	**50.00**	**10.00**	110.00	**1,700.00**	**50.00**			2,130.00
	03/11/04	**170.00**	**25.00**	<5.0	54.00	**840.00**	**25.00**			1,114.00
	06/30/04	3.50	<2.0	<2.0	15.60	**4,420.00**	<2.0			4,439.10
	03/21/05	**121.00**	<50	<50	<150	**1,970.00**	<100			2,091.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	**3,270.00**	<2.0			3,270.00
	02/02/06	<50	<50	<50	<150	<50	<100			0.00
	04/25/06	<50	<50	<50	<150	**4,160.00**	<50			4,160.00
	07/17/06	<50	<50	<50	<150	**4,480.00**	<100			4,480.00
	SSTL	**5.00**	**7.00**	**5.00**	**139.00**	**43.00**	**24.00**			
	> SSTL	0.00	0.00	0.00	0.00	4,437.00	0.00			
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-23	02/02/06	76.40	2.60	<1.0	3.00	244.00	<2.0			326.00
	04/25/06	Not Located								0.00
	07/17/06	1.50	<1.0	<1.0	<3.0	209.00	<2.0			210.50
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-24*	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	32.00	<5.0			32.00
	08/18/03	4.80	<5.0	<1.0	<3.0	**70.00**	<5.0			74.80
	11/19/03	**34.00**	<5.0	<1.0	5.60	**82.00**	<5.0			121.60
	03/11/04	**30.00**	<5.0	<1.0	<3.0	**54.00**	<5.0			84.00
	06/30/04	**63.40**	<2.0	<2.0	10.20	**186.00**	1.20			260.80
	03/21/05	**154.00**	<5.0	<5.0	**15.60**	**233.00**	<10			402.60
	10/14/05	<1.0	<1.0	<1.0	<3.0	**211.00**	**19.00**			230.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**170.00**	**60.50**			230.50
	07/17/06	Not Located								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**32.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	138.00	55.50			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303084

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	9.00	<5.0			9.00
	08/18/03	**170.00**	<5.0	1.40	**110.00**	**140.00**	**42.00**			463.40
	11/19/03	**42.00**	<5.0	<1.0	**47.00**	**44.00**	**6.00**			139.00
	03/11/04	**82.00**	**7.60**	2.90	**120.00**	**62.00**	**11.00**			285.50
	06/30/04	**147.00**	4.50	0.52	**113.00**	**304.00**	**15.30**			584.32
	03/21/05	**82.20**	<5.0	<5.0	**17.10**	**275.00**	<10			374.30
	10/14/05	**32.60**	<5.0	<5.0	<15	**254.00**	**99.80**			386.50
	02/02/06	**15.80**	<1.0	<1.0	<3.0	**366.00**	**12.00**			393.80
	04/25/06	Not Located								0.00
	07/17/06	<1.0	>1.0	<1.0	<3.0	**185.00**	<2.0			185.00
	SSTL	5.00	5.00	5.00	15.00	9.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	176.00	0.00			
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	110.00	<5.0			110.00
	08/18/03	**150.00**	**620.00**	**160.00**	**830.00**	**930.00**	**250.00**			2,940.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	**59.00**	<5.0			59.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.10	<5.0			3.10
	06/30/04	1.20	**7.50**	0.69	5.50	**208.00**	<2.0			222.89
	03/21/05	<2.0	<2.0	<2.0	<6.0	**80.90**	<4.0			80.90
	10/14/05	1.60	**5.60**	<1.0	3.50	**73.10**	<2.0			83.80
	02/02/06	1.30	**5.50**	<1.0	6.10	38.80	<2.0			51.70
	04/25/06	1.10	4.80	<1.0	4.70	**77.70**	**7.50**			95.80
	07/17/06	1.00	4.20	<1.0	4.20	**78.80**	<2.0			88.20
	SSTL	5.00	5.00	5.00	15.00	43.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	35.80	0.00			
TOTAL MASS										302,023.00
TOTAL SSTL MASS		685	112,970	14,980	63,751	402	234		193,022	
INITIAL MASS ABOVE SSTL									6,295,759	
CURRENT MASS ABOVE SSTL									176,726.10	
PERCENT TOTAL MASS REDUCTION ABOVE SSTL									97.19	

- Reported in parts per billion (µg/l)
- SSTL: Site Specific Target Level
- NE = Not Established
- **Bold** denotes concentrations over respective SSTL & RBSL

- * = SSTL Data for Concentration Reduction Calculation for Monitoring WellS MW-1 and MW-24 from 04/26/06 Sampling Date Due to Inability to Locate Said Monitoring Wells During Current Sampling Event.

- For Concentration Reduction Calculation, Results of Non-Detect & Negative Numbers are Treated as Zeros
- Concentration Reduction Calculation is as follows:

$$\frac{[\text{Initial Sample Concentration Above SSTL}] - [\text{Subsequent Sample Concentration Above SSTL}]}{[\text{Initial Sample Concentration Above SSTL}]} \times 100 = \%\ \text{Reduction}$$

APPENDIX C
Field Data Information Sheets for Groundwater Sampling

SEI Environmental

SC Monitoring Well Gauging Data Sheet

Site Name: Circle Stop N Shop **WO#** 303064

Date 7/17/06

Well ID	Total Depth (feet)	Well Dia. (in.)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes
MW-1	49	2			CNF	Can't Find
MW-2	40	2			24.90	
MW-3	40	2			25.65	
MW-4	40	2			28.50	
MW-5	45	2			26.59	Gauge only
MW-6	40	2			23.39	Gauge only Semi-annual (Apr/Oct)
MW-7	34	2			25.10	
MW-8	40	2			27.65	Gauge only Semi-annual (Apr/Oct)
MW-9R	67	2			CNF	Gauge only Semi-annual (Apr/Oct)
MW-10R					44.04	
MW-11	40	2			27.66	Gauge only
MW-12	40	2			25.40	Gauge only
MW-13	62	2			29.34	
MW-14	40	2			22.84	
MW-15	35	2			23.42	
MW-16	35	2			26.06	
MW-17	37	2			—	Gauge only Closed
MW-18	102	2			30.07	
MW-19	37	2			18.69	Gauge only
MW-20	40	2			20.83	Gauge only
MW-21	41	2			—	Gauge only closed
MW-22	46	2			—	Gauge only closed
MW-23	70	2			25.48	
MW-24	70	2			CNF	Can't Find
MW-25	65	2			26.65	
MW-26	100+	2			?	Deeper than tape

Analysis: EPA Method 8260B for BTEX, MTBE, and Naphthalene

2-inch diameter well: Well Volume = (water column) x (0.163 gallon/foot)
4-inch diameter well: Well Volume = (water column) x (0.652 gallon/foot)
Purge amount = Well Volume x 3

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy) 7/17/06

Field Personnel:

General Weather Conditions: Hot

Ambient Air Temperature _____ °C

Quality Assurance

pH Meter
serial no. _____
pH = 4.0 _____
pH = 7.0 _____
pH = 10.0 _____

Conductivity Meter
serial no. _____
standard _____
standard _____
standard _____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-2

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2" ~~feet~~

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1324							
pH (s.u.)	5.05							
Specific Conductivity (umhos/cm)	.068							
Water Temperature (°C)	24.6							
Dissolved Oxygen	-0.03							
PID readings, if required								

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date Time	Received by	Date Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-3

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1358							
pH (s.u.)	5.59							
Specific Conductivity (umhos/cm)	.030							
Water Temperature (°C)	23.1 ~~0.14~~							
Dissolved Oxygen	0.14							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-4

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1412							
pH (s.u.)	8.24							
Specific Conductivity (µmhos/cm)	.158							
Water Temperature (°C)	20.1							
Dissolved Oxygen	0.04							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-7

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1435							
pH (s.u.)	7.61							
Specific Conductivity (µmhos/cm)	.108							
Water Temperature (°C)	22.1							
Dissolved Oxygen	0.13							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yyyy) 7/7/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter
serial no. ____
pH 4.0 ____
pH 7.0 ____
pH 10.0 ____

Conductivity Meter
serial no. ____
standard ____
standard ____
standard ____

Chain of Custody

Relinquished by ____ Date/Time ____ Received by ____ Date/Time ____

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-10R

Water Supply Well Public ____ Private ____

Monitoring Well Diamter (D): ____ feet

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 Ground Water (DGW) ____ feet
Total Well Depth (TWD) ____ feet
Length of the water column (LWC = TWD-DGW) ____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = ____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling ____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Cumulative Volume Purged (gallons)								
Time (military)	1340							
pH (s.u.)	6.15							
Specific Conductivity (mmhos/cm)	.087							
Water Temperature (°C)	20.9 ~~0.15~~							
Dissolved Oxygen	0.15							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-13

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1422							
pH (s.u.)	7.61							
Specific Conductivity (µmhos/cm)	.279							
Water Temperature (°C)	19.8							
Dissolved Oxygen	0.14							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-14

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1443							
pH (s.u.)	7.26							
Specific Conductivity (µmhos/cm)	0.67							
Water Temperature (°C)	22.0							
Dissolved Oxygen	0.13							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop

Site ID # 05981 Moni

Water Supply Well Public

Monitoring Well Diamter (D):

Conversion Factor (C): 3.14 X (D

*Free Product Thickness

Depth to Ground Water (DGW)

Total Well Depth (TWD)

Length of the water column (LWC =

1 casing volume (CV = LWC X C) =

3 casing volume (3 X CV) =

Total Volume of Water Purged Bef

* If fee product is present over 1/8 incl

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5
Time (military)	1520					
pH (s.u.)	6.94					
Specific Conductivity (µmhos/cm)	.024					
Water Temperature (°C)	22.5					
Dissolved Oxygen	0.13					
PID readings, if required						

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel: ____

General Weather Conditions: ____

Ambient Air Temperature: ____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-18

Water Supply Well Public ____ Private ____

Monitoring Well Diamter (D): ____ feet

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 Ground Water (DGW) ____ feet
Total Well Depth (TWD) ____ feet
Length of the water column (LWC = TWD-DGW) ____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = ____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling ____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1419							
pH (s.u.)	7.98							
Specific Conductivity (µmhos/cm)	.147							
Water Temperature (°C)	20.0							
Dissolved Oxygen	0.19							
PID readings, if required								

Remarks: ____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06
Field Personnel: ____
General Weather Conditions: ____
Ambient Air Temperature: ____ °C

Quality Assurance

pH Meter			Conductivity Meter	
serial no.	____	____	serial no.	____
pH 4.0	____	____	standard	____
pH 7.0	____	____	standard	____
pH 10.0	____	____	standard	____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064
Site ID = 05981 Monitoring Well #: MW-23
Water Supply Well Public ____ Private ____

Monitoring Well Diameter (D): 2" ~~feet~~

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 Ground Water (DGW) ____ feet
Total Well Depth (TWD) ____ feet
Length of the water column (LWC = TWD-DGW) ____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = ____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling ____ gals
* If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.40							
Specific Conductivity (mmhos/cm)	.077							
Water Temperature (°C)	22.6							
Dissolved Oxygen	0.15							
PID readings, if applicable								

Remarks: ____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-25

Water Supply Well: Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If free product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1351							
pH (s.u.)	6.66							
Specific Conductivity (µmhos/cm)	.110							
Water Temperature (°C)	22.9							
Dissolved Oxygen	0.14							
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 7/17/06

Field Personnel:

General Weather Conditions:

Ambient Air Temperature: °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date. Time	Received by	Date.Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-26

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If the product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1400	1407						
pH (s.u.)	~~6.55~~	10.75						
Specific Conductivity (µmhos/cm)	~~.031~~	1.98						
Water Temperature (°C)	~~28.6~~	20.6						
Dissolved Oxygen	~~0.10~~	0.40						
PID readings, if required								

Remarks:

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

07/28/06

Technical Report for

SEI-Columbia, SC

Circle Stop N Shop; Leesville, SC

303064

Accutest Job Number: F42242

Sampling Date: 07/17/06

Report to:

SEI Environmental-Raleigh

cboggs@sei-environmental.com

ATTN: Chris Boggs

Total number of pages in report: 21

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

ACCUTEST LABORATORIES 50 YEARS 1956 2006

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sample Summary

SEI-Columbia, SC

Job No: F42242

Circle Stop N Shop; Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F42242-1	07/17/06	13:24 HP	07/18/06	AQ	Ground Water	MW-2
F42242-2	07/17/06	13:31 HP	07/18/06	AQ	Ground Water	MW-23
F42242-3	07/17/06	13:40 HP	07/18/06	AQ	Ground Water	MW-10R
F42242-4	07/17/06	13:51 HP	07/18/06	AQ	Ground Water	MW-25
F42242-5	07/17/06	13:58 HP	07/18/06	AQ	Ground Water	MW-3
F42242-6	07/17/06	14:07 HP	07/18/06	AQ	Ground Water	MW-26
F42242-7	07/17/06	14:12 HP	07/18/06	AQ	Ground Water	MW-4
F42242-8	07/17/06	14:19 HP	07/18/06	AQ	Ground Water	MW-18
F42242-9	07/17/06	14:22 HP	07/18/06	AQ	Ground Water	MW-13
F42242-10	07/17/06	14:35 HP	07/18/06	AQ	Ground Water	MW-7
F42242-11	07/17/06	14:43 HP	07/18/06	AQ	Ground Water	MW-14
F42242-12	07/17/06	15:20 HP	07/18/06	AQ	Ground Water	MW-15
F42242-13	07/17/06	15:28 HP	07/18/06	AQ	Ground Water	MW-16

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- **Chain of Custody**

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #: F42242
Accutest Control #:

Client Information

Name: SEI Environmental
Address: 5100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28206
Send Report to:
Phone #: 704-598-6824

Facility Information

Project Name: Circle Stop N Shop
Location:
Project No.:
FAX #:

Analytical Information

VOC 8260 BTXMN

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation HCl	Preservation MeOH	Preservation NaHSO4	Preservation Other	VOC 8260 BTXMN
MW-2	7/17/06	1324	HP, Z	GW	3	X				X
MW-23	7/17/06	1331	↓	↓	↓	↓				X
MW-10R	↓	1340								X
MW-25		1351								X
MW-3		1358								X
MW-26		1407								X
MW-4		1412								X
MW-18		1419								X
MW-13		1428								X
MW-7	↓	1435	↓	↓	↓	↓				X

Turnaround Information

- ☐ 21 Day Standard
- ☐ 14 Day
- ☐ 7 Days EMERGENCY
- ☐ Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ Disk Deliverable
- ☐ Other (Specify)
- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ ASP Category B
- ☐ State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	7/17/06 1830	1 [signature]	2 [signature]	7-18-06 9:00	2 [signature]
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Cooler #	Preserved where applicable ☐	On Ice: ☐ 2.8

Revised 09/2005 RS

F42242: Chain of Custody
Page 1 of 3

ACCUTEST Laboratories
F42242

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #: F42242
Accutest Control #:

Client Information

Name: SEI Environmental
Address: 5100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28208
Send Report to:
Phone #: 704-598-8824

Facility Information

Project Name: Circle Stop N Shop
Location:
Project No.:
FAX #:

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Ice	HCl	HNO3	NaOH	None	VOC 8260 BTEXN
MW-14	7/17/06	1443	HP, Z	GW	3	X					X
MW-15	↓	1520	↓	↓	↓	↓					X
MW-16	↓	1508	↓	↓	↓	↓					X

Turnaround Information

- ☐ 21 Day Standard
- ☐ 14 Day
- ☐ 7 Days EMERGENCY
- ☐ Other _____ (Days)

Approved By:

RUSH TAT is for FAX date
Date unless previously approved.

Data Deliverable Information

- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ Disk Deliverable
- ☐ Other (Specify)
- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ AEP Category B
- ☐ State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler	Date Time	Received By	Relinquished By	Date Time	Received By
1 HPF	7/17/06 1830	1 Fx	2 Fx	7-18-06 9:00	2 [illegible]
3		3	4		4
5		5	Cooler Temp	Preservation where applicable ☐	On Ice ☐

Revised 09/2005 RS

F42242: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F42242 CLIENT: SEI PROJECT: Circle Stop 'n Shop

DATE/TIME RECEIVED: 7-18-06/ 9:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.8

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8574-8737-9442

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [X] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [X] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DON'T MATCH LABEL
- [ ] ID'S ON COC DON'T MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OR LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE: [signature] 7-18-06 TECHNICIAN SIGNATURE/DATE:

ASED03/27/06

3.1 3

F42242: Chain of Custody
Page 3 of 3

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 5100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28206
Send Report to:
Phone #: 704-596-8624

Facility Information

Project Name: Circle Stop N Shop
Location:
Project No.:
FAX #:

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: VOC	NaOH	HNO3	H2SO4	None	VG8260 BTXMN
MW-2	7/17/06	1324	HP, 2	GW	3	X					X
MW-23	7/17/06	1331									X
MW-10R		1340									X
MW-25		1351									X
MW-3		1358									X
MW-26		1407									X
MW-4		1412									X
MW-18		1419									X
MW-13		1428									X
MW-7		1435									X

Turnaround Information

- ☐ 21 Day Standard — Approved By:
- ☐ 14 Day
- ☐ 7 Days *EMERGENCY*
- ☐ Other _____ (Days)

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ Disk Deliverable
- ☐ Other (Specify) _____
- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ ASP Category B
- ☐ State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished By Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 HP	7/17/06 1830	1	2		2
Relinquished By Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished By Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐

Revised 09/2005 RS

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 5100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28206
Send Report to:
Phone #: 704-596-8624

Facility Information

Project Name: Circle Stop N Shop
Location:
Project No.:
FAX #:

Analytical Information

V8260 BTXMN

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: VOC	NaOH	HNO3	H2SO4	None	V8260 BTXMN
MW-14	7/17/06	1443	HP Z	GW	3	X					X
MW-15	↓	1520	↓	↓	↓	↓					X
MW-16		1528	↓								X

Turnaround Information

- 21 Day Standard
- 14 Day
- 7 Days EMERGENCY
- Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- NJ Reducad
- NJ Full
- FULL CLP
- Disk Deliverable
- Other (Specify)
- Commercial "A"
- Commercial "B"
- ASP Category B
- State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 HP Z	7/17/06 1830	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐

Revised 09/2005 RS

SEI
Environmental, Inc.

130 Penmarc Drive
Suite 108
Raleigh, NC 27603-2470
800.474.7049
919.832.2535
Fax 832.5914

August 09, 2006

Mr. John Surber, Hydrogeologist
South Carolina Department of Health and Environmental Control
Assessment & Corrective Action Section, Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

RECEIVED
AUG 14 2006
UNDERGROUND STORAGE TANK PROGRAM

Dear Mr. Surber:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the April 25, 2006, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

Brandon D. Jolly
Staff Scientist

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

UST PROGRAM
DOCKETING # 25 Tech

SEI
Environmental, Inc

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
February 2006 through April 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

PREPARED BY:

SEI ENVIRONMENTAL, INC.
130 Penmarc Drive, Suite 108
Raleigh, North Carolina 27603
UST Site Rehabilitation Contractor No. 354

August 09, 2006

RECEIVED
AUG 14 2006
UNDERGROUND STORAGE
TANK PROGRAM

SEI
Environmental, Inc

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date: August 09, 2006
Monitoring Report Number: 9
For Period Covering: February 02, 2006 to April 25, 2006
Facility Name : Circle Stop-N-Shop
Street Address: 3287 Columbia Highway
UST Permit Number: 05981
City: Leesville, South Carolina
County: Saluda
Zip Code: 29070-7216
Latitude: N 34°02'28.08"
Longitude: W 81°32'53.78"

Submitted by UST Owner/Operator:

Name: Steve & Joan Boozer
Company: Property Owners
Address: 3287 Columbia Highway
City: Leesville State: SC
Zip Code: 29070-7216
Telephone: (803) 532-4119
SEI Project Number: 303064

Prepared by Consultant/Contractor:

Name: Chris L. Boggs
Company: SEI Environmental, Inc.
Address: 130 Penmarc Drive, Suite 108
City: Raleigh State: NC
Zip Code: 27603
Telephone: (919) 832-2535
UST Site Rehabilitation Contractor No. 354

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Chris L. Boggs
SC Reg. No. 2101
Signature:
Date: 8/9/06

CHRIS L. BOGGS REGISTERED 2101

RECEIVED
AUG 14 2006
UNDERGROUND STORAGE TANK PROGRAM

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LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a Licensed Geologist registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by AccuTest Laboratories.

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AUG 14 2006

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1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event
- April 25, 2006 – Groundwater Sampling Event

On April 25, 2006, twelve groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On April 25, 2006, groundwater samples were collected from twelve (MW-1through MW-4, MW-7, MW-10R, MW-13 through MW-16, MW-18, MW-24, and MW-26) of the twenty-six existing groundwater monitoring wells. Three (MW-10R, MW-23, and MW-25) monitoring wells were not sampled because they were not located. Eight (MW-5, MW-6, MW-8, MW-9R, MW-11, MW-12, MW-17, and MW-19 through MW-22) monitoring wells are only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in Appendix A depicts the locations of these wells.

OK'd by JDS 10/12/04

Nineteen groundwater monitoring wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in

determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was not detected.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient to the north of 0.018 feet per foot between monitoring wells MW-7 and MW-16. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

All monitoring wells were purged prior to sampling by removing a minimum of three well volumes of water via hand bailing with a new, disposable, polyethylene bailer or until groundwater quality data stabilized, or the well went dry. This purging process produced approximately 140 gallons of petroleum contaminated water. The purge water was disposed of at a South Carolina licensed facility. Appendix C contains Field Data Information Sheets for Groundwater Sampling.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene).

3.0 LABORATORY ANALYTICAL RESULTS

CoCs were detected in eight (MW-1, MW-2, MW-4, MW-7, MW-13, MW-18, MW-24, and MW-26) of the twelve monitoring wells sampled at concentrations exceeding their respective SSTL. Figure 4 in Appendix A is a site map presenting monitoring well locations and their CoC concentrations. Table 2 in Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs) have been designated for twenty (MW-1 through MW-8, MW-9R, MW-10R, MW-11 through MW-18, MW-24, MW-25,

and MW-26) monitoring wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix D.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs. Data for the February 02, 2006, sampling event was used in the calculations for monitoring wells MW-10R, MW-23, and MW-25 due to the inability to locate said wells during the April 25, 2006, groundwater sampling event.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

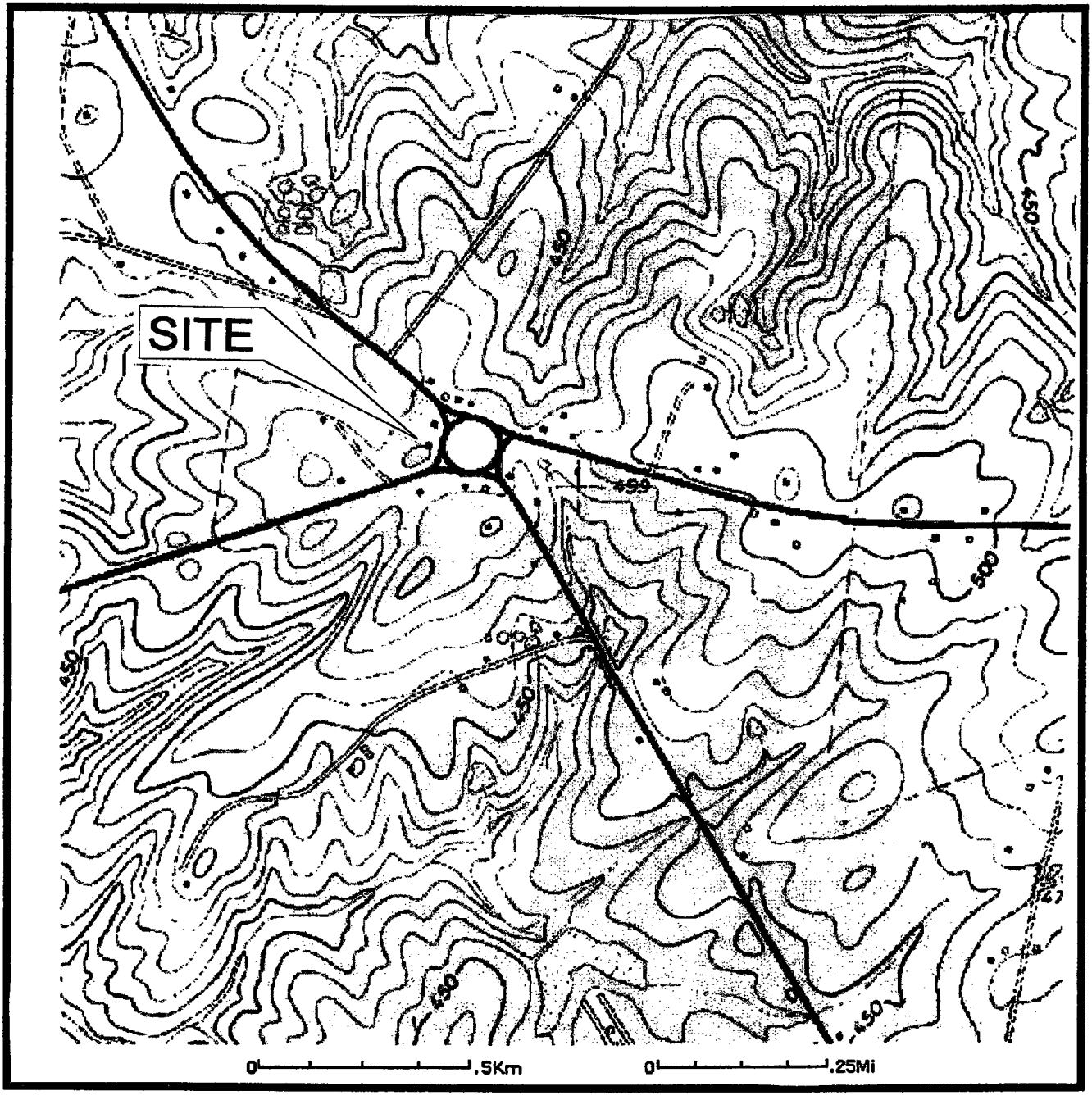
Using the current analytical results, the concentration reduction is 98.72%. Table 3 in Appendix B summarizes SSTL concentration reduction calculations.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the north with a hydraulic gradient of 0.018 feet per foot. CoC were detected in eight of the thirteen monitoring wells sampled above their respective SSTLs. The percent concentration reduction has been calculated at 98.72%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. The next sampling event is scheduled for July 2006.

APPENDIX A
FIGURES

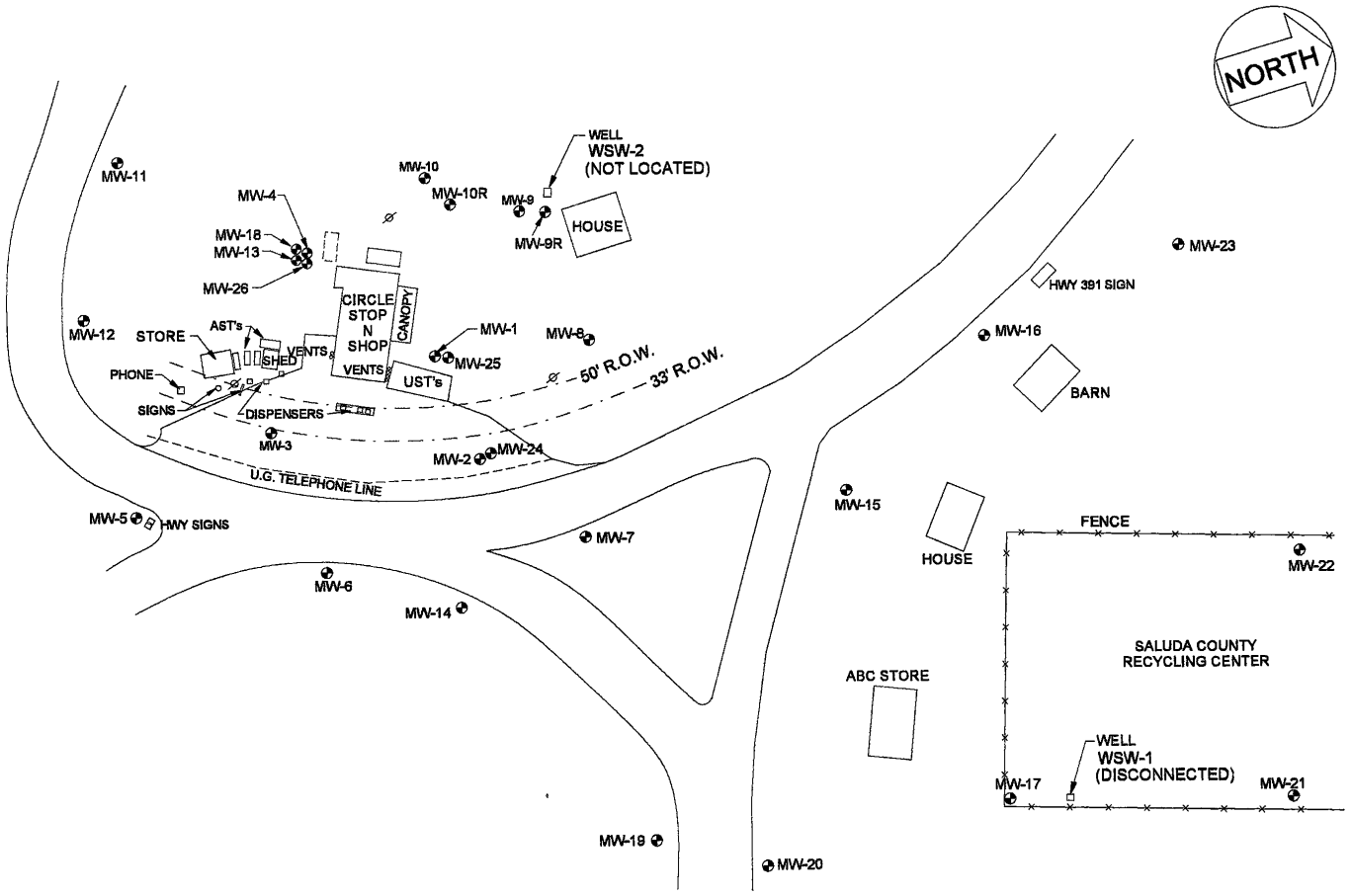
7.5 MINUTE SERIES(TOPOGRAPHIC)



SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 10/10/05
DWG #	DRAWN BY: JCJ



LEGEND:

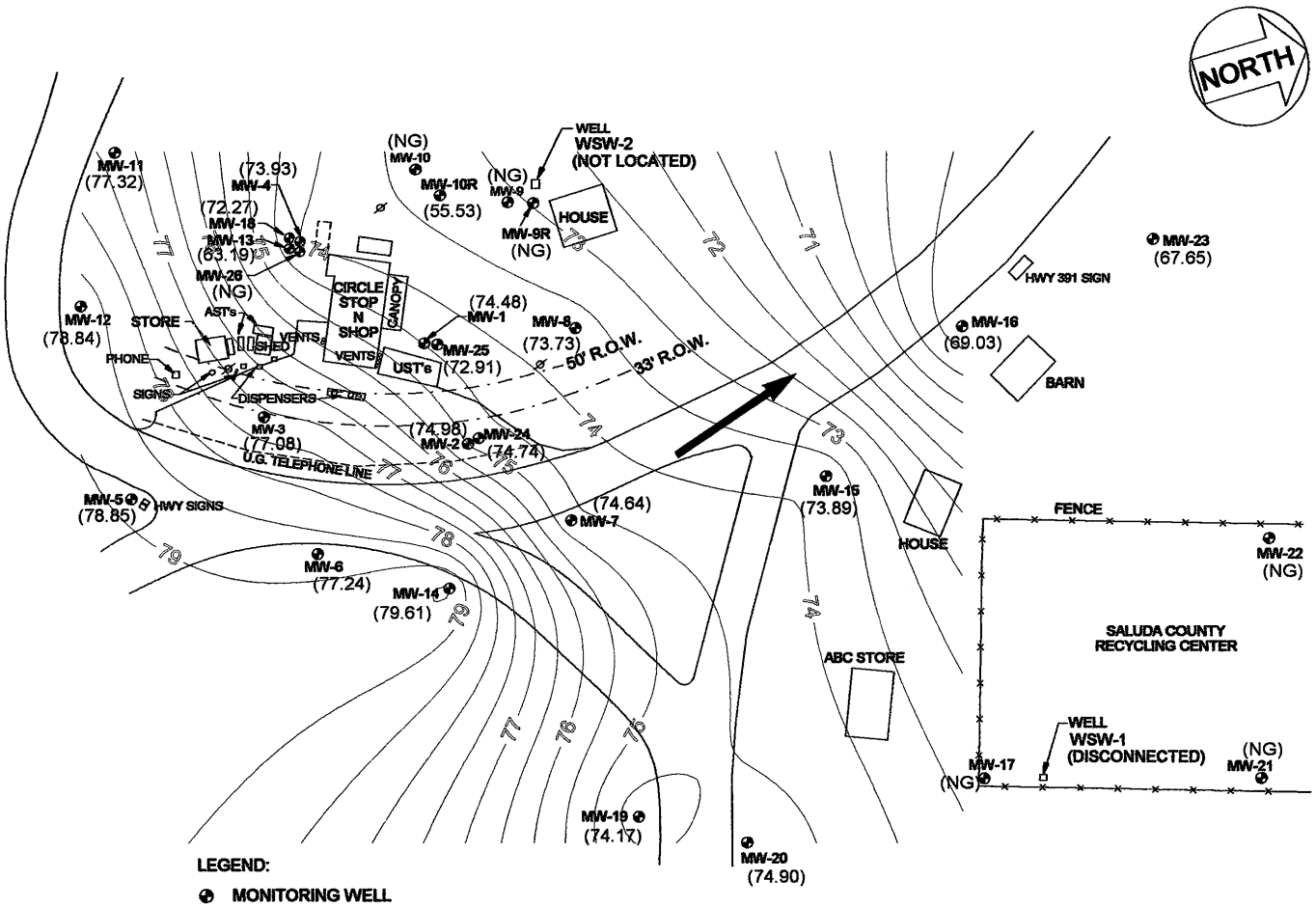
- MONITORING WELL
- POWER POLE

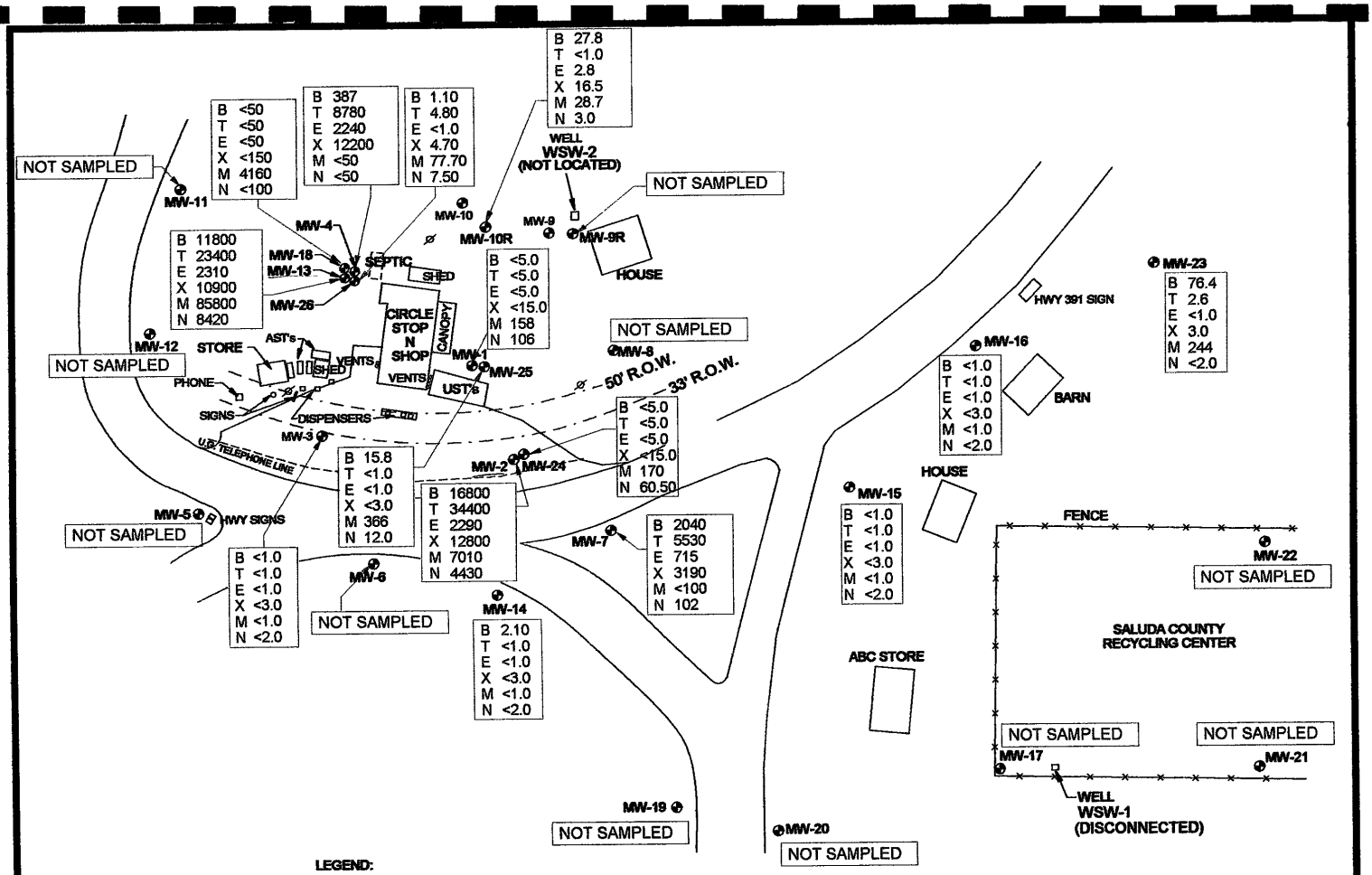
0 40 80 FT.

SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 3/22/05
DWG #CS00642G	DRAWN BY: JCJ


NORTH
WELL
WSW-2
(NOT LOCATED)
MW-11
(77.32)
(73.93)
MW-4
(NG)
MW-10
MW-10R
(55.53)
(NG)
MW-9
MW-9R
(NG)
HOUSE
(72.27)
MW-18
MW-13
(63.19)
MW-26
(NG)
CIRCLE
STOP
N
SHOP
CANOPY
VENTS
UST's
(74.48)
MW-1
MW-25
(72.91)
MW-8
(73.73)
50' R.O.W.
33' R.O.W.
MW-12
(78.84)
STORE
AST's
SHED
PHONE
SIGNS
DISPENSERS
MW-3
(77.08)
(74.98)
MW-2
MW-24
(74.74)
U.G. TELEPHONE LINE
MW-5
(78.85)
HWY SIGNS
(74.64)
MW-7
MW-6
(77.24)
MW-14
(79.61)
MW-15
(73.89)
HOUSE
FENCE
MW-22
(NG)
SALUDA COUNTY
RECYCLING CENTER
ABC STORE
WELL
WSW-1
(DISCONNECTED)
MW-17
(NG)
(NG)
MW-21
MW-19
(74.17)
MW-20
(74.90)
MW-23
(67.65)
HWY 391 SIGN
MW-16
(69.03)
BARN
LEGEND:
MONITORING WELL
POWER POLE
(XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT.
NG = NOT GAUGED
NL = NOT LOCATED
75.00
GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
0 40 80 FT.
NOTE: WELLS GAUGED 4/25/06.
SEI Environmental, Inc.
FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP, 4/25/06
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC
WO #303-064
DWG #CS00643J
DATE: 2/2/06
DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 4: GROUNDWATER COC SITE MAP, 04/25/06
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 2/2/06
DWG #CS00644J	DRAWN BY: JCJ

APPENDIX B
TABLES

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop N Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-1	08/18/03	21.39			99.59	78.20
	11/17/03	23.34				76.25
	03/11/04	23.96				75.63
	06/30/04	25.22				74.37
	03/21/05	24.12				75.47
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	25.11				74.48
MW-2	08/18/03	19.82			97.68	77.86
	11/17/03	21.39				76.29
	03/11/04	22.38				75.30
	06/30/04	23.49				74.19
	03/21/05	23.47				74.21
	10/14/05	24.41				73.27
	02/02/06	24.38				73.30
	04/25/06	22.70				74.98
MW-3	08/18/03	18.04			99.53	81.49
	11/17/03	22.14				77.39
	03/11/04	20.98				78.55
	06/30/04	24.08				75.45
	03/21/05	22.05				77.48
	10/14/05	25.35				74.18
	02/02/06	23.48				76.05
	04/25/06	22.45				77.08
MW-4	08/18/03	23.31			100.28	76.97
	11/17/03	25.11				75.17
	03/11/04	25.58				74.70
	06/30/04	27.13				73.15
	03/21/05	27.01				73.27
	10/14/05	28.16				72.12
	02/02/06	27.69				72.59
	04/25/06	26.35				73.93
MW-5	08/18/03	15.89			100.88	84.99
	11/17/03	21.84				79.04
	03/11/04	19.61				81.27
	06/30/04	22.30				78.58
	03/21/05	20.70				80.18
	10/14/05	24.40				76.48
	02/02/06	22.43				78.45
	04/25/06	22.03				78.85
MW-6	08/18/03	16.31			97.43	81.12
	11/17/03	19.13				78.30
	03/11/04	18.62				78.81
	06/30/04	21.84				75.59
	03/21/05	19.78				77.65
	10/14/05	23.13				74.30
	02/02/06	21.15				76.28
	04/25/06	20.19				77.24

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop N Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-7	08/18/03	19.78			97.26	77.48
	11/17/03	22.14				75.12
	03/11/04	22.38				74.88
	06/30/04	23.78				73.48
	03/21/05	23.31				73.95
	10/14/05	24.75				72.51
	02/02/06	24.29				72.97
	04/25/06	22.62				74.64
MW-8	08/18/03	21.72			98.70	76.98
	11/17/03	24.61				74.09
	03/11/04	24.30				74.40
	06/30/04	26.21				72.49
	03/21/05	25.25				73.45
	10/14/05	24.78				73.92
	02/02/06	26.39				72.31
	04/25/06	24.97				73.73
MW-9R	08/18/03	30.33			99.68	69.35
	11/17/03	32.11				67.57
	03/11/04	33.15				66.53
	06/30/04	34.62				65.06
	03/21/05	36.35				63.33
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	Well Not Located				N/A
MW-10R	08/18/03	Well Not Located			100.22	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	42.57				57.65
	02/02/06	44.69				55.53
	04/25/06	Well Not Located				N/A
MW-11	08/18/03	19.96			100.47	80.51
	11/17/03	21.45				79.02
	03/11/04	23.01				77.46
	06/30/04	25.96				74.51
	03/21/05	23.56				76.91
	10/14/05	27.31				73.16
	02/02/06	25.79				74.68
	04/25/06	23.15				77.32
MW-12	08/18/03	17.51			100.62	83.11
	11/17/03	21.51				79.11
	03/11/04	19.95				80.67
	06/30/04	23.62				77.00
	03/21/05	21.06				79.56
	10/14/05	25.18				75.44
	02/02/06	22.43				78.19
	04/25/06	21.78				78.84

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop N Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-13	08/18/03	24.11			100.22	76.11
	11/17/03	26.78				73.44
	03/11/04	26.73				73.49
	06/30/04	27.79				72.43
	03/21/05	28.18				72.04
	10/14/05	28.88				71.34
	02/02/06	32.46				67.76
	04/25/06	27.03				73.19
MW-14	08/18/03	15.29			96.30	81.01
	11/17/03	19.35				76.95
	03/11/04	18.18				78.12
	06/30/04	21.22				75.08
	03/21/05	19.20				77.10
	10/14/05	22.55				73.75
	02/02/06	20.69				75.61
	04/25/06	16.69				79.61
MW-15	08/18/03	17.51			94.59	77.08
	11/17/03	20.39				74.20
	03/11/04	20.07				74.52
	06/30/04	21.95				72.64
	03/21/05	21.02				73.57
	10/14/05	23.10				71.49
	02/02/06	22.12				72.47
	04/25/06	20.70				73.89
MW-16	08/18/03	Well Not Located			92.01	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	23.86				68.15
	03/21/05	22.72				69.29
	10/14/05	26.00				66.01
	02/02/06	24.21				67.80
	04/25/06	22.98				69.03
MW-17	08/18/03	14.26			91.65	77.39
	11/17/03	16.51				75.14
	03/11/04	Well Not Located				N/A
	06/30/04	17.42				74.23
	03/21/05	16.85				74.80
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
MW-18	08/18/03	24.82			100.05	75.23
	11/17/03	21.97				78.08
	03/11/04	27.00				73.05
	06/30/04	28.50				71.55
	03/21/05	29.10				70.95
	10/14/05	29.34				70.71
	02/02/06	29.23				70.82
	04/25/06	27.78				72.27

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop N Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-19	08/18/03	11.21			94.32	83.11
	11/17/03	16.22				78.10
	03/11/04	Well Not Located				N/A
	06/30/04	17.47				76.85
	03/21/05	16.31				78.01
	10/14/05	19.44				74.88
	02/02/06	17.88				76.44
	04/25/06	20.15				74.17
MW-20	08/18/03	12.36			94.88	82.52
	11/17/03	17.18				77.70
	03/11/04	Well Not Located				N/A
	06/30/04	18.98				75.90
	03/21/05	16.40				78.48
	10/14/05	20.55				74.33
	02/02/06	18.27				76.61
	04/25/06	19.98				74.90
MW-21	08/18/03	10.17			84.61	74.44
	11/17/03	14.41				70.20
	03/11/04	Well Not Located				N/A
	06/30/04	16.34				68.27
	03/21/05	14.51				70.10
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
MW-22	08/18/03	10.61			84.71	74.10
	11/17/03	17.79				66.92
	03/11/04	Well Not Located				N/A
	06/30/04	21.31				63.40
	03/21/05	17.42				67.29
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
MW-23	08/18/03	Well Not Located			92.05	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	Well Not Located				N/A
	02/02/06	24.40				67.65
	04/25/06	Well Not Located				N/A
MW-24	08/18/03	19.76			97.74	77.98
	11/17/03	22.42				75.32
	03/11/04	22.44				75.30
	06/30/04	24.04				73.70
	03/21/05	23.35				74.39
	10/14/05	25.15				72.59
	02/02/06	Well Not Located				N/A
	04/25/06	23.00				74.74

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop N Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-25	08/18/03	21.94			99.63	77.69
	11/17/03	24.49				75.14
	03/11/04	24.44				75.19
	06/30/04	26.08				73.55
	03/21/05	27.75				71.88
	10/14/05	26.70				72.93
	02/02/06	26.72				72.91
	04/25/06	Well Not Located				N/A
MW-26	08/18/03	100+			100.22	N/M*
	11/17/03	90.02				10.20
	03/11/04	100+				N/M*
	06/30/04	100+				N/M*
	03/21/05	100+				N/M*
	10/14/05	100+				N/M*
	02/02/06	100+				N/M*
	04/25/06	100+				N/M*

N/A = Not Applicable
N/M* = Not Measured Due To Depth of Well Exceeding 100 feet. Measuring Tape Ends at 100 feet.
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) — where applicable

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-1	10/01/02 & 12/19/02	**2,300.00**	**29,000.00**	3,300.00	18,900.00	43.00	27.00			53,570.00
	08/18/03	**1,700.00**	1,300.00	2,600.00	13,000.00	**2,200.00**	**1,200.00**			22,000.00
	11/19/03	**1,900.00**	17,000.00	3,100.00	18,000.00	**1,700.00**	**680.00**			42,380.00
	03/11/04	**1,800.00**	14,000.00	3,300.00	16,000.00	**1,600.00**	**1,200.00**			37,900.00
	06/30/04	**1,640.00**	14,200.00	**3,490.00**	**20,200.00**	**1,770.00**	**380.00**			41,680.00
	03/21/05	**1,210.00**	8,540.00	2,440.00	13,100.00	**1,430.00**	<400			26,720.00
	10/14/05	Not Located								0.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**158.00**	**106.00**			264.00
	SSTL	**65.00**	**24,700.00**	**3,300.00**	**18,900.00**	**43.00**	**27.00**			
	> SSTL	0.00	0.00	0.00	0.00	115.00	79.00			
MW-2	10/01/02 & 12/19/02	**10,000.00**	**26,000.00**	2,600.00	9,400.00	**1,300.00**	**520.00**			49,820.00
	08/18/03	**9,300.00**	22,000.00	2,200.00	**12,000.00**	**1,900.00**	**5,000.00**			52,400.00
	11/19/03	**12,000.00**	**29,000.00**	**3,000.00**	**15,000.00**	**5,100.00**	**2,500.00**			66,600.00
	03/11/04	**8,400.00**	21,000.00	2,100.00	**12,000.00**	**3,400.00**	**2,500.00**			49,400.00
	06/30/04	**9,890.00**	**29,900.00**	2,460.00	**14,400.00**	**3,510.00**	**1,000.00**			61,160.00
	03/21/05	**9,970.00**	21,800.00	2,060.00	**12,400.00**	**4,620.00**	<1,000			50,850.00
	10/14/05	**11,600.00**	**30,200.00**	2,180.00	**12,800.00**	**5,360.00**	<1,000			62,140.00
	02/02/06	**16,200.00**	**33,700.00**	2,450.00	**14,000.00**	**6,400.00**	<1,000			72,750.00
	04/25/06	**16,800.00**	**34,400.00**	2,290.00	**12,800.00**	**7,010.00**	**4,430.00**			77,730.00
	SSTL	**120.00**	**24,700.00**	**2,600.00**	**9,400.00**	**43.00**	**27.00**			
	> SSTL	16,680.00	9,700.00	0.00	3,400.00	6,967.00	4,403.00			
MW-3	10/01/02 & 12/19/02	85.00	93.00	5.00	102.00	5.00	5.00			295.00
	08/18/03	1.60	<5.0	<1.0	<3.0	<1.0	<5.0			1.60
	11/19/03	31.00	<5.0	1.30	9.00	<1.0	<5.0			41.30
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	72.30	4.10	<2.0	19.30	<2.0	<2.0			95.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	75.40	2.80	2.30	12.10	<1.0	<2.0			92.60
	02/02/06	1.60	<1.0	<1.0	<3.0	<1.0	<2.0			1.60
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	SSTL	**85.00**	**93.00**	**5.00**	**102.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-4	10/01/02 & 12/19/02	**5,500.00**	4,700.00	3,900.00	17,900.00	**6,400.00**	**590.00**			38,990.00
	08/18/03	**1,000.00**	15,000.00	2,900.00	14,000.00	**100.00**	**500.00**			33,500.00
	11/19/03	**1,200.00**	14,000.00	2,700.00	14,000.00	**4,900.00**	**5,000.00**			41,800.00
	03/11/04	**540.00**	8,000.00	1,000.00	8,400.00	**250.00**	**1,200.00**			19,390.00
	06/30/04	**884.00**	20,100.00	2,750.00	16,000.00	**1,000.00**	**1,000.00**			41,734.00
	03/21/05	**4,010.00**	**25,300.00**	3,020.00	16,500.00	<500	<1,000			48,830.00
	10/14/05	**1,450.00**	20,000.00	3,070.00	16,000.00	<500	<1,000			40,520.00
	02/02/06	**2,110.00**	22,400.00	3,240.00	17,700.00	<500	<1,000			45,450.00
	04/25/06	**387.00**	8,780.00	2,240.00	12,200.00	<50	<50			23,607.00
	SSTL	**110.00**	**24,700.00**	**3,900.00**	**17,900.00**	**43.00**	**27.00**			
	> SSTL	277.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	**20.00**	<1.0	<3.0	<1.0	<5.0			20.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-7	10/01/02 & 12/19/02	**226,000.00**	**301,000.00**	**280,000.00**	**278,000.00**	**5,110,000.00**	**2,000.00**			6,197,000.00
	08/18/03	**3,900.00**	23,000.00	6,600.00	**37,000.00**	**500.00**	**2,500.00**			73,500.00
	11/19/03	**5,000.00**	15,000.00	**3,800.00**	**19,000.00**	**100.00**	**770.00**			43,670.00
	03/11/04	**6,200.00**	12,000.00	**3,300.00**	**15,000.00**	**500.00**	**2,500.00**			39,500.00
	06/30/04	**5,340.00**	18,400.00	**2,990.00**	**15,200.00**	**1,000.00**	**1,000.00**			43,930.00
	03/21/05	**7,710.00**	17,200.00	**2,820.00**	**13,400.00**	<500	<1,000			41,130.00
	10/14/05	**4,660.00**	12,600.00	1,730.00	7,610.00	<200	<400			26,600.00
	02/02/06	**9,810.00**	20,500.00	2,450.00	**10,800.00**	<200	<400			43,560.00
	04/25/06	**2,040.00**	5,530.00	715.00	3,190.00	<100	**102.00**			11,577.00
	SSTL	**120.00**	**24,700.00**	**2,600.00**	**9,400.00**	**43.00**	**27.00**			
	> SSTL	1,920.00	0.00	0.00	0.00	0.00	0.00			
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.50	<5.0			1.50
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.70	<2.0			1.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.90	<2.0			1.90
	10/14/05	Not Located								0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	10/14/05	**73.30**	1.60	**5.60**	**57.90**	**38.20**	**10.40**			187.00
	02/02/06	**27.80**	<1.0	2.80	**16.50**	**28.70**	3.00			78.80
	04/25/06	Not Located								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	22.80	0.00	0.00	1.50	23.70	0.00			
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-13	10/01/02 & 12/19/02	**7,400.00**	14,000.00	2,500.00	7,700.00	**69,000.00**	**290.00**			100,890.00
	08/18/03	**9,500.00**	12,000.00	2,000.00	5,700.00	**7,600.00**	**5,000.00**			41,800.00
	11/19/03	**4,800.00**	6,500.00	1,000.00	5,400.00	**51,000.00**	**2,500.00**			71,200.00
	03/11/04	**9,500.00**	9,500.00	2,200.00	**7,800.00**	**93,000.00**	**1,200.00**			123,200.00
	06/30/04	**2,770.00**	4,000.00	**4,000.00**	**12,000.00**	**77,100.00**	**4,000.00**			103,870.00
	03/21/05	**11,600.00**	**13,900.00**	2,360.00	6,720.00	**104,000.00**	<4,000			138,580.00
	10/14/05	**10,600.00**	**20,500.00**	2,200.00	**6,870.00**	**88,100.00**	<2,000			130,270.00
	02/02/06	**14,300.00**	**24,900.00**	**2,710.00**	**10,600.00**	**79,400.00**	<2,000			131,910.00
	04/25/06	**11,800.00**	**23,400.00**	2,310.00	**10,900.00**	**85,800.00**	**8,420.00**			142,630.00
	SSTL	**110.00**	**14,000.00**	**2,500.00**	**7,700.00**	**43.00**	**27.00**			
	> SSTL	11,690.00	9,400.00	0.00	3,200.00	0.00	8,393.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	**8.80**	**7.80**	2.20	12.00	**16.00**	<5.0			46.80
	11/19/03	3.70	<5.0	<1.0	3.60	<1.0	<5.0			7.30
	03/11/04	1.20	<5.0	<1.0	<3.0	<1.0	<5.0			1.20
	06/30/04	4.50	<2.0	<2.0	<6.0	<2.0	<2.0			4.50
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	**5.90**	<1.0	<1.0	<3.0	<1.0	<2.0			5.90
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	2.10	<1.0	<1.0	<3.0	<1.0	<1.0			2.10
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	1.30	<5.0	<1.0	<3.0	**9.80**	<5.0			11.10
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0			0.74
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	Not Sampled								0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Not Sampled								0.00
	02/02/06	Well Closed								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-18	10/01/02 & 12/19/02	5.00	7.00	5.00	139.00	**2,300.00**	24.00			2,480.00
	08/18/03	**370.00**	**9.90**	**6.00**	**180.00**	**520.00**	**40.00**			1,125.90
	11/19/03	**210.00**	**50.00**	**10.00**	110.00	**1,700.00**	**50.00**			2,130.00
	03/11/04	**170.00**	**25.00**	<5.0	54.00	**840.00**	**25.00**			1,114.00
	06/30/04	3.50	<2.0	<2.0	15.60	**4,420.00**	<2.0			4,439.10
	03/21/05	**121.00**	<50	<50	<150	**1,970.00**	<100			2,091.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	**3,270.00**	<2.0			3,270.00
	02/02/06	<50	<50	<50	<150	<50	<100			0.00
	04/25/06	<50	<50	<50	<150	**4,160.00**	<50			4,160.00
	SSTL	**5.00**	**7.00**	**5.00**	**139.00**	**43.00**	**24.00**			
	> SSTL	0.00	0.00	0.00	0.00	4,117.00	0.00			
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-23	02/02/06	76.40	2.60	<1.0	3.00	244.00	<2.0			326.00
	04/25/06	Not Located								0.00
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-24	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	32.00	<5.0			32.00
	08/18/03	4.80	<5.0	<1.0	<3.0	**70.00**	<5.0			74.80
	11/19/03	**34.00**	<5.0	<1.0	5.60	**82.00**	<5.0			121.60
	03/11/04	**30.00**	<5.0	<1.0	<3.0	**54.00**	<5.0			84.00
	06/30/04	**63.40**	<2.0	<2.0	10.20	**186.00**	1.20			260.80
	03/21/05	**154.00**	<5.0	<5.0	**15.60**	**233.00**	<10			402.60
	10/14/05	<1.0	<1.0	<1.0	<3.0	**211.00**	**19.00**			230.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**170.00**	**60.50**			230.50
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**32.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	138.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	9.00	<5.0			9.00
	08/18/03	**170.00**	<5.0	1.40	**110.00**	**140.00**	**42.00**			463.40
	11/19/03	**42.00**	<5.0	<1.0	**47.00**	**44.00**	**6.00**			139.00
	03/11/04	**82.00**	**7.60**	2.90	**120.00**	**62.00**	**11.00**			285.50
	06/30/04	**147.00**	4.50	0.52	**113.00**	**304.00**	**15.30**			584.32
	03/21/05	**82.20**	<5.0	<5.0	**17.10**	**275.00**	<10			374.30
	10/14/05	**32.60**	<5.0	<5.0	<15	**254.00**	**99.90**			386.50
	02/02/06	**15.80**	<1.0	<1.0	<3.0	**366.00**	**12.00**			393.80
	04/25/06	Not Located								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**9.00**	**5.00**			
	> SSTL	10.80	0.00	0.00	0.00	357.00	7.00			
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	110.00	<5.0			110.00
	08/18/03	**150.00**	**620.00**	**160.00**	**830.00**	**930.00**	**250.00**			2,940.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	**59.00**	<5.0			59.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.10	<5.0			3.10
	06/30/04	1.20	**7.50**	0.69	5.50	**208.00**	<2.0			222.89
	03/21/05	<2.0	<2.0	<2.0	<6.0	**80.90**	<4.0			80.90
	10/14/05	1.60	**5.60**	<1.0	3.50	**73.10**	<2.0			83.80
	02/02/06	1.30	**5.50**	<1.0	6.10	38.80	<2.0			51.70
	04/25/06	1.10	4.80	<1.0	4.70	**77.70**	**7.50**			95.80
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**43.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	34.70	0.00			
TOTAL MASS										**261,095.00**
TOTAL SSTL MASS		**685**	**112,970**	**14,980**	**63,751**	**402**	**234**		**193,022**	
INITIAL MASS ABOVE SSTL									**6,295,759**	
CURRENT MASS ABOVE SSTL									**80,561.70**	*
PERCENT TOTAL MASS REDUCTION ABOVE SSTL									**98.72**	

- Reported in parts per billion (µg/l)
- SSTL: Site Specific Target Level
- NE = Not Established
- **Bold** denotes concentrations over respective SSTL & RBSL

- * = SSTL Data for Concentration Reduction Calculation for Monitoring Wells MW-10R, MW-23, and MW-25 from 02/02/06 Sampling Date due to Inability to Locate Said Monitoring Wells During Current Sampling Event.

- For Concentration Reduction Calculation, Results of Non-Detect & Negative Numbers are Treated as Zeros
- Concentration Reduction Calculation is as Follows:

$$\frac{\text{[Initial Sample Concentration Above SSTL] - [Subsequent Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}} \times 100 = \%\ \text{Reduction}$$

APPENDIX C
Field Data Information Sheets for Groundwater Sampling

SEI Environmental

SC Monitoring Well Gauging Data Sheet

Site Name: Circle Stop N Shop **WO#** 303064

Date 4/25/06

Well ID	Total Depth (feet)	Well Dia. (in.)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes
MW-1	49	2		25.11		
MW-2	40	2		22.70		
MW-3	40	2		22.45		
MW-4	40	2		26.35		
MW-5	45	2	—	22.03	—	Gauge only
MW-6	40	2		20.19		Gauge only Semi-annual (Apr/Oct)
MW-7	34	2		22.62		
MW-8	40	2		24.97		Gauge only Semi-annual (Apr/Oct)
MW-9R	67	2	Couldn't Find		—	Gauge only Semi-annual (Apr/Oct)
MW-10R					—	
MW-11	40	2		23.15		Gauge only
MW-12	40	2		21.78		Gauge only
MW-13	62	2		27.03		
MW-14	40	2		19.69		
MW-15	35	2		20.70		
MW-16	35	2		22.98		
MW-17	37	2	Recycle Closed		—	Gauge only
MW-18	102	2		28.78		
MW-19	37	2		20.15		Gauge only
MW-20	40	2		19.98		Gauge only
MW-21	41	2	Recycle Closed		—	Gauge only
MW-22	46	2			—	Gauge only
MW-23		2	Couldn't Find		—	
MW-24	70	2		20.00		
MW-25	65	2	Couldn't Find		—	
MW-26	100+	2	Couldn't Find			

Analysis: EPA Method 8260B for BTEX, MTBE, and Naphthalene

2-inch diameter well: Well Volume = (water column) x (0.163 gallon/foot)
4-inch diameter well: Well Volume = (water column) x (0.652 gallon/foot)
Purge amount = Well Volume x 3

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 1

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	8.0	8.0	8.1	8.1				
Specific Conductivity (µmhos/cm)	118	110	120	120				
Water Temperature (°C)	23.0	23.0	23.0	23.0				
Dissolved Oxygen	3.3	3.3	3.3	3.3				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 2

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.4	5.4	5.4	5.4				
Specific Conductivity (µmhos/cm)	100	100	115	114				
Water Temperature (°C)	26.4	26.5	26.5	26.5				
Dissolved Oxygen	1.7	1.6	1.6	1.6				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 3

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.1	5.1	5.1	5.1				
Specific Conductivity (µmhos/cm)	230	228	226	225				
Water Temperature (°C)	24.7	24.7	24.7	24.7				
Dissolved Oxygen	3.1	3.2	3.1	3.2				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 4

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.0	5.0	5.0	5.0				
Specific Conductivity (µmhos/cm)	235	230	234	233				
Water Temperature (°C)	22.7	22.8	22.7	22.7				
Dissolved Oxygen	0.5	0.5	0.5	0.5				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 7

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.6	5.6	5.6	5.6				
Specific Conductivity (µmhos/cm)	43	44	44	43				
Water Temperature (°C)	24.0	24.0	24.0	24.0				
Dissolved Oxygen	0.7	0.9	0.8	0.7				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 13

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	6.4	6.4	6.4	6.4				
Specific Conductivity (µmhos/cm)	-10	-60	-57	-56				
Water Temperature (°C)	22.6	22.6	22.6	22.6				
Dissolved Oxygen	0.4	0.4	0.4	0.4				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 14

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.8	5.8	5.8	5.8				
Specific Conductivity (µmhos/cm)	83	8.2	82	83				
Water Temperature (°C)	24.5	24.5	24.5	24.5				
Dissolved Oxygen	1.4	1.3	1.2	1.2				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 15

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.0	5.1	5.1	5.1				
Specific Conductivity (µmhos/cm)	194	195	194	195				
Water Temperature (°C)	24.1	24.1	24.1	24.1				
Dissolved Oxygen	3.1	3.1	3.1	3.1				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 6

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	5.2	5.3	5.2	5.3				
Specific Conductivity (µmhos/cm)	197	198	197	198				
Water Temperature (°C)	24.2	24.1	24.0	24.0				
Dissolved Oxygen	2.8	2.8	2.8	2.8				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 8/8

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	6.6	6.5	6.5	6.5				
Specific Conductivity (µmhos/cm)	116	120	119	118				
Water Temperature (°C)	23.2	23.3	23.3	23.3				
Dissolved Oxygen	1.8	1.8	1.8	1.8				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 24

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	6.3	6.3	6.2	6.3				
Specific Conductivity (µmhos/cm)	30	15	10	9				
Water Temperature (°C)	26.3	26.3	26.3	26.3				
Dissolved Oxygen	2.1	2.0	2.1	2.1				
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # 26

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): _____ feet

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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)								
pH (s.u.)	11.8	11.7	11.7	11.7				
Specific Conductivity (µmhos/cm)	-72	-71	-69	-73				
Water Temperature (°C)	22.4	22.4	22.4	22.4				
Dissolved Oxygen	18.0	18.1	18.2	18.1				
PID readings, if required								

Remarks: _____

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

05/05/06

Technical Report for

SEI-Columbia, SC

Circle Stop N Shop; Leesville, SC

303064

Accutest Job Number: F40332

Sampling Date: 04/25/06

Report to:

DParker@SEI-Environmental.com

ATTN: Distribution3

Total number of pages in report: 33

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

ACCUTEST LABORATORIES 50 YEARS 1956-2006

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

This report shall not be reproduced, except in its entirety, without the written approval of Accutest Laboratories.

Sample Summary

SEI-Columbia, SC

Job No: F40332

Circle Stop N Shop; Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Matrix Type	Client Sample ID
F40332-1	04/25/06	10:40 DM	04/27/06	AQ	Ground Water	MW-24
F40332-2	04/25/06	10:20 DM	04/27/06	AQ	Ground Water	MW-2
F40332-3	04/25/06	11:00 DM	04/27/06	AQ	Ground Water	MW-14
F40332-4	04/25/06	11:20 DM	04/27/06	AQ	Ground Water	MW-7
F40332-5	04/25/06	11:40 DM	04/27/06	AQ	Ground Water	MW-15
F40332-6	04/25/06	12:00 DM	04/27/06	AQ	Ground Water	MW-16
F40332-7	04/25/06	12:20 DM	04/27/06	AQ	Ground Water	MW-3
F40332-8	04/25/06	12:40 DM	04/27/06	AQ	Ground Water	MW-18
F40332-9	04/25/06	13:00 DM	04/27/06	AQ	Ground Water	MW-4
F40332-10	04/25/06	13:20 DM	04/27/06	AQ	Ground Water	MW-13
F40332-11	04/25/06	13:40 DM	04/27/06	AQ	Ground Water	MW-26
F40332-12	04/25/06	14:00 DM	04/27/06	AQ	Ground Water	MW-1

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- **Chain of Custody**

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

F40332

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 130 Penmarc Dr., Suite 108
City: Raleigh State: NC Zip: 27603
Send Report to:
Phone #: 919-832-2535

Facility Information

Project Name: Circle Stop
Location: Leesville, SC
Project No.: 3030641
FAX #: 919-832-5914

Analytical Information

8260 BTEX MTBE

Field ID / Point of Collection	Date	Time	Sampled By	Matrix	# of bottles	Preservation: Ice	HCl/MeOH	HNO3	H2SO4	None	8260 BTEX MTBE
(1) MW-24	4/25/06	10:40		H_2O	3	X					X
(2) MW-2	4/25/06	10:20		H_2O	3	X					X
(3) MW-14	4/25/06	11:00		H_2O	3	X					X
(4) MW-7	4/25/06	11:20		H_2O	3	X					X
(5) MW-15	4/25/06	11:40		H_2O	3	X					X
(6) MW-16	4/25/06	12:00		H_2O	3	X					X
(7) MW-3	4/25/06	12:20		H_2O	3	X					X
(8) MW-18	4/25/06	12:40		H_2O	3	X					X
(9) MW-4	4/25/06	1:00		H_2O	3	X					X
(10) MW-13	4/25/06	1:20		H_2O	3	X					X

Turnaround Information

- [X] 21 Day Standard
- [ ] 14 Day
- [ ] 7 Days EMERGENCY
- [ ] Other _____ (Days)

RUSH TAT is for FAX data Data unless previously approved.

Approved By:

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
	4/26/06 1530	1 FX	2 FX		4/27/06 0900
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applicable ☐	On Ice: ☐

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F40332: Chain of Custody
Page 1 of 3

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

F40332

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 130 Penmarc Dr., Suite 108
City: Raleigh State: NC Zip: 27603
Send Report to:
Phone #: 919-832-2535

Facility Information

Project Name: Circle Stop
Location: Leesville, SC
Project No. 303064
FAX #: 919-832-5914

Analytical Information

8260B BTEX MTBE EDB

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Ice	NaOH	HNO3	H2SO4	None	8260B BTEX MTBE EDB
MW-26	4/26/06	1:40pm	[illegible]	H2O	3	Y					Y
MW-1	4/26/06	2:00pm	[illegible]	H2O	3	Y					Y

Turnaround Information

- [x] 21 Day Standard
- [ ] 14 Day
- [ ] 7 Days EMERGENCY
- [ ] Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	4/26/06 1530	1 FX	2 FX		2 [signature] 4/27/06 0945
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applicable [ ]	On Ice [ ]

Revised 09/2005 RS

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F40332 CLIENT: SEI Envirom. PROJECT: Circle Stop

DATE/TIME RECEIVED: 4/27/06 0900 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2-4

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8565 1023 8785

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [X] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [X] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DON'T MATCH LABEL
- [ ] ID'S ON COC DON'T MATCH LABEL
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT FROZEN WITHIN 48 HOUR'S

MISC. INFORMATION

NUMBER OF ENCORES ? 0

NUMBER OF 5035 FIELD KITS ? 0

NUMBER OR LAB FILTERED METALS ? 0 (WS) 4/27/06

SUMMARY OF COMMENTS: trip blk ~~[illegible]~~ #13

TECHNICIAN SIGNATURE/DATE [signature] 4/27/06 TECHNICIAN SIGNATURE/DATE

3.1 3

F40332: Chain of Custody
Page 3 of 3

GC/MS Volatiles

QC Data Summaries

Includes the following where applicable:

- Method Blank Summaries
- Blank Spike Summaries
- Matrix Spike and Duplicate Summaries

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 130 Penmarc Dr., Suite 108
City: Raleigh State: NC Zip: 27603
Send Report to:
Phone #: 919-832-2535

Facility Information

Project Name: Circle Stop
Location: Leesville, SC
Project No. 303064
FAX #: 919-832-5914

Analytical Information

8260 B BTEX MTBE

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation VOC	NaOH	HNO3	H2SO4	None	8260 B BTEX MTBE
MW-24	4/25/06	10:40a	[illegible]	H2O	3	X					X
MW-2	4/25/06	10:20a	[illegible]	H2O	3	X					X
MW-14	4/25/06	11:00a	[illegible]	H2O	3	X					X
MW-7	4/25/06	11:20a	[illegible]	H2O	3	X					X
MW-15	4/25/06	11:40a	[illegible]	H2O	3	X					X
MW-16	4/25/06	12:00p	[illegible]	H2O	3	X					X
MW-3	4/25/06	12:20p	[illegible]	H2O	3	X					X
MW-18	4/25/06	12:40p	[illegible]	H2O	3	X					X
MW-4	4/25/06	1:00p	[illegible]	H2O	3	X					X
MW-13	4/25/06	1:20p	[illegible]	H2O	3	X					X

Turnaround Information

- [X] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possesion, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	4/26/06 1530	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐

Revised 09/2005 RS

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 130 Penmarc Dr., Suite 108
City: Raleigh State: NC Zip: 27603
Send Report to:
Phone #: 919-832-2535

Facility Information

Project Name: Circle Stop
Location: Leesville, SC
Project No. 303064
FAX #: 919-832-5914

Analytical Information

8260B BTEX MTBE Tips

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: VOC	NaOH	HNO3	H2SO4	None	8260B BTEX MTBE Tips
MW-26	4/25/06	1:40pm	[illegible]	H2O	3	Y					Y
MW-1	4/25/06	2:00pm	[illegible]	H2O	3	Y					Y

Turnaround Information

- [x] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	4/26/06 1530	1	2		2
Relinquished by Sampler: 3		Received By: 3	Relinquished By: 4		Received By: 4
Relinquished by Sampler: 5		Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐

Revised 09/2005 RS

SEI
Environmental, Inc.

130 Penmarc Drive
Suite 108
Raleigh, NC 27603-2470
800.474.7049
919.832.2535
Fax 832.5914

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APR 2 4 2006
UNDERGROUND STORAGE
TANK PROGRAM

April 17, 2006

Mr. John Surber, Hydrogeologist
South Carolina Department of Health and Environmental Control
Assessment & Corrective Action Section, Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Dear Mr. Surber:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the February 12, 2006, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

Brandon D. Jolly

UST PROGRAM
DOCKETING # 26 Tech

Brandon D. Jolly
Staff Scientist

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

SCANNED

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
October 2005 through February 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

RECEIVED
APR 2 4 2006
UNDERGROUND STORAGE
TANK PROGRAM

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

PREPARED BY:

SEI ENVIRONMENTAL, INC.
6190 Regency Parkway, Suite 308
Norcross, Georgia 30071
UST Site Rehabilitation Contractor No. 41

April 17, 2006

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date: April 17, 2006

Monitoring Report Number: 8

For Period Covering: October 15, 2005 to February 02, 2006

Facility Name : Circle Stop-N-Shop

Street Address: 3287 Columbia Highway

UST Permit Number: 05981

City: Leesville, South Carolina

County: Saluda

Zip Code: 29070-7216

Latitude: N 34°02'28.08"

Longitude: W 81°32'53.78"

Submitted by UST Owner/Operator:

Name: Steve & Joan Boozer

Company: Property Owners

Address: 3287 Columbia Highway

City: Leesville State: SC

Zip Code: 29070-7216

Telephone: (803) 532-4119

SEI Project Number: 303064

Prepared by Consultant/Contractor:

Name: Chris Boggs

Company: SEI Environmental, Inc.

Address: 6190 Regency Parkway, Suite 308

City: Norcross State: GA

Zip Code: 30071

Telephone: (770) 263-2002

UST Site Rehabilitation Contractor No. 41

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Chris Boggs, P.G.

SC Reg. No. 2101

Signature:

Date:

CHRIS L. BOGGS REGISTERED PROFESSIONAL GEOLOGIST

RECEIVED

APR 24 2006

UNDERGROUND STORAGE TANK PROGRAM

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LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a Licensed Geologist registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by Accutest Laboratories.

1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event

On February 02, 2006, thirteen groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On February 02, 2006, groundwater samples were collected from thirteen (MW-2, MW-3, MW-4, MW-7, MW-10R, MW-13, MW-14, MW-15, MW-16, MW-18, MW-23, MW-25, and MW-26) of the twenty-six existing groundwater monitoring wells. Three (MW-1, MW-9R, and MW-24) monitoring wells were not sampled because they were not located. Eight (MW-5, MW-11, MW-12, MW-17, and MW-19 through MW-22) monitoring wells are only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in Appendix A depicts the locations of these wells.

Twenty groundwater monitoring wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in

determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was not detected.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient to the north of 0.030 feet per foot between monitoring wells MW-3 and MW-25. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

All monitoring wells were purged prior to sampling by removing a minimum of three well volumes of water via hand bailing with a new, disposable, polyethylene bailer or until groundwater quality data stabilized, or the well went dry. This purging process produced approximately 140 gallons of petroleum contaminated water. The purge water was disposed of at a South Carolina licensed facility. Appendix C contains Field Data Information Sheets for Groundwater Sampling.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene).

3.0 LABORATORY ANALYTICAL RESULTS

CoCs were detected in eight (MW-2, MW-4, MW-7, MW-10R, MW-13, MW-24, MW-25, and MW-26) of the thirteen monitoring wells sampled at concentrations exceeding their respective SSTL. Figure 4 in Appendix A is a site map presenting monitoring well locations and their CoC concentrations. Table 2 in Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs) have been designated for twenty (MW-1 through MW-8, MW-9R, MW-10R, MW-11 through MW-18, MW-24,

MW-25, and MW-26) monitoring wells and two (WSW-1 and WSW-2) water supply wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix C.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs. Data for the March 21, 2005, sampling event was used in the calculations for monitoring well MW-1.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

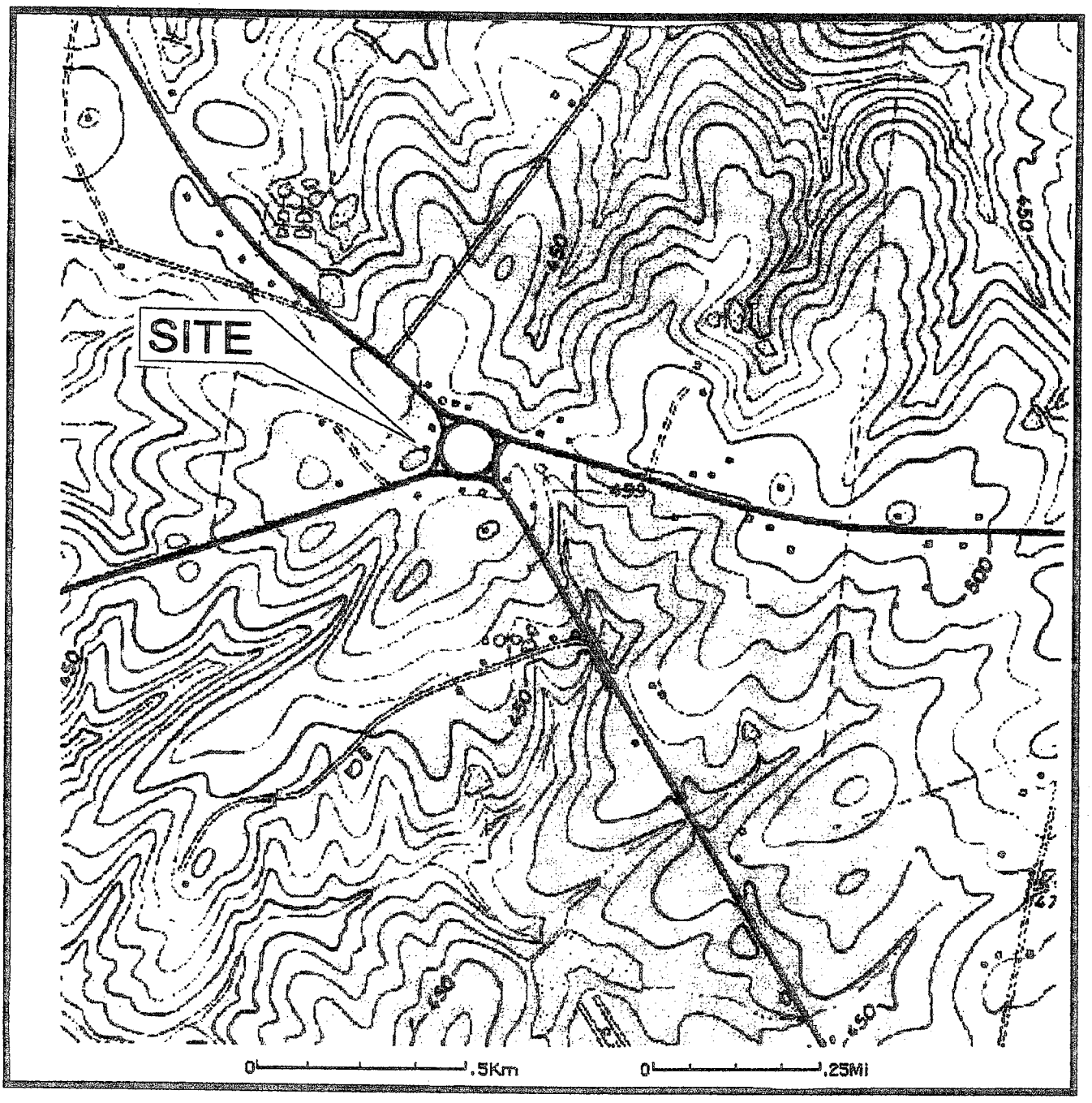
Using the current analytical results, the concentration reduction is 97.58%. Table 3 in Appendix B summarizes SSTL concentration reduction calculations.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the north with a hydraulic gradient of 0.030 feet per foot. CoC were detected in eight of the thirteen monitoring wells sampled above their respective SSTLs. The percent concentration reduction has been calculated at 97.58%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. The next sampling event is scheduled for April 2006.

APPENDIX A
FIGURES

7.5 MINUTE SERIES(TOPOGRAPHIC)

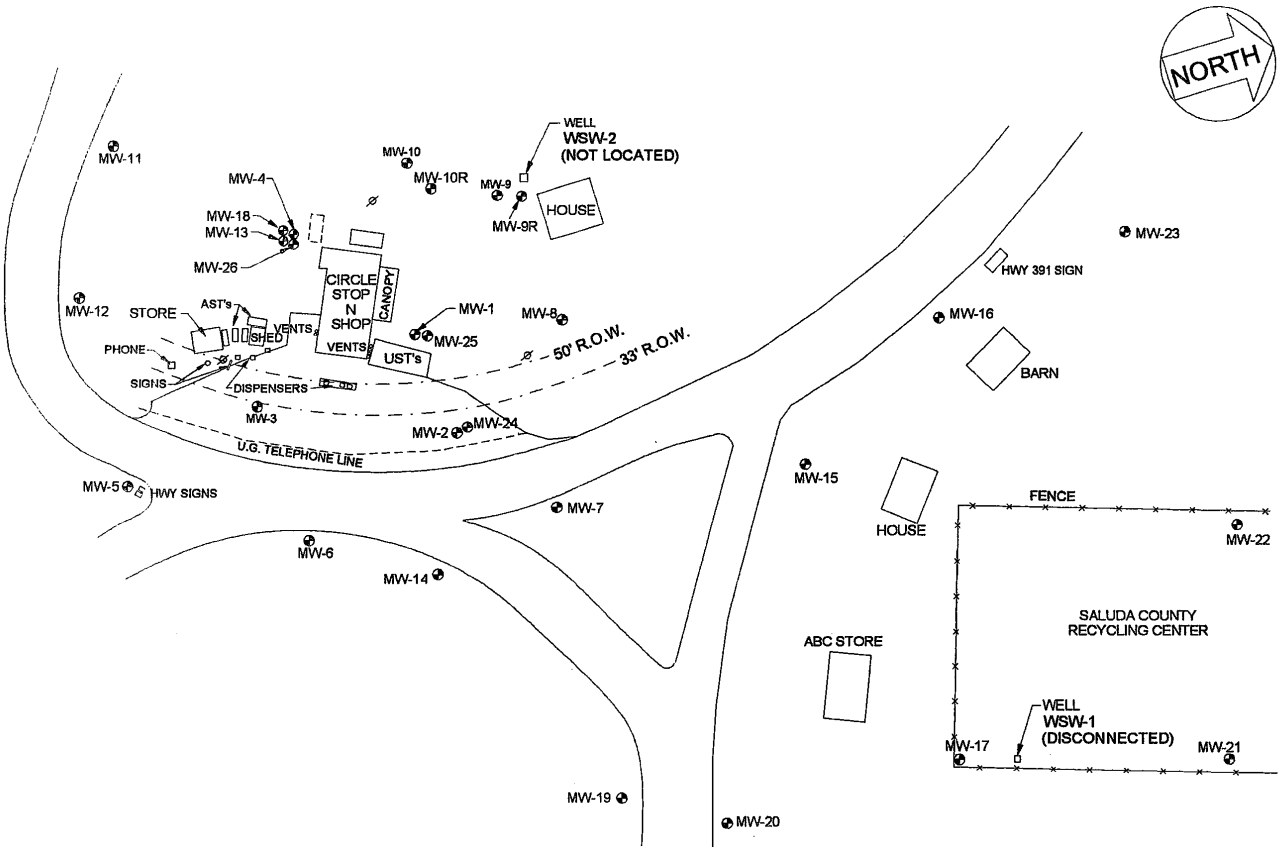


NORTH

SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 10/10/05
DWG #	DRAWN BY: JCJ



LEGEND:

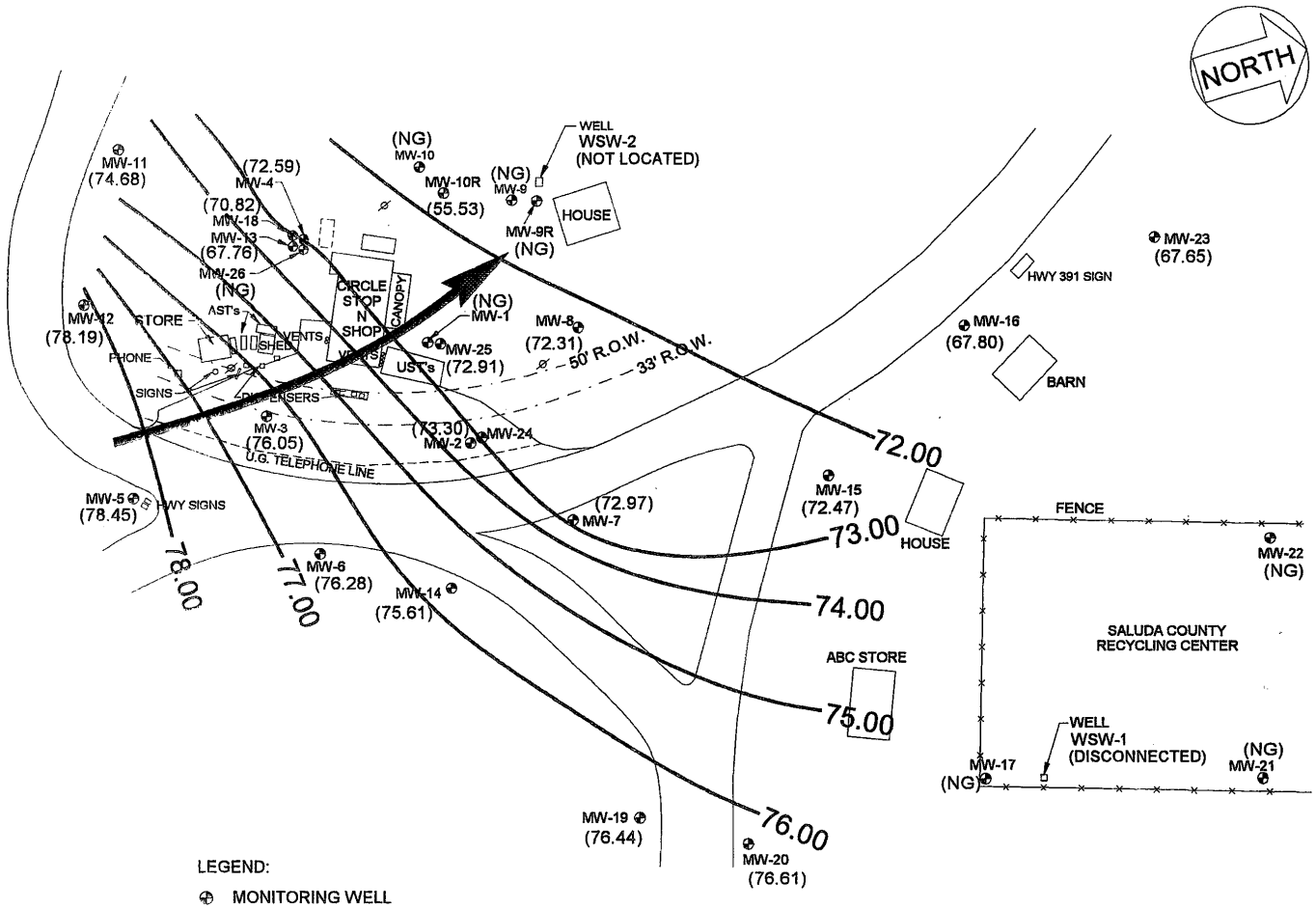
- MONITORING WELL
- POWER POLE

0 40 80 FT.

SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 3/22/05
DWG #CS00642G	DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- POWER POLE
- (XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT.
  NG = NOT GAUGED
  NL = NOT LOCATED
- 75.00 GROUNDWATER ELEVATION CONTOUR
- GROUNDWATER FLOW DIRECTION

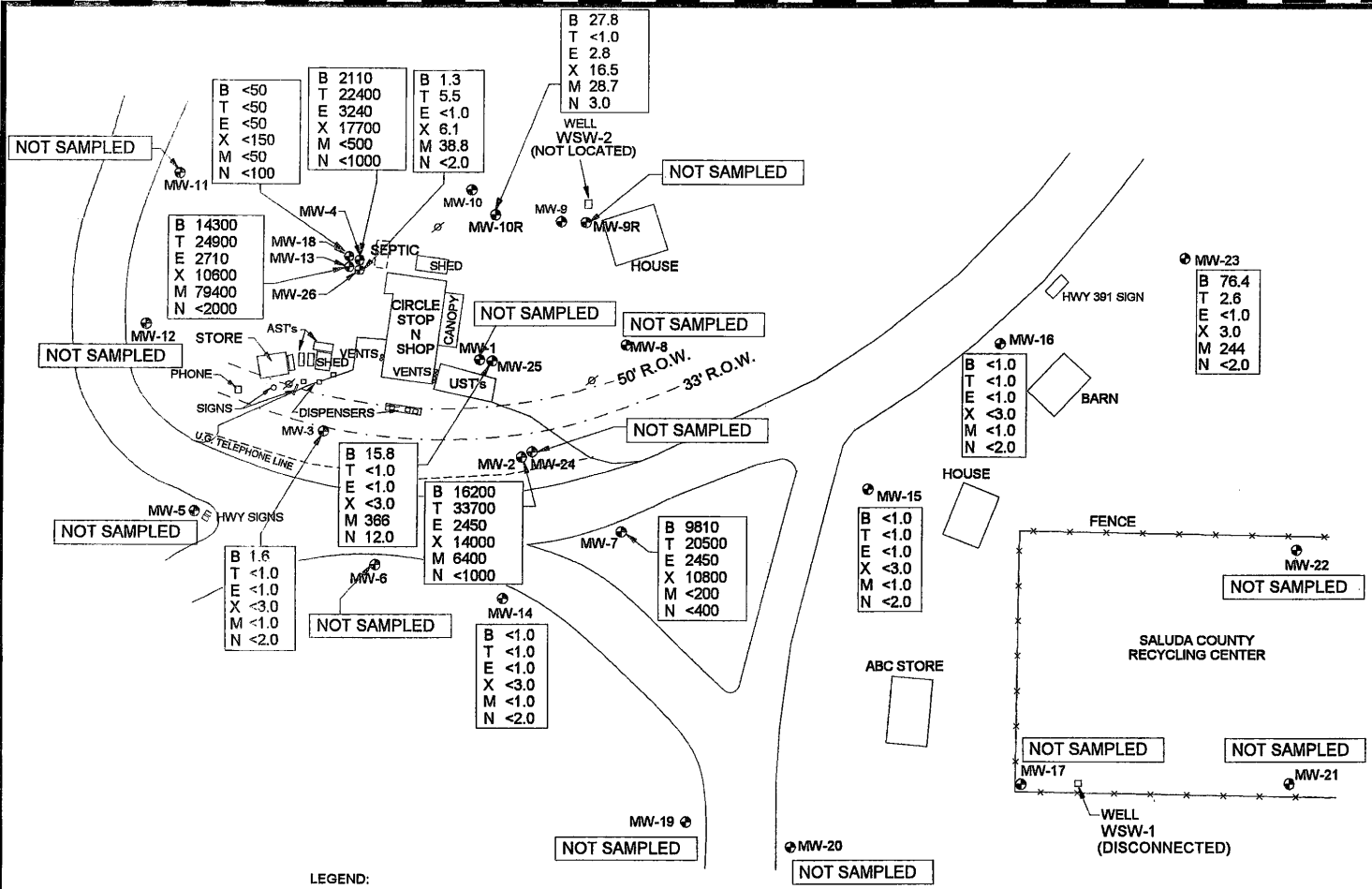
0 40 80 FT.

NOTE: WELLS GAUGED 2/2/06.

SEI Environmental, Inc.

FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP, 2/2/06
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ



NOTE: WELLS SAMPLED 2/2/06.

SEI Environmental, Inc.

FIGURE 4: GROUNDWATER COC SITE MAP, 2/2/06
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 2/2/06
DWG #CS00644J	DRAWN BY: JCJ

APPENDIX B
TABLES

TABLE 1

Historical Groundwater Elevation and Product Thickness Data

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well Location	Date Gauged	Top of Casing Elevation (feet)	Depth of Well (feet)	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-1	08/18/03	99.59	49.00	21.39	--	--	78.20
	11/17/03			23.34	--	--	76.25
	03/11/04			23.96	--	--	75.63
	06/30/04			25.22	--	--	74.37
	03/21/05			24.12	--	--	75.47
	10/14/05			Not Located			
	02/02/06			Not Located			
MW-2	08/18/03	97.68	40.00	19.82	--	--	77.86
	11/17/03			21.39	--	--	76.29
	03/11/04			22.38	--	--	75.30
	06/30/04			23.49	--	--	74.19
	03/21/05			23.47	--	--	74.21
	10/14/05			24.41	--	--	73.27
	02/02/06			24.38	--	--	73.30
MW-3	08/18/03	99.53	40.00	18.04	--	--	81.49
	11/17/03			22.14	--	--	77.39
	03/11/04			20.98	--	--	78.55
	06/30/04			24.08	--	--	75.45
	03/21/05			22.05	--	--	77.48
	10/14/05			25.35	--	--	74.18
	02/02/06			23.48	--	--	76.05
MW-4	08/18/03	100.28	40.00	23.31	--	--	76.97
	11/17/03			25.11	--	--	75.17
	03/11/04			25.58	--	--	74.70
	06/30/04			27.13	--	--	73.15
	03/21/05			27.01	--	--	73.27
	10/14/05			28.16	--	--	72.12
	02/02/06			27.69	--	--	72.59
MW-5	08/18/03	100.88	45.00	15.89	--	--	84.99
	11/17/03			21.84	--	--	79.04
	03/11/04			19.61	--	--	81.27
	06/30/04			22.30	--	--	78.58
	03/21/05			20.70	--	--	80.18
	10/14/05			24.40	--	--	76.48
	02/02/06			22.43	--	--	78.45

TABLE 1 (continued)

Historical Groundwater Elevation and Product Thickness Data

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well Location	Date Gauged	Top of Casing Elevation (feet)	Depth of Well (feet)	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-6	08/18/03	97.43	40.00	16.31	–	–	91.12
	11/17/03			19.13	–	–	78.30
	03/11/04			18.62	–	–	78.81
	06/30/04			21.84	–	–	75.59
	03/21/05			19.78	–	–	77.65
	10/14/05			23.13	–	–	74.30
	02/02/06			21.15	–	–	76.28
MW-7	08/18/03	97.26	34.00	19.78	–	–	77.48
	11/17/03			22.14	–	–	75.12
	03/11/04			22.38	–	–	74.88
	06/30/04			23.78	–	–	73.48
	03/21/05			23.31	–	–	73.95
	10/14/05			24.75	–	–	72.51
	02/02/06			24.29	–	–	72.97
MW-8	08/18/03	98.70	40.00	21.72	–	–	76.98
	11/17/03			24.61	–	–	74.09
	03/11/04			24.30	–	–	74.40
	06/30/04			26.21	–	–	72.49
	03/21/05			25.25	–	–	73.45
	10/14/05			24.78	–	–	73.92
	02/02/06			26.39	–	–	72.31
MW-9R	08/18/03	99.68	67.00	30.33	–	–	69.35
	11/17/03			32.11	–	–	67.57
	03/11/04			33.15	–	–	66.53
	06/30/04			34.62	–	–	65.06
	03/21/05			36.35	–	–	63.33
	10/14/05			Not Located			
	02/02/06			Not Located			
MW-10R	08/18/03	100.22	NM	Not Located			
	11/17/03			Not Located			
	03/11/04			Not Located			
	06/30/04			Not Located			
	03/21/05			Not Located			
	10/14/05			42.57	–	–	57.65
	02/02/06			44.69	–	–	55.53

TABLE 1 (continued)

Historical Groundwater Elevation and Product Thickness Data

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well Location	Date Gauged	Top of Casing Elevation (feet)	Depth of Well (feet)	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-11	08/18/03	100.47	40.00	19.96	–	–	80.51
	11/17/03			21.45	–	–	79.02
	03/11/04			23.01	–	–	77.46
	06/30/04			25.96	–	–	74.51
	03/21/05			23.56	–	–	76.91
	10/14/05			27.31	–	–	73.16
	02/02/06			25.79	–	–	74.68
MW-12	08/18/03	100.62	40.00	17.51	–	–	83.11
	11/17/03			21.51	–	–	79.11
	03/11/04			19.95	–	–	80.67
	06/30/04			23.62	–	–	77.00
	03/21/05			21.06	–	–	79.56
	10/14/05			25.18	–	–	75.44
	02/02/06			22.43	–	–	78.19
MW-13	08/18/03	100.22	62.00	24.11	–	–	76.11
	11/17/03			26.78	–	–	73.44
	03/11/04			26.73	–	–	73.49
	06/30/04			27.79	–	–	72.43
	03/21/05			28.18	–	–	72.04
	10/14/05			28.88	–	–	71.34
	02/02/06			32.46	–	–	67.76
MW-14	08/18/03	96.30	40.00	15.29	–	–	81.01
	11/17/03			19.35	–	–	76.95
	03/11/04			18.18	–	–	78.12
	06/30/04			21.22	–	–	75.08
	03/21/05			19.20	–	–	77.10
	10/14/05			22.55	–	–	73.75
	02/02/06			20.69	–	–	75.61
MW-15	08/18/03	94.59	35.00	17.51	–	–	77.08
	11/17/03			20.39	–	–	74.20
	03/11/04			20.07	–	–	74.52
	06/30/04			21.95	–	–	72.64
	03/21/05			21.02	–	–	73.57
	10/14/05			23.10	–	–	71.49
	02/02/06			22.12	–	–	72.47

TABLE 1 (continued)

Historical Groundwater Elevation and Product Thickness Data

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well Location	Date Gauged	Top of Casing Elevation (feet)	Depth of Well (feet)	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-16	08/18/03	92.01	35.00	Not Gauged			
	11/17/03			Not Gauged			
	03/11/04			Not Gauged			
	06/30/04			23.86	–	–	68.15
	03/21/05			22.72	–	–	69.29
	10/14/05			26.00	–	–	66.01
	02/02/06			24.21	–	–	67.80
MW-17	08/18/03	91.65	37.00	14.26	–	–	77.39
	11/17/03			16.51	–	–	75.14
	03/11/04			Not Gauged			
	06/30/04			17.42	–	–	74.23
	03/21/05			16.85	–	–	74.80
	10/14/05			Not Gauged			
	02/02/06			Well Closed			
MW-18	08/18/03	100.05	102.00	24.82	–	–	75.23
	11/17/03			21.97	–	–	78.08
	03/11/04			27.00	–	–	73.05
	06/30/04			28.50	–	–	71.55
	03/21/05			29.10	–	–	70.95
	10/14/05			29.34	–	–	70.71
	02/02/06			29.23	–	–	70.82
MW-19	08/18/03	94.32	37.00	11.21	–	–	83.11
	11/17/03			16.22	–	–	78.10
	03/11/04			–	–	–	–
	06/30/04			17.47	–	–	76.85
	03/21/05			16.31	–	–	78.01
	10/14/05			19.44	–	–	74.88
	02/02/06			17.88	–	–	76.44
MW-20	08/18/03	94.88	40.00	12.36	–	–	82.52
	11/17/03			17.18	–	–	77.70
	03/11/04			–	–	–	–
	06/30/04			18.98	–	–	75.90
	03/21/05			16.40	–	–	78.48
	10/14/05			20.55	–	–	74.33
	02/02/06			18.27	–	–	76.61

TABLE 1 (continued)

Historical Groundwater Elevation and Product Thickness Data

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well Location	Date Gauged	Top of Casing Elevation (feet)	Depth of Well (feet)	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-21	08/18/03	84.61	41.00	10.17	–	–	74.44
	11/17/03			14.41	–	–	70.20
	03/11/04			–	–	–	–
	06/30/04			16.34	–	–	68.27
	03/21/05			14.51	–	–	70.10
	10/14/05			Not Gauged			
	02/02/06			Well Closed			
MW-22	08/18/03	84.71	46.00	10.61	–	–	74.10
	11/17/03			17.79	–	–	66.92
	03/11/04			–	–	–	–
	06/30/04			21.31	–	–	63.40
	03/21/05			17.42	–	–	67.29
	10/14/05			Not Gauged			
	02/02/06			Well Closed			
MW-23	08/18/03	92.05	70.00	–	–	–	–
	11/17/03			–	–	–	–
	03/11/04			–	–	–	–
	06/30/04			–	–	–	–
	03/21/05			–	–	–	–
	10/14/05			Not Located			
	02/02/06			24.40	–	–	67.65
MW-24	08/18/03	97.74	70.00	19.76	–	–	77.98
	11/17/03			22.42	–	–	75.32
	03/11/04			22.44	–	–	75.30
	06/30/04			24.04	–	–	73.70
	03/21/05			23.35	–	–	74.39
	10/14/05			25.15	–	–	72.59
	02/02/06			Not Located			
MW-25	08/18/03	99.63	65.00	21.94	–	–	77.69
	11/17/03			24.49	–	–	75.14
	03/11/04			24.44	–	–	75.19
	06/30/04			26.08	–	–	73.55
	03/21/05			27.75	–	–	71.88
	10/14/05			26.70	–	–	72.93
	02/02/06			26.72	–	–	72.91

TABLE 1 (continued)

Historical Groundwater Elevation and Product Thickness Data

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well Location	Date Gauged	Top of Casing Elevation (feet)	Depth of Well (feet)	Depth to Groundwater (feet)	Depth to Product (feet)	Product Thickness (feet)	Groundwater Elevation (feet)
MW-26	08/18/03	100.22	100+	100+	--	--	NM*
	11/17/03			90.02	--	--	10.20
	03/11/04			100+	--	--	NM*
	06/30/04			100+	--	--	NM*
	03/21/05			100+	--	--	NM*
	10/14/05			100+	--	--	NM*
	02/02/06			100+	--	--	NM*

* Depth to water and groundwater elevation are not measurable because interface probe only measures to 100 feet bls.
-- = Not applicable
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) --- where applicable
NM = Not Measured

TABLE 2

Historical Groundwater Analytical Results

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Sample Location	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)
MW-1	10/01/02 & 12/19/02	**2,300**	**29,000**	**3,300**	**18,900**	**43**	**27**
	08/18/03	**1,700**	1,300	2,600	13,000	**2,200**	**1,200**
	11/19/03	**1,900**	17,000	3,100	18,000	**1,700**	**680**
	03/11/04	**1,800**	14,000	**3,300**	16,000	**1,600**	**1,200**
	06/30/04	**1,640**	14,200	**3,490**	**20,200**	**1,770**	**380**
	03/21/05	**1,210**	8,540	2,440	13,100	**1,430**	**<400**
	10/14/05	Not Located					
	02/02/06	Not Located					
	SSTL	**65**	**24,700**	**3,300**	**18,900**	**43**	**27**
MW-2	10/01/02 & 12/19/02	**10,000**	**26,000**	**2,600**	**9,400**	**1,300**	**520**
	08/18/03	**9,300**	22,000	2,200	**12,000**	**1,900**	**5,000**
	11/19/03	**12,000**	**29,000**	**3,000**	**15,000**	**5,100**	**2,500**
	03/11/04	**8,400**	21,000	2,100	**12,000**	**3,400**	**2,500**
	06/30/04	**9,890**	**29,900**	2,460	**14,400**	**3,510**	**1,000**
	03/21/05	**9,970**	21,800	2,060	**12,400**	**4,620**	**<1,000**
	10/14/05	**11,600**	**30,200**	2,180	**12,800**	**5,360**	**<1,000**
	02/02/06	**16,200**	**33,700**	2,450	**14,000**	**6,400**	**<1,000**
	SSTL	**120**	**24,700**	**2,600**	**9,400**	**43**	**27**
MW-3	10/01/02 & 12/19/02	**85**	**93**	**5.0**	**102**	**5.0**	**5.0**
	08/18/03	1.6	<5.0	<1.0	<3.0	<1.0	<5.0
	11/19/03	31	<5.0	1.3	9.0	<1.0	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	06/30/04	72.3	4.1	<2.0	19.3	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	75.4	2.8	2.3	12.1	<1.0	<2.0
	02/02/06	1.6	<1.0	<1.0	<3.0	<1.0	<2.0
	SSTL	**85**	**93**	**5.0**	**102**	**5.0**	**5.0**
MW-4	10/01/02 & 12/19/02	**5,500**	**47,000**	**3,900**	**17,900**	**6,400**	**590**
	08/18/03	**1,000**	15,000	2,900	14,000	**100**	**500**
	11/19/03	**1,200**	14,000	2,700	14,000	**4,900**	**5,000**
	03/11/04	**540**	8,000	1,000	8,400	**250**	**1,200**
	06/30/04	**884**	20,100	2,750	16,000	**1,000**	**1,000**

TABLE 2 (Continued)

Historical Groundwater Analytical Results

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Sample Location	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)
MW-4 (continued)	03/21/05	**4,010**	**25,300**	3,020	16,500	**<500**	**<1,000**
	10/14/05	**1,450**	20,000	3,070	16,000	**<500**	**<1,000**
	02/02/06	**2,110**	22,400	3,240	17,700	**<500**	**<1,000**
	SSTL	**110**	**24,700**	**3,900**	**17,900**	**43**	**27**
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	<1.0	**20**	<1.0	<3.0	<1.0	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Gauge Only					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	02/02/06	Gauge Only (Semi-Annual/April & October)					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-7	10/01/02 & 12/19/02	**226,000**	**301,000**	**280,000**	**278,000**	**5,110,000**	**2,000**
	08/18/03	**3,900**	23,000	**6,600**	**37,000**	**500**	**2,500**
	11/19/03	**5,000**	15,000	**3,800**	**19,000**	**100**	**770**
	03/11/04	**6,200**	12,000	**3,300**	**15,000**	**500**	**2,500**
	06/30/04	**5,340**	18,400	**2,990**	**15,200**	**1,000**	**1,000**
	03/21/05	**7,710**	17,200	**2,820**	**13,400**	**<500**	**<1,000**
	10/14/05	**4,660**	12,600	1,730	7,610	**<200**	**<400**
	02/02/06	**9,810**	20,500	2,450	**10,800**	**<200**	**<400**
	SSTL	**120**	**24,700**	**2,600**	**9,400**	**43**	**27**
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0

TABLE 2 (Continued)

Historical Groundwater Analytical Results

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Sample Location	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)
MW-8 (continued)	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	02/02/06	Gauge Only (Semi-Annual/April & October)					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.5	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.8	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.8	<5.0
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.7	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.9	<2.0
	10/14/05	Not Located					
	02/02/06	Not Located					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	10/14/05	**73.3**	1.6	**5.6**	**57.9**	**38.2**	**10.4**
	02/02/06	**27.8**	<1.0	2.8	**16.5**	**28.7**	**3.0**
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Gauge Only					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0

TABLE 2 (Continued)

Historical Groundwater Analytical Results

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Sample Location	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)
MW-12 (continued)	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Gauge Only					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-13	10/01/02 & 12/19/02	**7,400**	**14,000**	**2,500**	**7,700**	**69,000**	**290**
	08/18/03	**9,500**	12,000	2,000	5,700	**7,600**	**5,000**
	11/19/03	**4,800**	6,500	1,000	5,400	**51,000**	**2,500**
	03/11/04	**9,500**	9,500	2,200	**7,800**	**93,000**	**1,200**
	06/30/04	**2,770**	4,000	**4,000**	**12,000**	**77,100**	**4,000**
	03/21/05	**11,600**	13,900	2,360	6,720	**104,000**	**<4,000**
	10/14/05	**10,600**	**20,500**	2,200	**8,870**	**88,100**	**<2,000**
	02/02/06	**14,300**	**24,900**	**2,710**	**10,600**	**79,400**	**<2,000**
	SSTL	**110**	**14,000**	**2,500**	**7,700**	**43**	**27**
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	**8.8**	**7.8**	2.2	12	**16**	<5.0
	11/19/03	3.7	<5.0	<1.0	3.6	<1.0	<5.0
	03/11/04	1.2	<5.0	<1.0	<3.0	<1.0	<5.0
	06/30/04	4.5	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	**5.9**	<1.0	<1.0	<3.0	<1.0	<2.0
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	1.3	<5.0	<1.0	<3.0	**9.8**	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**

TABLE 2 (Continued)

Historical Groundwater Analytical Results

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Sample Location	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	03/11/04	N/S	N/S	N/S	N/S	N/S	N/S
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Not Sampled					
	02/02/06	Well Closed					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**
MW-18	10/01/02 & 12/19/02	**5.0**	**7.0**	**5.0**	**139**	**2,300**	**24**
	08/18/03	**370**	**9.9**	**6.0**	**180**	**520**	**40**
	11/19/03	**210**	**50**	**10**	110	**1,700**	**50**
	03/11/04	**170**	**25**	<5.0	54	**840**	**25**
	06/30/04	3.5	<2.0	<2.0	15.6	**4,420**	<2.0
	03/21/05	**121**	<50	<50	<150	**1,970**	<100
	10/14/05	<1.0	<1.0	<1.0	<3.0	**3,270**	<2.0
	02/02/06	**<50**	**<50**	**<50**	**<150**	**<50**	**<100**
	SSTL	**5.0**	**7.0**	**5.0**	**139**	**43**	**24**
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Gauge Only					
	SSTL	NE	NE	NE	NE	NE	NE
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Gauge Only					
	SSTL	NE	NE	NE	NE	NE	NE

TABLE 2 (Continued)

Historical Groundwater Analytical Results

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Sample Location	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Gauge Only					
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0
	10/14/05	Gauge Only					
	SSTL	**NE**	**NE**	**NE**	**NE**	**NE**	**NE**
MW-23	02/02/06	76.4	2.6	<1.0	3.0	**244**	<2.0
MW-24	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	**32**	<5.0
	08/18/03	4.8	<5.0	<1.0	<3.0	**70**	<5.0
	11/19/03	**34**	<5.0	<1.0	5.6	**82**	<5.0
	03/11/04	**30**	<5.0	<1.0	<3.0	**54**	<5.0
	06/30/04	**63.4**	<2.0	<2.0	10.2	**186**	1.2
	03/21/05	**154**	<5.0	<5.0	**15.6**	**233**	<10
	10/14/05	<1.0	<1.0	<1.0	<3.0	**211**	**19**
	02/02/06	Not Located					
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**32**	**5.0**
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	**9.0**	<5.0
	08/18/03	**170**	<5.0	1.4	**110**	**140**	**42**
	11/19/03	**42**	<5.0	<1.0	**47**	**44**	**6.0**
	03/11/04	**82**	**7.6**	2.9	**120**	**62**	**11**
	06/30/04	**147**	4.5	0.52	**113**	**304**	**15.3**
	03/21/05	**82.2**	<5.0	<5.0	**17.1**	**275**	<10
	10/14/05	**32.6**	<5.0	<5.0	<15	**254**	**99.9**
	02/02/6	**15.8**	<1.0	<1.0	<3.0	**366**	**12.0**
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**9.0**	**5.0**
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	**110**	<5.0
	08/18/03	**150**	**620**	**160**	**830**	**930**	**250**
	11/19/03	<1.0	<5.0	<1.0	<3.0	**59**	<5.0
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.1	<5.0

TABLE 2 (Continued)

Historical Groundwater Analytical Results

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Sample Location	Date Sampled	Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)
MW-26 (continued)	06/30/04	1.2	**7.5**	0.69	5.5	**208**	<2.0
	03/21/05	<2.0	<2.0	<2.0	<6.0	**80.9**	<4.0
	10/14/05	1.6	**5.6**	<1.0	3.5	**73.1**	<2.0
	02/02/06	1.3	**5.5**	<1.0	6.1	38.8	<2.0
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**43**	**5.0**
WSW-1	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<6.0	<5.0
	Reported As Not In Service						
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**6.0**	**5.0**
WSW-2	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<6.0	<5.0
	08/18/03	<1.0	<5.0	<1.0	<3.0	5.1	<5.0
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**6.0**	**5.0**

µg/L - micrograms per liter
SSTL = Site Specific Target Levels
RBSL = Risk Based Screen Level
N/A = Not Applicable
N/S = Not Sampled
Bold denotes concentrations over respective SSTL & RBSL
NE = Not Established

TABLE 3

Concentration Reduction Calculation – February 02, 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well ID		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)	Concentration > SSTL (µg/L)
MW-1	Initial	2,300	29,000	3,300	18,900	2,100	710	
	SSTL	**65**	**24,700**	**3,300**	**18,900**	**43**	**27**	
	Initial > SSTL	2,235	4,300	0.0	0.0	2,057	683	9,275
	Subsequent	1,210	8,540	2,440	13,100	1,430	<400	03/21/05 Data
	Subsequent > SSTL	1,145	0.0	0.0	0.0	1,387	373	2,905
MW-2	Initial	10,000	26,000	2,600	9,400	1,300	520	
	SSTL	**120**	**24,700**	**2,600**	**9,400**	**43**	**27**	
	Initial > SSTL	9,880	1,300	0.0	0.0	1,257	493	12,930
	Subsequent	16,200	33,700	2,450	14,000	6,400	0.0	
	Subsequent > SSTL	16,080	9,000	0.0	4,600	6,358	0.0	27,938
MW-3	Initial	85	93	5.0	102	5.0	5.0	
	SSTL	**85**	**93**	**5.0**	**102**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	1.6	0.0	0.0	0.0	0.0	0.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-4	Initial	5,500	47,000	3,900	17,900	6,400	590	
	SSTL	**110**	**24,700**	**3,900**	**17,900**	**43**	**27**	
	Initial > SSTL	5,390	22,300	0.0	0.0	6,357	563	34,610
	Subsequent	2,110	22,400	3,240	17,700	0.0	0.0	
	Subsequent > SSTL	2,000	0.0	0.0	0.0	0.0	0.0	2,000

TABLE 3 (Continued)

Concentration Reduction Calculation – February 02, 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well ID		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)	Concentration > SSTL (µg/L)
MW-5	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	Gauge Only
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-6	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	Gauge Only
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-7	Initial	226,000	301,000	280,000	278,000	5,110,000	2,000	
	SSTL	**120**	**24,700**	**2,600**	**9,400**	**43**	**27**	
	Initial > SSTL	225,880	276,300	277,400	268,600	5,109,957	1,973	6,160,110
	Subsequent	9,810	20,500	2,450	10,800	0.0	0.0	
	Subsequent > SSTL	9,690	0.0	0.0	1,400	0.0	0.0	11,090
MW-8	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	Gauge Only
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-9R	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	1.9	0.0	03/21/05 Data
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE 3 (Continued)

Concentration Reduction Calculation – February 02, 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well ID		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)	Concentration > SSTL (µg/L)
MW-10R	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	27.8	0.0	2.8	16.5	28.7	3.0	
	Subsequent > SSTL	22.8	0.0	0.0	1.5	23.7	0.0	48
MW-11	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	Gauge Only
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-12	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	Gauge Only
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-13	Initial	7,400	14,000	2,500	7,700	69,000	290	
	SSTL	**110**	**14,000**	**2,500**	**7,700**	**43**	**27**	
	Initial > SSTL	7,290	0.0	0.0	0.0	68,957	263	76,510
	Subsequent	14,300	24,900	2,710	10,600	79,400	0.0	
	Subsequent > SSTL	14,190	10,900	210	2,900	79,357	0.0	107,557
MW-14	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0

TABLE 3 (Continued)

Concentration Reduction Calculation – February 02, 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well ID		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)	Concentration > SSTL (µg/L)
MW-15	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-17	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	Well Closed
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-18	Initial	5.0	7.0	5.0	139	2,300	24	
	SSTL	**5.0**	**7.0**	**5.0**	**139**	**43**	**24**	
	Initial > SSTL	0.0	0.0	0.0	0.0	2,257	0.0	2,257
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
MW-24	Initial	5.0	5.0	5.0	15	32	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**32**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	211	19	10/24/05 Data
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	230
MW-25	Initial	5.0	5.0	5.0	15	9.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**9.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	15.8	0.0	0.0	0.0	366	12.0	
	Subsequent > SSTL	13.8	0.0	0.0	0.0	357	7.0	377.8

TABLE 3 (Continued)

Concentration Reduction Calculation – February 02, 2006

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well ID		Benzene (µg/L)	Toluene (µg/L)	Ethyl-benzene (µg/L)	Total Xylenes (µg/L)	MTBE (µg/L)	Naph-thalene (µg/L)	Concentration > SSTL (µg/L)
MW-26	Initial	5.0	5.0	5.0	15	110	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**43**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	67	0.0	67
	Subsequent	1.3	5.5	0.0	6.1	38.8	0.0	
	Subsequent > SSTL	0.0	0.6	0.0	0.0	30.1	0.0	30.7
WSW-1	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	10/01/02 Data
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
WSW-2	Initial	5.0	5.0	5.0	15	5.0	5.0	
	SSTL	**5.0**	**5.0**	**5.0**	**15**	**5.0**	**5.0**	
	Initial > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
	Subsequent	0.0	0.0	0.0	0.0	0.0	0.0	11/19/03 Data
	Subsequent > SSTL	0.0	0.0	0.0	0.0	0.0	0.0	0.0
TOTALS	Initial > SSTL	(Sum of Initial Concentration Above SSTL for all Wells)						6,295,759
	Subsequent > SSTL	(Sum of Subsequent Concentration Above SSTL for all Wells)						152,176.5

µg/L - micrograms per liter
SSTL = Site Specific Target Levels
Results of Non-Detect and Negative Numbers are Treated as Zeros

Comparison of Analytical Data = [(6,295,759 – 152,176.5)/6,295,759]*100 = 97.58%

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Subsequent Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] *100 = \%\ \text{Reduction}$$

APPENDIX C
Field Data Sheets

Doug
For MTBE
2-6-05

SEI Environmental
SC Monitoring Well Gauging Data Sheet

Site Name: Circle Stop N Shop WO# 303064

Date 2/2/06

Well ID	Total Depth (feet)	Well Dia. (in.)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes	TIME SAMPLED
MW-1	49	2				CAN'T FIND, DUG UP OR BURIED	
MW-2	40	2			24.38		0930
MW-3	40	2			23.48		1208
MW-4	40	2			27.69		1141
MW-5	45	2			22.43	Gauge only	
MW-6	40	2			21.15	Gauge only Semi-annual (Apr/Oct)	
MW-7	34	2			24.29		0955
MW-8	40	2			26.39	Gauge only Semi-annual (Apr/Oct)	
MW-9R	67	2			CAN'T FIND	Gauge only Semi-annual (Apr/Oct)	
MW-10R	48	2			44.69		1030
MW-11	40	2			25.79	Gauge only	
MW-12	40	2			22.43	Gauge only	
MW-13	62	2			32.46		1100
MW-14	40	2			20.69		1250
MW-15	35	2			22.12		1305
MW-16	35	2			24.21		1317
MW-17	37	2				Gauge only CLOSED	
MW-18	102	2			29.23	TYPE III	1125
MW-19	37	2			17.88	Gauge only	
MW-20	40	2			18.27	Gauge only	
MW-21	41	2				Gauge only CLOSED	
MW-22	46	2				Gauge only CLOSED	
MW-23	70	2			24.40	TYPE III	0916
MW-24	[illegible]	2				CAN'T FIND	
MW-25	65	2			26.72		1017
MW-26	100+	2			?	[illegible] OR TAPE TOO SHORT	1145

Analysis: EPA Method 8260B for BTEX, MTBE, and Naphthalene

2-inch diameter well: Well Volume = (water column) x (0.163 gallon/foot)
4-inch diameter well: Well Volume = (water column) x (0.652 gallon/foot)
Purge amount = Well Volume x 3

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel:

General Weather Conditions: PTLY CLDY

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-2

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2" ~~feet~~

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: N/A feet
Depth to Ground Water (DGW): 24.38 feet
Total Well Depth (TWD): 40.00 feet
Length of the water column (LWC = TWD-DGW): 15.62 feet
1 casing volume (CV = LWC X C) = 15.62 X .163 = 2.55 gals
3 casing volume (3 X CV) = 7.64 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	0920	0926	0930					
pH (s.u.)	5.47	5.50	5.56					
Specific Conductivity (µmhos/cm)	.046	.042	.049					
Water Temperature (°C)	21.2	21.2	21.0					
Dissolved Oxygen	0.83	1.11	1.17					
PID readings, if required								

Remarks:

Page _____ of _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name Circle Stop N Shop Job # 303064

Site ID # 05981 Monitoring Well # MW-3

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2" feet

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 N/A feet
Depth to Ground Water (DGW) 23.48 feet
Total Well Depth (TWD) 40.00 feet
Length of the water column (LWC = TWD-DGW) 16.52 feet
1 casing volume (CV = LWC X C) = 16.52 X .163 = 2.69 gals
3 casing volume (3 X CV) = 8.08 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1201	1204	1208					
pH (s.u.)	8.40	7.50	7.33					
Specific Conductivity (µmhos/cm)	.042	.029	.026					
Water Temperature (°C)	20.9	20.9	21.0					
Dissolved Oxygen	2.41	2.04	1.99					
PID readings, if required								

Remarks: _____

Page _____ of _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW.4

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet
Depth to Ground Water (DGW): 27.69 feet
Total Well Depth (TWD): 40.00 feet
Length of the water column (LWC = TWD-DGW): 12.31 feet
1 casing volume (CV = LWC X C) = 12.31 X .163 = 2.00 gals
3 casing volume (3 X CV) = 6.02 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1133	1137	1141					
pH (s.u.)	5.21	5.17	5.12					
Specific Conductivity (µmhos/cm)	.121	.109	.107					
Water Temperature (°C)	18.0	18.0	17.9					
Dissolved Oxygen	1.27	1.37	1.43					
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-7

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet
Depth to Ground Water (DGW): 24.29 feet
Total Well Depth (TWD): 34.00 feet
Length of the water column (LWC = TWD-DGW): 9.71 feet
1 casing volume (CV = LWC X C) = 9.71 X .163 = 1.58 gals
3 casing volume (3 X CV) = 4.75 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	0945	0949	0955					
pH (s.u.)	5.95	5.53	6.03					
Specific Conductivity (µmhos/cm)	.113	.069	.110					
Water Temperature (°C)	19.5	19.8	19.9					
Dissolved Oxygen	1.13	1.28	1.27					
PID readings, if required								

Remarks: _____

02/02/06 10:20 FAX 704 588 8005 SEI ENVIRONMENTAL INC. → RAL SEI 004/018

Page _____ of _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-10R

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet

Depth to Ground Water (DGW): 44.69 feet

Total Well Depth (TWD): 48.00 feet

Length of the water column (LWC = TWD-DGW): 3.31 feet

1 casing volume (CV = LWC X C) = 3.31 X .163 = .540 gals

3 casing volume (3 X CV) = 1.62 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1021	1027	1030					
pH (s.u.)	6.05	6.09	6.07					
Specific Conductivity (µmhos/cm)	.080	.078	.081					
Water Temperature (°C)	16.8	17.0	17.1					
Dissolved Oxygen	0.93	1.16	1.14					
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-13

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2 11 ~~inch~~

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: N/A feet
Depth to Ground Water (DGW): 32.46 feet
Total Well Depth (TWD): 62.00 feet
Length of the water column (LWC = TWD-DGW): 29.54 feet
1 casing volume (CV = LWC X C) = 29.54 X .163 = 4.82 gals
3 casing volume (3 X CV) = 14.45 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1049	1055	1100					
pH (s.u.)	6.41	6.54	6.58					
Specific Conductivity (µmhos/cm)	.287	.300	.313					
Water Temperature (°C)	17.8	17.9	18.0					
Dissolved Oxygen	1.61	2.11	1.98					
PID readings, if required								

Remarks: _____

02/08/06 10:27 FAX 704 588 8808 SEI ENVIRONMENTAL INC. → KAL SEI 010/010

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-14

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet

Depth to Ground Water (DGW): 20.69 feet

Total Well Depth (TWD): 40.00 feet

Length of the water column (LWC = TWD-DGW): 19.31 feet

1 casing volume (CV = LWC X C) = 19.31 X .163 = 3.15 gals

3 casing volume (3 X CV) = 9.44 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1241	1246	1250					
pH (s.u.)	5.43	5.39	5.36					
Specific Conductivity (µmhos/cm)	.018	.017	.017					
Water Temperature (°C)	19.4	19.5	19.5					
Dissolved Oxygen	1.41	1.53	1.47					
PID readings, if required								

Remarks: _____

02/06/06 16:28 FAX 704 588 8805 SEI ENVIRONMENTAL INC. → RAL SEI 001/016

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-15

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet
Depth to Ground Water (DGW): 35.00 feet
Total Well Depth (TWD): 22.12 feet
Length of the water column (LWC = TWD-DGW): 12.88 feet
1 casing volume (CV = LWC X C) = 12.88 X .163 = 2.10 gals
3 casing volume (3 X CV) = 6.30 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1255	1300	1305					
pH (s.u.)	5.16	5.08	5.08					
Specific Conductivity (µmhos/cm)	.022	.021	.021					
Water Temperature (°C)	20.4	20.5	20.5					
Dissolved Oxygen	1.57	1.43	1.46					
PID readings, if required								

Remarks: _____

02/06/06 16:28 FAX 704 588 8808 SEL ENVIRONMENTAL INC. → KAL SEL 010/010

Page _____ of _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-16

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet

Depth to Ground Water (DGW): 24.21 feet

Total Well Depth (TWD): 35.00 feet

Length of the water column (LWC = TWD-DGW): 10.79 feet

1 casing volume (CV = LWC X C) = 10.79 X .163 = 1.76 gals

3 casing volume (3 X CV) = 5.28 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1310	1313	1317					
pH (s.u.)	5.19	5.27	5.30					
Specific Conductivity (µmhos/cm)	.065	.073	.076					
Water Temperature (°C)	18.7	18.4	18.3					
Dissolved Oxygen	1.54	1.60	1.71					
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-18

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet

Depth to Ground Water (DGW): 29.23 feet

Total Well Depth (TWD): 102.00 feet

Length of the water column (LWC = TWD-DGW): 72.77 feet

1 casing volume (CV = LWC X C) = 72.77 X .163 = 11.86 gals

3 casing volume (3 X CV) = 35.58 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1108	1118	1125					
pH (s.u.)	7.16	6.86	6.85					
Specific Conductivity (µmhos/cm)	.130	.131	.129					
Water Temperature (°C)	17.4	17.2	17.5					
Dissolved Oxygen	3.11	2.76	2.68					
PID readings, if required								

Remarks: _____

02/08/06 10:27 FAX 704 588 8808 SEL ENVIRONMENTAL INC. → RAL SEL 008/010

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-23

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2" ~~feet~~

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: N/A feet
Depth to Ground Water (DGW): 24.40 feet
Total Well Depth (TWD): 70.00 feet
Length of the water column (LWC = TWD-DGW): 45.60 feet
1 casing volume (CV = LWC X C) = 45.60 X .163 = 7.43 gals
3 casing volume (3 X CV) = 22.3 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	0906	0913	0916					
pH (s.u.)	6.50	6.19	6.27					
Specific Conductivity (µmhos/cm)	.071	.070	.071					
Water Temperature (°C)	20.0	19.4	19.6					
Dissolved Oxygen	0.35	0.57	0.61					
PID readings, if required								

Remarks: _____

Page _____ of _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-25

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2"

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: N/A feet

Depth to Ground Water (DGW): 26.72 feet

Total Well Depth (TWD): 65.00 feet

Length of the water column (LWC = TWD-DGW): 38.28 feet

1 casing volume (CV = LWC X C) = 38.28 X .163 = 6.24 gals

3 casing volume (3 X CV) = 18.72 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1005	1011	1017					
pH (s.u.)	6.58	6.61	6.61					
Specific Conductivity (µmhos/cm)	.095	.094	.117					
Water Temperature (°C)	19.3	18.9	18.7					
Dissolved Oxygen	1.49	1.44	1.39					
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

Date (mm/dd/yy): 2/2/06

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH = 4.0		standard	
pH = 7.0		standard	
pH = 10.0		standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop Job #: 303064

Site ID #: 05981 Monitoring Well #: MW-26

Water Supply Well Public _____ Private _____

Monitoring Well Diamter (D): 2 " ~~feet~~

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 Ground Water (DGW) ? feet
Total Well Depth (TWD) 100+ feet
Length of the water column (LWC = TWD-DGW) ? feet
1 casing volume (CV = LWC X C) = ____ X ____ = ____ gals
3 casing volume (3 X CV) = _____ gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ gals
* If fee product is present over 1/8 inch, sampling will not be required.

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	1145							
pH (s.u.)	12.01							
Specific Conductivity (µmhos/cm)	2.49							
Water Temperature (°C)	18.0							
Dissolved Oxygen	6.97							
PID readings, if required								

Remarks: _____

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental

Address: 5100 Reagan Dr., Suite 7

City: Charlotte State: NC Zip: 28206

Send Report to:
Phone #: 704-596-8624

Facility Information

Project Name: Circle Stop N Shop

Location:

Project No.:

FAX #:

Analytical Information

8260B BTEX, MTBE, NAPTH

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Vial	NaOH	HNO3	H2SO4	None	8260B BTEX, MTBE, NAPTH
MW-23	2/2/06	0916	HP, SS	GW	3	X					X
MW-2		0930									
MW-7		0955									
MW-25		1017									
MW-10R		1030									
MW-13		1100									
MW-18		1125									
MW-4		1141									
MW-26		1145									
MW-3		1208									

Turnaround Information

- [ ] 21 Day Standard — Approved By:
- [ ] 14 Day
- [ ] 7 Days *EMERGENCY*
- [ ] Other _____ (Days)

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 HPt	2/2/06 1715	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐

Revised 09/2005 RS

02/06/06 16:28 FAX 704 596 8605 SEI ENVIRONMENTAL INC. → KAL SEI 010/010

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental

Address: 5100 Reagan Dr., Suite 7

City: Charlotte State: NC Zip: 28206

Send Report to:

Phone #: 704-596-8624

Facility Information

Project Name: Circle Stop N Shop

Location:

Project No.:

FAX #:

Analytical Information

Field ID / Point of Collection	Collection Date	Collection Time	Sampled By	Matrix	# of bottles	Preservation: Ice	NaOH	HNO3	H2SO4	None	8260B BTEX, MTBE, Naphth.
MW-14	2/2/06	1250	HP,SS	GW	3	X					X
MW-15	↓	1305	↓	↓	↓	↓					↓
MW-16	↓	1317	↓	↓	↓	↓					↓

Turnaround Information

- ☐ 21 Day Standard — Approved By:
- ☐ 14 Day
- ☐ 7 Days *EMERGENCY*
- ☐ Other _____ (Days)

RUSH TAT is for FAX data

Data unless previously approved.

Data Deliverable Information

- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ Disk Deliverable
- ☐ Other (Specify) _____
- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ ASP Category B
- ☐ State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	2/2/06 1715	1	2		2
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applica ☐	On Ice: ☐

Revised 09/2005 RS

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

ACCUTEST

CHAIN OF CUSTODY

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

F38319

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 5100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28206
Send Report to:
Phone #: 704-586-8624

Facility Information

Project Name: Circle Stop N Shop
Location:
Project No.:
FAX #:

Analytical Information

8260B 8260B, MTBE, NAPH74

Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	Preservation HCl	NaOH	HNO3	H2SO4	None
(1) MW-23	2/2/06	0916	HPSS	GW	3	X				
(2) MW-2		0930								
(3) MW-7		0955								
(4) MW-25		1017								
(5) MW-10R		1030								
(6) MW-13		1100								
(7) MW-18		1125								
(8) MW-4		1141								
(9) MW-26		1145								
(10) MW-3		1208								

Turnaround Information

- [ ] 21 Day Standard
- [ ] 14 Day
- [ ] 7 Days EMERGENCY
- [ ] Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Date unless previously approved.

Date Deliverable Information

- [ ] NJ Reduced
- [ ] NJ Full
- [ ] FULL CLP
- [ ] Disk Deliverable
- [ ] Other (Specify)
- [ ] Commercial "A"
- [ ] Commercial "B"
- [ ] ASP Category B
- [ ] State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1	2/2/06 1715	1 FX	2 FX		2 2/3/06 0900
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Seal #	Preserved where applicable ☐	On Ice: ☐

Revised 09/2005 RS

2.2

F38319: Chain of Custody
Page 1 of 3

CHAIN OF CUSTODY

ACCUTEST

4405 Vineland Rd., Suite C15
Orlando, FL 32811
407.425.6700, fax 407.425.0707

F38319

Accutest Job #:

Accutest Control #:

Client Information

Name: SEI Environmental
Address: 5100 Reagan Dr., Suite 7
City: Charlotte State: NC Zip: 28206
Send Report to:
Phone #: 704-596-5524

Facility Information

Project Name: Circle Stop N Shop
Location:
Project No.:
FAX #:

Analytical Information

8260B BTEX-MTBE, NAPTH

Field ID / Point of Collection	Collection Date	Time	Sampled By	Matrix	# of bottles	Preservation: Ice	MeOH	HNO3	H2SO4	None	8260B BTEX-MTBE, NAPTH
MW-14	2/2/06	1250	HPSS	GW	3	X					X
MW-15	↓	1305	↓	↓	↓	↓					↓
MW-16	↓	1317	↓	↓	↓	↓					↓

Turnaround Information

- ☐ 21 Day Standard
- ☐ 14 Day
- ☐ 7 Days EMERGENCY
- ☐ Other _____ (Days)

Approved By:

RUSH TAT is for FAX data
Data unless previously approved.

Data Deliverable Information

- ☐ NJ Reduced
- ☐ NJ Full
- ☐ FULL CLP
- ☐ Disk Deliverable
- ☐ Other (Specify)
- ☐ Commercial "A"
- ☐ Commercial "B"
- ☐ ASP Category B
- ☐ State Forms

Comments / Remarks

Sample Custody must be documented below each time samples change possession, including courier delivery.

Relinquished by Sampler:	Date Time:	Received By:	Relinquished By:	Date Time:	Received By:
1 [signature]	2/2/06 1715	1 FX	2 FX		2 [signature] 2/3/06 0500
Relinquished by Sampler: 3	Date Time:	Received By: 3	Relinquished By: 4	Date Time:	Received By: 4
Relinquished by Sampler: 5	Date Time:	Received By: 5	Cooler temp:	Preserved where applicable ☐	On Ice: ☐

Revised 09/2005 RS

SEI Environmental, Inc.

3021 McNaughton Drive
Suite 9
Columbia, SC 29223
800-377-2826
803-788-2535
Fax 803-788-2399

RECEIVED
SEP 05 2003
UNDERGROUND STORAGE TANK PROGRAM

September 2, 2003

Umar K. Khattak
Hydrogeologist / Project Manager
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

Re: Summary of System Start-up
Circle Stop N Shop
US Hwy 378 & 379
Leesville, South Carolina
UST Permit # 05981

SCANNED

Dear Mr. Khattak;

SEI Environmental, Inc. (SEI) summary of gauging results and laboratory analytical results for samples collected on August 18 and August 19, 2003. Attached, Appendix A, are Figure 1, a topographic map depicting the location of the site and Figure 2, a site map illustrating the location of the monitoring wells.

October 1 and December 19, 2002, twenty-two (22) samples were collected from the monitoring wells onsite. The samples collected were analyzed for Benzene, Toluene, Ethylbenzene, Xylene, Methyl Tert-butyl Ether, and Naphthalene. Attached in Appendix B is Table 1, which summarizes the October 1 and December 19, 2002 laboratory analytical results.

August 4, 2003, SEI personnel commenced with corrective action at the site via the patented hydrogen peroxide injection system ("Per-Petual").

August 18 and 19, 2003, SEI personnel were on site to gauge the monitoring wells and collect groundwater samples. Twenty-two (22) monitoring wells / sample points were gauged. Free product was not observed in any of the monitoring wells / sampling points. Upon completion of gauging, twenty-two (22) monitoring wells were purged and field screened. 255 gallons of petroleum-impacted water was generated from the purging of the twenty-two (22) monitoring wells / sample points. Attached in Appendix C are Table 2, which summarizes the August 18 and 19, 2003 gauging and field screening information and copies of the Field Data Information Sheet(s) for Ground Water Sampling. Upon completion of purging and collection of field screening information, a representative sample was collected from each sample point. Each sample was submitted to Environmental Science Laboratory in Nashville, Tennessee for analysis for Benzene, Toluene, Ethylbenzene, Xylene (BTEX) by EPA method 8260B, Methyl Tert-butyl Ether (MTBE) by EPA method 8260B, and Naphthalene by EPA method 8260B. Attached in Appendix D are Table 3, which summarizes the laboratory analytical results and copies of the

UST PROGRAM
DOCKETING # 27 Tech

SEI
Environmental, Inc.

laboratory analytical results and a copy of the Chain of Custody. Attached in Appendix E is Figure 3, a CoC map based on the August 18 and 19, 2003 laboratory analytical data.

August 19, 2003, 255 gallons of petroleum-impacted water, which was generated from the purging of the sample points was disposed at G & K Tank Services, Inc.; located in Sumter, SC. Attached in Appendix F are copies of the Non-Hazardous Waste Manifest and Certificate for Disposal for the 255 gallons of petroleum-impacted water.

The evaluation of the corrective action activities effectiveness consists of comparing the August 18 and 19, 2003 laboratory analytical data against the October 1 and December 19, 2002 laboratory data and determining the percent of total concentration reduction. The percent of total concentration reduction is calculated by using the following formula:

> Percent of Total Concentration Reduction = ((Initial Mass Above SSTL) – (Current Mass Above SSTL) *(100)) / (Initial Mass Above SSTL)

The calculation for the August 18 and 19, 2003 Percent of Total Concentration Reduction was found to be 60.72%. Attached in Appendix G is Table 4, which illustrates the system's effectiveness analysis.

The patented hydrogen peroxide injection system ("Per-Petual") at the above referenced facility will continue to complete corrective action activities. SEI has scheduled the next collection of groundwater samples for the third week of September. Upon receipt of the laboratory analytical, SEI will submit a report summarizing the findings.

If you have any questions and / or comments, concerning the information provided in this document, please contact John Paul Bekish at (803) 788-2535.

Sincerely,

John Paul Bekish
Branch Manager
SEI – Columbia Office

SOUTH CAROLINA PROFESSIONAL ENGINEER LICENSE No. 21054 RANDY R. CASEY

9/2/03

Randy Casey
P.E. #21054

Attachment(s)

CC: Joan Boozer, Circle Stop N Shop Property Owner
SEI Project Files

Appendix A

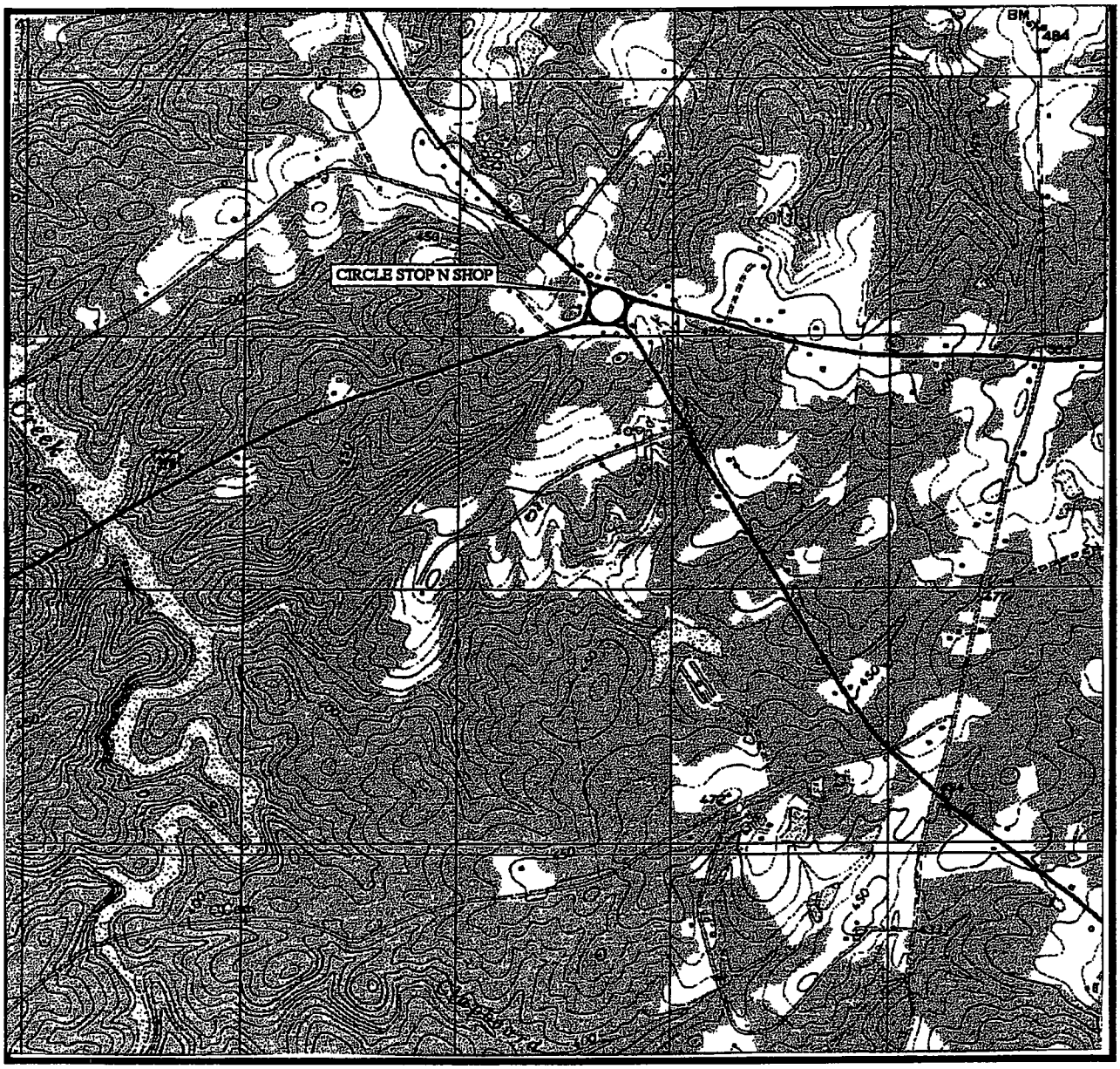
Figure 1 - Topographic Map

&

Figure 2 - Site Map

7.5 MINUTE SERIES(TOPOGRAPHIC)

DELMAR QUADRANGLE



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

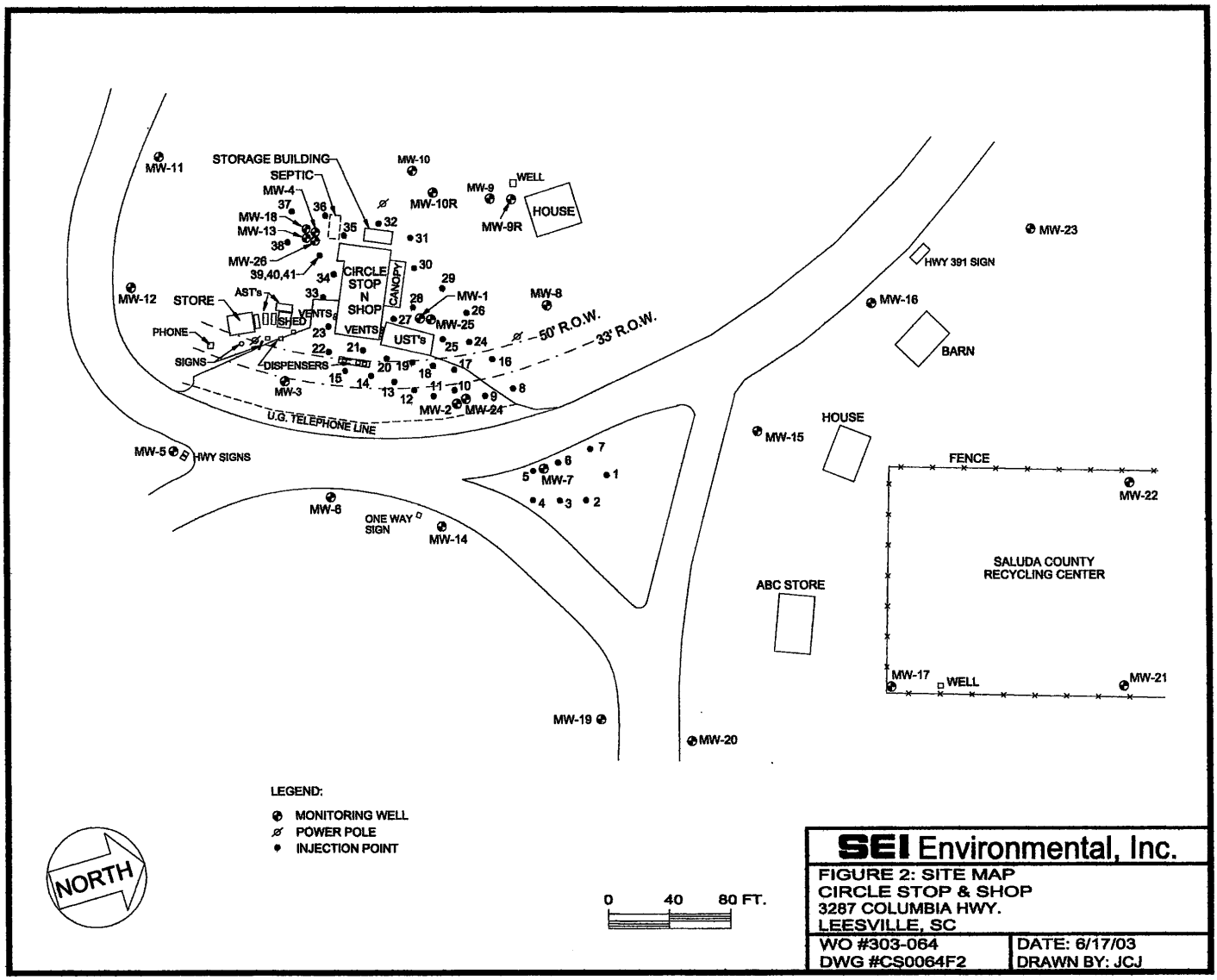
1 .5 0 1 KILOMETER

NORTH

SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064 DWG #	DATE: 6/12/03 DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 6/17/03
DWG #CS0064F2	DRAWN BY: JCJ

Appendix B

Table 1 – Summary of October 1 & December 19, 2002 Laboratory Analytical Data

Table 1

Summary of Laboratory Analytical Results - October 1, 2002 & December 19, 2002
Circle Stop and Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Monitoring Well	Benzene (ppb)	Toleune (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	Naphthalene (ppb)	Total Conc. (ppb)
MW-1	2,300.00	29,000.00	3,300.00	18,900.00	2,100.00	710.00	56,310.00
MW-2	10,000.00	26,000.00	2,600.00	9,400.00	1,300.00	520.00	49,820.00
MW-3	85.00	93.00	<5.00	102.00	<5.00	<5.00	295.00
MW-4	5,500.00	47,000.00	3,900.00	17,900.00	6,400.00	590.00	81,290.00
MW-5	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-6	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-7	226,000.00	301,000.00	280,000.00	278,000.00	5,110,000.00	2,000.00	6,197,000.00
MW-8	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-9R	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-10R	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-11	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-12	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-13	7,400.00	14,000.00	2,500.00	7,700.00	69,000.00	290.00	100,890.00
MW-14	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-15	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-17	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-18	<5.00	7.00	<5.00	139.00	2,300.00	24.00	2,480.00
MW-24	<5.00	<5.00	<5.00	<15.00	32.00	<5.00	67.00
MW-25	<5.00	<5.00	<5.00	<15.00	9.00	<5.00	44.00
MW-26	<5.00	<5.00	<5.00	<15.00	110.00	<5.00	145.00
WSW-1	<5.00	<5.00	<5.00	<15.00	6.00	<5.00	41.00
WSW-2	<5.00	<5.00	<5.00	<15.00	6.00	<5.00	41.00
Initial Mass	251,365.00	417,175.00	292,381.00	332,366.00	5,191,314.00	4,210.00	6,488,823.00
SSTL Mass	690.00	112,975.00	14,985.00	63,766.00	409.00	239.00	193,604.00
Initial Mass Above SSTL	250,675.00	304,200.00	277,396.00	268,600.00	5,190,905.00	3,971.00	6,295,219.00

Note: MW-7 had 0.08 Feet of Free Phased Product Observed on January 15, 2003

Appendix C

Table 2 – Summary of August 18 & 19, 2003 Gauging and Field Screening Activities

&

Field Data Information Sheet(s) for Ground Water Sampling

Table 2

Summary of Field Observations - August 18 & 19, 2003
Circle Stop & Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Sample ID	Frequency	Depth to Product (Feet)	Free Product Thickness (Feet)	Depth to Groundwater (Feet)	Total Well Depth (Feet)	pH (S.U.)	Specific Conductivity (umhos/cm)	Water Temp. (Degrees C)	Dissolved Oxygen (S.U.)	Volume Purged (Gal.)	Notes
MW-1	Initial	N/A	N/A	21.69	49.00	N/A	N/A	N/A	N/A	13.35	Strong Odor
MW-2	Initial	N/A	N/A	19.82	40.00	N/A	N/A	N/A	N/A	9.80	Strong Odor
MW-3	Initial	N/A	N/A	18.04	40.00	N/A	N/A	N/A	N/A	10.70	Strong Odor
MW-4	Initial	N/A	N/A	23.31	40.00	N/A	N/A	N/A	N/A	8.10	Strong Odor
MW-5	Initial	N/A	N/A	15.84	45.00	6.71	0.259	25.90	0.29		
MW-5	1st Volume				45.00	6.54	0.161	22.90	1.54	4.70	
MW-5	2nd Volume				45.00	6.26	0.175	21.50	2.05	4.70	
MW-5	3rd Volume				45.00	6.35	0.215	21.30	2.45	4.80	
MW-5	Post Sampling				45.00	6.31	0.255	21.30	1.68		Full Recharge
MW-6	Initial	N/A	N/A	16.31	40.00	5.22	0.026	22.80	4.07		
MW-6	1st Volume				40.00	5.24	0.030	21.00	4.38	3.80	
MW-6	2nd Volume				40.00	4.94	0.021	20.60	4.66	3.80	
MW-6	3rd Volume				40.00	4.83	0.022	20.40	4.21	3.90	
MW-6	Post Sampling				40.00	4.87	0.022	20.30	3.98		Full Recharge
MW-7	Initial	N/A	N/A	19.78	34.00	N/A	N/A	N/A	N/A	6.96	Strong Odor
MW-8	Initial	N/A	N/A	18.28	40.00	5.85	0.034	20.40	4.76		
MW-8	1st Volume				40.00	5.40	0.026	18.70	4.90	2.98	
MW-8	2nd Volume				40.00	5.20	0.025	18.40	5.09	2.98	
MW-8	3rd Volume				40.00	5.23	0.028	18.30	5.53	2.98	
MW-8	Post Sampling				40.00	5.25	0.032	18.20	4.71		Full Recharge
MW-9R	Initial	N/A	N/A	30.33	67.00	9.63	0.156	19.10	5.67		
MW-9R	1st Volume				67.00	7.10	0.130	18.60	5.84	5.90	
MW-9R	2nd Volume				67.00	6.11	0.061	18.30	6.02	5.90	
MW-9R	3rd Volume				67.00	5.66	0.056	18.20	6.47	6.10	
MW-9R	Post Sampling				67.00	5.33	0.058	18.20	6.02		Full Recharge

Table 2 - Continued

Summary of Field Observations - August 18 & 19, 2003
Circle Stop & Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Sample ID	Frequency	Depth to Product (Feet)	Free Product Thickness (Feet)	Depth to Groundwater (Feet)	Total Well Depth (Feet)	pH (S.U.)	Specific Conductivity (umhos/cm)	Water Temp. (Degrees C)	Dissolved Oxygen (S.U.)	Volume Purged (Gal.)	Notes
MW-11	Initial	N/A	N/A	19.96	40.00	5.06	0.052	21.70	6.37		
MW-11	1st Volume				40.00	4.61	0.049	20.30	6.63	3.20	
MW-11	2nd Volume				40.00	4.47	0.047	19.90	6.65	3.20	
MW-11	3rd Volume				40.00	4.44	0.047	19.80	6.73	3.50	
MW-11	Post Sampling				40.00	4.44	0.047	19.90	6.78		Full Recharge
MW-12	Initial	N/A	N/A	17.51	40.00	5.62	0.045	23.00	6.37		
MW-12	1st Volume				40.00	5.53	0.033	21.90	5.98	3.60	
MW-12	2nd Volume				40.00	5.59	0.041	22.20	5.47	3.60	
MW-12	3rd Volume				40.00	5.69	0.043	21.40	5.45	3.70	
MW-12	Post Sampling				40.00	5.72	0.045	21.40	5.54		Full Recharge
MW-13	Initial	N/A	N/A	24.11	62.00	N/A	N/A	N/A	N/A	18.50	Strong Odor
MW-14	Initial	N/A	N/A	15.29	40.00	6.13	0.073	21.50	0.94		
MW-14	1st Volume				40.00	5.71	0.042	20.30	3.79	4.03	
MW-14	2nd Volume				40.00	5.05	0.024	20.20	5.37	4.03	
MW-14	3rd Volume				40.00	4.53	0.024	19.50	5.72	4.03	
MW-14	Post Sampling				40.00	4.43	0.021	20.20	6.23		Full Recharge
MW-15	Initial	N/A	N/A	17.51	35.00	5.07	0.055	22.10	4.36		
MW-15	1st Volume				35.00	5.11	0.024	21.40	5.00	2.85	
MW-15	2nd Volume				35.00	5.01	0.022	20.90	4.53	2.85	
MW-15	3rd Volume				35.00	4.99	0.022	20.90	5.15	2.85	
MW-15	Post Sampling				35.00	4.97	0.022	20.90	4.75		Full Recharge
MW-17	Initial	N/A	N/A	14.26	37.00	4.69	0.071	20.50	6.99		
MW-17	1st Volume				37.00	4.71	0.070	19.90	7.31	3.71	
MW-17	2nd Volume				37.00	4.55	0.066	19.70	6.59	3.71	
MW-17	3rd Volume				37.00	4.54	0.073	19.50	7.08	3.71	

Table 2 - Continued

Summary of Field Observations - August 18 & 19, 2003
Circle Stop & Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Sample ID	Frequency	Depth to Product (Feet)	Free Product Thickness (Feet)	Depth to Groundwater (Feet)	Total Well Depth (Feet)	pH (S.U.)	Specific Conductivity (umhos/cm)	Water Temp. (Degrees C)	Dissolved Oxygen (S.U.)	Volume Purged (Gal.)	Notes
MW-17	Post Sampling				37.00	4.50	0.073	19.50	6.80		Full Recharge
MW-18	Initial	N/A	N/A	24.82	102.00	N/A	N/A	N/A	N/A	37.70	Strong Odor
MW-19	Initial	N/A	N/A	11.21	37.00	5.50	0.029	21.80	4.27		
MW-19	1st Volume				37.00	5.35	0.023	20.30	4.59	4.20	
MW-19	2nd Volume				37.00	5.42	0.024	19.80	4.24	4.20	
MW-19	3rd Volume				37.00	5.29	0.023	19.80	4.38	4.20	
MW-19	Post Sampling				37.00	5.37	0.025	19.70	4.71		Full Recharge
MW-20	Initial	N/A	N/A	12.36	40.00	5.02	0.116	24.70	2.95		
MW-20	1st Volume				40.00	4.83	0.110	21.70	3.44	4.50	
MW-20	2nd Volume				40.00	4.79	0.111	21.90	4.13	4.50	
MW-20	3rd Volume				40.00	4.66	0.113	21.30	3.06	4.50	
MW-20	Post Sampling				40.00	4.50	0.110	21.60	4.02		Full Recharge
MW-21	Initial	N/A	N/A	10.17	41.00	5.56	0.028	21.10	4.75		
MW-21	1st Volume				41.00	5.55	0.022	19.20	4.83	5.03	
MW-21	2nd Volume				41.00	5.45	0.021	19.00	5.14	5.03	
MW-21	3rd Volume				41.00	5.38	0.021	18.90	5.73	5.03	
MW-21	Post Sampling				41.00	5.39	0.022	18.70	5.43		Full Recharge
MW-22	Initial	N/A	N/A	10.61	46.00	5.23	0.031	20.40	6.00		
MW-22	1st Volume				46.00	5.12	0.030	19.20	6.34	5.77	
MW-22	2nd Volume				46.00	5.05	0.029	18.50	6.80	5.77	
MW-22	3rd Volume				46.00	4.98	0.030	18.30	6.78	5.77	
MW-22	Post Sampling				46.00	4.93	0.032	18.50	6.44		Full Recharge
MW-24	Initial	N/A	N/A	19.76	70.00	6.37	0.137	24.30	3.90		
MW-24	1st Volume				70.00	6.35	0.081	22.10	3.85	8.10	
MW-24	Post Sampling				70.00	6.26	0.079	21.20	4.17	1.90	Bailed Dry

Table 2 - Continued

Summary of Field Observations - August 18 & 19, 2003
Circle Stop & Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Sample ID	Frequency	Depth to Product (Feet)	Free Product Thickness (Feet)	Depth to Groundwater (Feet)	Total Well Depth (Feet)	pH (S.U.)	Specific Conductivity (umhos/cm)	Water Temp. (Degrees C)	Dissolved Oxygen (S.U.)	Volume Purged (Gal.)	Notes
MW-25	Initial	N/A	N/A	10.61	65.00	6.40	0.061	22.70	5.02		
MW-25	1st Volume				65.00	6.17	0.095	22.70	2.25	7.00	
MW-25	2nd Volume				65.00	6.25	0.110	21.60	1.11	7.00	
MW-25	3rd Volume				65.00	6.24	0.107	19.70	1.73	7.00	
MW-25	Post Sampling				65.00	6.20	0.108	20.00	2.93		Full Recharge
MW-26	Initial	N/A	N/A	> 100.00	N/A	N/A	N/A	N/A	N/A	5.00	Hot Well

Notes: N/A = Not Applicable

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW1
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 21.69 feet
Total Well Depth (TWD) 49 feet
Length of the water column (LWC=TWD-DGW) 27.31 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 4.45 gals
3 casing volume (3 X CV)= 13.35 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 13.35 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)								1145
pH (s.u.)								
Specific Conductivity (µmhos/cm)								
Water Temperature (°C)								
Dissolved Oxygen								
PID readings, if required								

Remarks: dry well

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Waymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop + Shop
Site ID#: 05981 **Monitoring Well #** 2
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 19.82 feet
Total Well Depth (TWD) 40.0 feet
Length of the water column (LWC=TWD-DGW) 20.18 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 3.2 gals
3 casing volume (3 X CV)= 9.8 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1230	
pH (s.u.)								
Specific Conductivity (µmhos/cm)								
Water Temperature (°C)								
Dissolved Oxygen								
PID readings, if required								

Remarks: hot well

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 3
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 18.04 feet
Total Well Depth (TWD) 40.0 feet
Length of the water column (LWC=TWD-DGW) 21.96 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 3.5 gals
3 casing volume (3 X CV)= 10.7 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1315	
pH (s.u.)								
Specific Conductivity (µmhos/cm)								
Water Temperature (°C)								
Dissolved Oxygen								
PID readings, if required								

Remarks: hot well

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 4
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 23.31 feet
Total Well Depth (TWD) 40.0 feet
Length of the water column (LWC=TWD-DGW) 16.69 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 2.7 gals
3 casing volume (3 X CV)= 8.1 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1320	
pH (s.u.)								
Specific Conductivity (µmhos/cm)								
Water Temperature (°C)								
Dissolved Oxygen								
PID readings, if required								

Remarks: hot well

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Wagner, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 5
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 15.89 feet
Total Well Depth (TWD) 45.0 feet
Length of the water column (LWC=TWD-DGW) 29.11 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 4.7 gals
3 casing volume (3 X CV)= 14.2 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)								1495
pH (s.u.)	6.71	6.54	6.26	6.35			6.31	
Specific Conductivity (µmhos/cm)	.259	.161	.175	.215			.255	
Water Temperature (°C)	25.9	22.9	21.5	21.3			21.3	
Dissolved Oxygen	.29	1.54	2.05	2.45			1.68	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymor, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 6
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 16.31 feet
Total Well Depth (TWD) 40.0 feet
Length of the water column (LWC=TWD-DGW) 23.69 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 3.8 gals
3 casing volume (3 X CV)= 11.5 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1515	
pH (s.u.)	5.22	5.24	4.94	4.83			4.87	
Specific Conductivity (µmhos/cm)	.026	.030	.021	.022			.022	
Water Temperature (°C)	22.8	21.0	20.6	20.4			20.3	
Dissolved Oxygen	4.07	4.38	4.66	4.21			3.98	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW7
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" feet

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 Ground Water (DGW) 19.78 feet
Total Well Depth (TWD) 34 feet
Length of the water column (LWC=TWD-DGW) 14.22 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 2.32 gals
3 casing volume (3 X CV)= 6.96 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1315	
pH (s.u.)								
Specific Conductivity (µmhos/cm)								
Water Temperature (°C)								
Dissolved Oxygen								
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW8
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 21.72 feet
Total Well Depth (TWD) 40 feet
Length of the water column (LWC=TWD-DGW) 18.28 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 2.98 gals
3 casing volume (3 X CV)= 8.94 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 8.94 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)								1245
pH (s.u.)	5.85	5.40	5.20	5.23			5.25	
Specific Conductivity (µmhos/cm)	.034	.026	.025	.028			.032	
Water Temperature (°C)	20.4	18.7	18.4	18.3			18.2	
Dissolved Oxygen	4.76	4.90	5.09	5.53			4.71	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Wagner, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 9r
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 30.33 feet
Total Well Depth (TWD) 67.0 feet
Length of the water column (LWC=TWD-DGW) 36.67 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 5.9 gals
3 casing volume (3 X CV)= 17.9 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1130	
pH (s.u.)	9.63	7.10	6.11	5.66			5.33	
Specific Conductivity (µmhos/cm)	.156	.130	.061	.056			.058	
Water Temperature (°C)	19.1	18.6	18.3	18.2			18.2	
Dissolved Oxygen	5.67	5.84	6.02	6.47			6.02	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 11
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 19.96 feet
Total Well Depth (TWD) 40.0 feet
Length of the water column (LWC=TWD-DGW) 20.04 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 3.2 gals
3 casing volume (3 X CV)= 9.7 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 9.7 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)								1350
pH (s.u.)	5.86	4.61	4.47	4.44			4.44	
Specific Conductivity (µmhos/cm)	.052	.049	.047	.047			.047	
Water Temperature (°C)	21.7	20.3	19.9	19.8			19.9	
Dissolved Oxygen	6.37	6.63	6.65	6.73			6.78	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 12
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 17.51 feet
Total Well Depth (TWD) 40.0 feet
Length of the water column (LWC=TWD-DGW) 22.49 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 3.6 gals
3 casing volume (3 X CV)= 10.9 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1425	
pH (s.u.)	5.62	5.53	5.59	5.69			5.72	
Specific Conductivity (µmhos/cm)	.045	.033	.041	.043			.045	
Water Temperature (°C)	23.0	21.9	22.2	21.4			21.4	
Dissolved Oxygen	6.37	5.98	5.47	5.45			5.54	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 13
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 24.11 feet
Total Well Depth (TWD) 62.0 feet
Length of the water column (LWC=TWD-DGW) 37.89 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 6.1 gals
3 casing volume (3 X CV)= 18.5 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1400	
pH (s.u.)								
Specific Conductivity (µmhos/cm)								
Water Temperature (°C)								
Dissolved Oxygen								
PID readings, if required								

Remarks: hot well

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Wagner, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW14
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 15.29 feet
Total Well Depth (TWD) 40 feet
Length of the water column (LWC=TWD-DGW) 24.71 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 4.03 gals
3 casing volume (3 X CV)= 12.09 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1520	
pH (s.u.)	6.13	5.71	5.05	4.53			4.43	
Specific Conductivity (µmhos/cm)	.073	.042	.024	.024			.021	
Water Temperature (°C)	21.5	20.3	20.2	19.5			20.2	
Dissolved Oxygen	0.94	3.79	5.37	5.72			6.28	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Wagner, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW15
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 17.51 feet
Total Well Depth (TWD) 35 feet
Length of the water column (LWC=TWD-DGW) 17.49 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 2.85 gals
3 casing volume (3 X CV)= 8.55 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 8.55 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)							1225	
pH (s.u.)	5.07	5.11	5.01	4.99			4.97	
Specific Conductivity (µmhos/cm)	.055	.024	.022	.022			.022	
Water Temperature (°C)	22.1	21.4	20.9	20.9			20.9	
Dissolved Oxygen	4.36	5.60	4.53	5.15			4.75	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymor, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW17
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 14.26 feet
Total Well Depth (TWD) 37 feet
Length of the water column (LWC=TWD-DGW) 22.74 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 3.71 gals
3 casing volume (3 X CV)= 11.13 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 11.13 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)							1330	
pH (s.u.)	4.68	4.71	4.55	4.54			4.50	
Specific Conductivity (µmhos/cm)	.071	.070	.066	.073			.073	
Water Temperature (°C)	20.5	19.8	19.7	19.5			19.5	
Dissolved Oxygen	6.99	7.31	6.57	7.08			6.80	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 18
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 24.82 feet
Total Well Depth (TWD) 102.0 feet
Length of the water column (LWC=TWD-DGW) 77.18 feet

1 casing volume (CV=LWC X C)= _____ X _____ = ~~77.18~~ 12.5 gals
3 casing volume (3 X CV)= 37.7 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1420	
pH (s.u.)								
Specific Conductivity (µmhos/cm)								
Water Temperature (°C)								
Dissolved Oxygen								
PID readings, if required								

Remarks: hot well

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW19
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 11.21 feet
Total Well Depth (TWD) 37 feet
Length of the water column (LWC=TWD-DGW) 25.79 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 4.20 gals
3 casing volume (3 X CV)= 12.6 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)								1600
pH (s.u.)	5.50	5.35	5.42	5.29			5.37	
Specific Conductivity (µmhos/cm)	.029	.023	.024	.023			.025	
Water Temperature (°C)	21.8	20.3	19.8	19.8			19.7	
Dissolved Oxygen	4.27	4.59	4.24	4.38			4.71	
PID readings, if required								

Remarks: sample not sent to lab - sampled in error

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW20
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 12.36 feet
Total Well Depth (TWD) 40 feet
Length of the water column (LWC=TWD-DGW) 27.64 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 4.5 gals
3 casing volume (3 X CV)= 13.5 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1555	
pH (s.u.)	5.02	4.83	4.79	4.66			4.50	
Specific Conductivity (µmhos/cm)	116	1110	1111	1113			1110	
Water Temperature (°C)	24.7	21.7	21.9	21.3			21.6	
Dissolved Oxygen	2.95	3.44	4.13	3.06			4.02	
PID readings, if required								

Remarks: sample not sent to lab - sampled in error

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW21
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 10.17 feet
Total Well Depth (TWD) 41 feet
Length of the water column (LWC=TWD-DGW) 30.83 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 5.03 gals
3 casing volume (3 X CV)= 15.09 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)								1355
pH (s.u.)	5.56	5.55	5.45	5.38			5.39	
Specific Conductivity (µmhos/cm)	.028	.022	.021	.021			.022	
Water Temperature (°C)	21.1	19.2	19.0	18.9			18.7	
Dissolved Oxygen	4.75	4.83	5.14	5.73			5.43	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** MW22
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 10.61 feet
Total Well Depth (TWD) 46 feet
Length of the water column (LWC=TWD-DGW) 35.39 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 5.77 gals
3 casing volume (3 X CV)= 17.31 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1425	
pH (s.u.)	5.23	5.12	5.05	4.98			4.93	
Specific Conductivity (µmhos/cm)	.031	.030	.028	.030			.032	
Water Temperature (°C)	20.4	19.2	18.5	18.3			18.5	
Dissolved Oxygen	6.60	6.34	6.86	6.78			6.44	
PID readings, if required								

Remarks: _____

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop & Shop
Site ID#: 05981 **Monitoring Well #** 24
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 19.76 feet
Total Well Depth (TWD) 70.0 feet
Length of the water column (LWC=TWD-DGW) 50.24 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 8.1 gals
3 casing volume (3 X CV)= 24.5 gals (standard purge volume)

Total Volume of Water Purged Before Sampling 10.0 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)							1155	
pH (s.u.)	6.37	6.35					6.20	
Specific Conductivity (µmhos/cm)	.137	.081					.079	
Water Temperature (°C)	24.3	22.1					21.2	
Dissolved Oxygen	3.90	3.85					4.17	
PID readings, if required								

Remarks: BAILED DRY SLOW RECHARGE

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

Field Data Information Sheet for Ground Water Sampling

job # 303064

Date (mm/dd/yy): 8.18.03
Field Personnel: J. Weymer, V. Chisholm
General Weather Conditions: _____

Ambient Air Temperature: _____ °C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	1854	serial no.	1854
pH=4.0	±0.002 PH@25°C	standard	4.49 ms/cm
pH=7.0		standard	
pH=10.0		standard	

AUTO CAL SOLUTION PROVIDED BY PINE ENVIRONMENTAL SERVICE INC FOR HORIBA

Chain of Custody

Relinquished by _____ Date/Time _____ Received by _____ Date/Time _____

Facility Name: Circle Stop + Shop
Site ID#: 05981 **Monitoring Well #** 25
Water Supply Well **Public** _____ **Private** _____

Monitoring Well Diameter (D): 2" 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 Ground Water (DGW) 21.94 feet
Total Well Depth (TWD) 65.0 feet
Length of the water column (LWC=TWD-DGW) 43.06 feet

1 casing volume (CV=LWC X C)= _____ X _____ = 7.0 gals
3 casing volume (3 X CV)= 21.0 gals (standard purge volume)

Total Volume of Water Purged Before Sampling _____ 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)							1245	
pH (s.u.)	6.40	6.17	6.25	6.24			6.20	
Specific Conductivity (µmhos/cm)	.061	.095	.110	.107			.108	
Water Temperature (°C)	22.7	22.7	21.6	19.7			20.0	
Dissolved Oxygen	5.02	2.25	1.11	1.73			2.93	
PID readings, if required								

Remarks: _____

Appendix D

Table 3 – Summary of August 18 & 19, 2003 Laboratory Analytical Data

&

Copies of Laboratory Analytical Data and Chain of Custody

Table 3

Summary of Laboratory Analytical Results
August 18 & 19, 2003
Circle Stop and Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Monitoring Well	Benzene (ppb)	Toleune (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	Naphthalene (ppb)	Total Conc. (ppb)
MW-1	1,700.00	1,300.00	2,600.00	13,000.00	2,200.00	1,200.00	22,000.00
MW-2	9,300.00	22,000.00	2,200.00	12,000.00	1,900.00	5,000.00	52,400.00
MW-3	1.60	5.00	1.00	3.00	1.00	5.00	16.60
MW-4	1,000.00	15,000.00	2,900.00	14,000.00	100.00	500.00	33,500.00
MW-5	1.00	20.00	1.00	3.00	1.00	5.00	31.00
MW-6	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-7	3,900.00	23,000.00	6,600.00	37,000.00	500.00	2,500.00	73,500.00
MW-8	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-9R	1.00	5.00	1.00	3.00	1.50	5.00	16.50
MW-11	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-12	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-13	9,500.00	12,000.00	2,000.00	5,700.00	7,600.00	5,000.00	41,800.00
MW-14	8.8/	7.80	2.20	12.00	16.00	5.00	43.00
MW-15	1.30	5.00	1.00	3.00	9.80	5.00	25.10
MW-17	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-18	370.00	9.90	6.00	180.00	520.00	40.00	1,125.90
MW-21	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-22	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-24	4.80	5.00	1.00	3.00	70.00	5.00	88.80
MW-25	170.00	5.00	1.40	110.00	140.00	42.00	468.40
MW-26	150.00	620.00	160.00	830.00	930.00	250.00	2,940.00
WSW-2	1.00	5.00	1.00	3.00	1.00	5.00	16.00

Notes: Anlaytical Results Reported at BDL Reported at their Maximum Concentration

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-01

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-2

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 12:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	9300	1000	ug/l	8260B	08/21/03	1000
Toluene	22000	5000	ug/l	8260B	08/21/03	1000
Ethylbenzene	2200	1000	ug/l	8260B	08/21/03	1000
Total Xylenes	12000	3000	ug/l	8260B	08/21/03	1000
Methyl tert-butyl ether	1900	1000	ug/l	8260B	08/21/03	1000
Naphthalene	BDL	5000	ug/l	8260B	08/21/03	1000
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1000
Dibromofluoromethane	99.		% Rec.	8260B	08/21/03	1000
4-Bromofluorobenzene	100		% Rec.	8260B	08/21/03	1000

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
The reported analytical results relate only to the sample submitted.
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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-02

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-3

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 13:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	1.6	1.0	ug/l	8260B	08/21/03	1
Toluene	BDL	5.0	ug/l	8260B	08/21/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/21/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/21/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/21/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/21/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1
Dibromofluoromethane	95.		% Rec.	8260B	08/21/03	1
4-Bromofluorobenzene	100		% Rec.	8260B	08/21/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-03

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-4

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 13:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	1000	100	ug/l	8260B	08/21/03	100
Toluene	15000	500	ug/l	8260B	08/21/03	100
Ethylbenzene	2900	100	ug/l	8260B	08/21/03	100
Total Xylenes	14000	300	ug/l	8260B	08/21/03	100
Methyl tert-butyl ether	BDL	100	ug/l	8260B	08/21/03	100
Naphthalene	BDL	500	ug/l	8260B	08/21/03	100
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	100
Dibromofluoromethane	95.		% Rec.	8260B	08/21/03	100
4-Bromofluorobenzene	100		% Rec.	8260B	08/21/03	100

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-04

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-5

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 14:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/21/03	1
Toluene	20.	5.0	ug/l	8260B	08/21/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/21/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/21/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/21/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/21/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1
Dibromofluoromethane	99.		% Rec.	8260B	08/21/03	1
4-Bromofluorobenzene	100		% Rec.	8260B	08/21/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-05

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-6

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 15:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/21/03	1
Toluene	BDL	5.0	ug/l	8260B	08/21/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/21/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/21/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/21/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/21/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1
Dibromofluoromethane	95.		% Rec.	8260B	08/21/03	1
4-Bromofluorobenzene	100		% Rec.	8260B	08/21/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-06

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-7

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 13:15

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	3900	500	ug/l	8260B	08/26/03	500
Toluene	23000	2500	ug/l	8260B	08/26/03	500
Ethylbenzene	6600	500	ug/l	8260B	08/26/03	500
Total Xylenes	37000	1500	ug/l	8260B	08/26/03	500
Methyl tert-butyl ether	BDL	500	ug/l	8260B	08/26/03	500
Naphthalene	BDL	2500	ug/l	8260B	08/26/03	500
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/26/03	500
Dibromofluoromethane	100		% Rec.	8260B	08/26/03	500
4-Bromofluorobenzene	110		% Rec.	8260B	08/26/03	500

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-07

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-8

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 12:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/20/03	1
Toluene	BDL	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/20/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	95.		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	98.		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-08

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-9R

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 11:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/20/03	1
Toluene	BDL	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	1.5	1.0	ug/l	8260B	08/20/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	94.		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	99.		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-09

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-11

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 13:50

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/20/03	1
Toluene	BDL	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/20/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	98.		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	94.		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	99.		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-10

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-12

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 14:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/20/03	1
Toluene	BDL	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/20/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	98.		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	98.		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	95.		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

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SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-11

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-13

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 14:00

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	9500	1000	ug/l	8260B	08/21/03	1000
Toluene	12000	5000	ug/l	8260B	08/21/03	1000
Ethylbenzene	2000	1000	ug/l	8260B	08/21/03	1000
Total Xylenes	5700	3000	ug/l	8260B	08/21/03	1000
Methyl tert-butyl ether	7600	1000	ug/l	8260B	08/21/03	1000
Naphthalene	BDL	5000	ug/l	8260B	08/21/03	1000
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1000
Dibromofluoromethane	120		% Rec.	8260B	08/21/03	1000
4-Bromofluorobenzene	74.		% Rec.	8260B	08/21/03	1000

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-12

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-14

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 15:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	8.8	1.0	ug/l	8260B	08/20/03	1
Toluene	7.8	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	2.2	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	12.	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	16.	1.0	ug/l	8260B	08/20/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	99.		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	98.		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	99.		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-13

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-15

Collected By : Weyand-Chisolm
Collection Date : 08/19/03 12:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	1.3	1.0	ug/l	8260B	08/20/03	1
Toluene	BDL	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	9.8	1.0	ug/l	8260B	08/20/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	95.		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	97.		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-14

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-18

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 14:20

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	370	50.	ug/l	8260B	08/22/03	50
Toluene	9.9	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	6.0	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	180	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	520	50.	ug/l	8260B	08/22/03	50
Naphthalene	40.	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/22/03	50
Dibromofluoromethane	120		% Rec.	8260B	08/22/03	50
4-Bromofluorobenzene	74.		% Rec.	8260B	08/22/03	50

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-15

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-21

Collected By : Weyand-Chisolm
Collection Date : 08/19/03 13:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/21/03	1
Toluene	BDL	5.0	ug/l	8260B	08/21/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/21/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/21/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/21/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/21/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1
Dibromofluoromethane	120		% Rec.	8260B	08/21/03	1
4-Bromofluorobenzene	72.		% Rec.	8260B	08/21/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-16

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-22

Collected By : Weyand-Chisolm
Collection Date : 08/19/03 14:25

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/21/03	1
Toluene	BDL	5.0	ug/l	8260B	08/21/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/21/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/21/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/21/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/21/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1
Dibromofluoromethane	120		% Rec.	8260B	08/21/03	1
4-Bromofluorobenzene	75.		% Rec.	8260B	08/21/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-17

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-24

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 11:55

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	4.8	1.0	ug/l	8260B	08/20/03	1
Toluene	BDL	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	70.	1.0	ug/l	8260B	08/20/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	100		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	99.		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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.
Reported: 08/26/03 16:33 Printed: 08/26/03 16:34

ENVIRONMENTAL
SCIENCE CORP.

12065 Lebanon Rd.
Mt. Juliet, TN 37122
(615) 758-5858
1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-18

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-25

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 12:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	170	1.0	ug/l	8260B	08/20/03	1
Toluene	BDL	5.0	ug/l	8260B	08/20/03	1
Ethylbenzene	1.4	1.0	ug/l	8260B	08/20/03	1
Total Xylenes	110	3.0	ug/l	8260B	08/20/03	1
Methyl tert-butyl ether	140	1.0	ug/l	8260B	08/20/03	1
Naphthalene	42.	5.0	ug/l	8260B	08/20/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/20/03	1
Dibromofluoromethane	97.		% Rec.	8260B	08/20/03	1
4-Bromofluorobenzene	100		% Rec.	8260B	08/20/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-19

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-26

Collected By : Weyand-Chisolm
Collection Date : 08/18/03 13:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	150	50.	ug/l	8260B	08/20/03	50
Toluene	620	250	ug/l	8260B	08/20/03	50
Ethylbenzene	160	50.	ug/l	8260B	08/20/03	50
Total Xylenes	830	150	ug/l	8260B	08/20/03	50
Methyl tert-butyl ether	930	50.	ug/l	8260B	08/20/03	50
Naphthalene	BDL	250	ug/l	8260B	08/20/03	50
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/20/03	50
Dibromofluoromethane	98.		% Rec.	8260B	08/20/03	50
4-Bromofluorobenzene	100		% Rec.	8260B	08/20/03	50

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-20

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-1

Collected By : Weyand-Chisolm
Collection Date : 08/19/03 11:45

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	1700	250	ug/l	8260B	08/25/03	250
Toluene	13000	1200	ug/l	8260B	08/25/03	250
Ethylbenzene	2600	250	ug/l	8260B	08/25/03	250
Total Xylenes	13000	750	ug/l	8260B	08/25/03	250
Methyl tert-butyl ether	2200	250	ug/l	8260B	08/25/03	250
Naphthalene	BDL	1200	ug/l	8260B	08/25/03	250
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/25/03	250
Dibromofluoromethane	100		% Rec.	8260B	08/25/03	250
4-Bromofluorobenzene	100		% Rec.	8260B	08/25/03	250

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
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REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-21

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : MW-17

Collected By : Weyand-Chisolm
Collection Date : 08/19/03 13:30

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/21/03	1
Toluene	BDL	5.0	ug/l	8260B	08/21/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/21/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/21/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/21/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/21/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1
Dibromofluoromethane	120		% Rec.	8260B	08/21/03	1
4-Bromofluorobenzene	74.		% Rec.	8260B	08/21/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

Note:
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1-800-767-5859
Fax (615) 758-5859

Tax I.D. 62-0814289

Est. 1970

REPORT OF ANALYSIS

Mr. Paul Bekish
SEI Environmental - Columbia, SC
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

August 26,2003

ESC Sample # : L124714-22

Site ID : 05981

Project # : 303064

Date Received : August 20, 2003
Description : Circle Stop and Shop

Sample ID : WSW-2

Collected By : Weyand-Chisolm
Collection Date : 08/19/03 14:35

Parameter	Result	Det. Limit	Units	Method	Date	Dil.
Benzene	BDL	1.0	ug/l	8260B	08/21/03	1
Toluene	BDL	5.0	ug/l	8260B	08/21/03	1
Ethylbenzene	BDL	1.0	ug/l	8260B	08/21/03	1
Total Xylenes	BDL	3.0	ug/l	8260B	08/21/03	1
Methyl tert-butyl ether	BDL	1.0	ug/l	8260B	08/21/03	1
Naphthalene	BDL	5.0	ug/l	8260B	08/21/03	1
Surrogate Recovery						
Toluene-d8	100		% Rec.	8260B	08/21/03	1
Dibromofluoromethane	120		% Rec.	8260B	08/21/03	1
4-Bromofluorobenzene	73.		% Rec.	8260B	08/21/03	1

Leslie Newton, ESC Representative

BDL - Below Detection Limit
Det. Limit - Estimated Quantitation Limit(EQL)

Laboratory Certification Numbers:
A2LA - 1461-01, AIHA - 100789, AL - 40660, CA - I-2327, CT- PH-0197, FL - E87487, GA - 923, IN - C-TN-01
KY - 90010, KYUST - 0016, NC - ENV375,DW21704, ND - R-140, SC - 84004, TN - 2006, VA - 00109, WV - 233

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Attachment A
List of Analytes with QC Qualifiers

Sample #	Analyte	Qualifier
L124714-06	Naphthalene	J3

Attachment B
Explanation of QC Qualifier Codes

Qualifier	Meaning
J3	The associated batch QC was outside the established quality control range for precision.

Qualifier Report Information

ESC utilizes sample and result qualifiers as set forth by the EPA Contract Laboratory Program and as required by most certifying bodies including NELAC. In addition to the EPA qualifiers adopted by ESC, we have implemented ESC qualifiers to provide more information pertaining to our analytical results. Each qualifier is designated in the qualifier explanation as either EPA or ESC. Data qualifiers are intended to provide the ESC client with more detailed information concerning the potential bias of reported data. Because of the wide range of constituents and variety of matrices incorporated by most EPA methods,it is common for some compounds to fall outside of established ranges. These exceptions are evaluated and all reported data is valid and useable unless qualified as 'R' (Rejected).

Definitions

Accuracy - The relationship of the observed value of a known sample to the true value of a known sample. Represented by percent recovery and relevant to samples such as: control samples, matrix spike recoveries, surrogate recoveries, etc.

Precision - The agreement between a set of samples or between duplicate samples. Relates to how close together the results are and is represented by Relative Percent Differrence.

Surrogate - Organic compounds that are similar in chemical composition, extraction, and chromotography to analytes of interest. The surrogates are used to determine the probable response of the group of analytes that are chemically related to the surrogate compound. Surrogates are added to the sample and carried through all stages of preparation and analyses.

	Control Limits				
2-Fluorophenol	31-119	Nitrobenzene-d5	43-118	Dibromfluoromethane	72-125
Phenol-d5	12-134	2-Fluorobiphenyl	45-128	Toluene-d8	79-120
2,4,6-Tribromophenol	51-141	Terphenyl-d14	43-137	4-Bromofluorobenzene	66-131

TIC - Tentatively Identified Compound: Compounds detected in samples that are not target compounds, internal standards, system monitoring compounds, or surrogates.

Company Name/Address:
SEI Environmental - Columbia, SC
3021 McNaughton Drive. Suite 9
Columbia.SC 29223

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 1 of 3

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: PAUL BEAKISH
Email to: pbeckishe sei-environmental.com
Project Description: CIRCLE STOP & SHOP
City/Sate Collected: LEESVILLE, SC
Phone: (803) 788-2535
FAX: (803) 788-2399
Client Project #: 303064
ESC Key:
Collected by: J. WEYHAND V. CHISHOLM
Site/Facility ID#: 05981
P.O.#:
Collected by (signature):
Packed on Ice N (Y)
Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%
Date Results Needed: 8/20/03
Email? __No __Yes
FAX? __No __Yes
No. of Cntrs
GTEX, Ndpn, F3E9 (8260B)
CoCode SEICSC (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	Remarks/Contaminant	Sample # (lab only)
MW2	G	GW		8/18/02	1230	2		L1247 14-01
MW3					1315			02
MW4					1320			03
MW5					1445			04
MW6					1515			05
MW7					1315			06
MW8					1245			07
MW9R					1130			08
MW11					1350			09

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____ pH _____ Temp _____
Remarks:
Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition: (lab use only)
	8/19/03	1520			OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.7c / Bottles Received: 44 v+1	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/20/03 / Time: 900	pH Checked: / NCF:

Company Name/Address:
SEI Environmental - Columbia, SC
3021 McNaughton Drive. Suite 9
Columbia.SC 29223

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 2 of 3

Prepared by:
ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: PAUL BECKISH
Email to: PBeckish@sei-environmental.com
Project Description: CIRCLE STOP + SHOP
City/Sate Collected: LEESVILLE, SC
Phone: (803) 788-2535
FAX: (803) 788-2399
Client Project #: 303064
ESC Key:
Collected by: J. WEYAND, V. CHISHOLM
Site/Facility ID#: 05981
P.O.#:
Collected by (signature):
Packed on Ice N Y
Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%
Date Results Needed: 8/26/03
Email? __No __Yes
FAX? __No __Yes
CoCode SEICSC (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEX, Naph, MTBE (8260B)	Remarks/Contaminant	Sample # (lab only)
MW12	G	GW		8/18/03	1425	2	✓		L12714-10
MW13					1400				11
MW14					1520				12
MW15				8/19/03	1225				13
MW18				8/18/03	1420				14
~~MW19~~					~~1600~~			SCRATCHED	
~~MW20~~					~~1555~~			FROM SAMPLE LIST	
MW21				8/19/03	1355				15
MW22				8/19/03	1425				16

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

pH _____ Temp _____

Remarks: MW19 + 20 scratched from sample list and are not included in shipment!

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☒ FedEx ☐ Courier ☐	Condition: (lab use only)
	8/18/03	1520	Dorothy Charles		OK
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.7° / Bottles Received: 4/4 / 4/28	
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/20/03 / Time: 9:20	pH Checked: / NCF:

Company Name/Address:

SEI Environmental - Columbia, SC

3021 McNaughton Drive. Suite 9
Columbia.SC 29223

Alternate billing information:

Analysis/Container/Preservative

Chain of Custody
Page 3 of 3

Prepared by:

ENVIRONMENTAL SCIENCE CORP.
12065 Lebanon Road
Mt. Juliet, TN 37122
Phone (615) 758-5858
Phone (800) 767-5859
FAX (615) 758-5859

Report to: PAUL BECKISH

Email to: pbeckish@sei-environmental.com

Project Description: CIRCLE STOP + SHOP

City/Sate Collected: LEESVILLE, SC

Phone: (803) 788-2535
FAX: (803) 788-2399

Client Project #: 303064

ESC Key:

Collected by: J. WEYAND, V. CHISHOLM

Site/Facility ID#: 05781

P.O.#:

Collected by (signature):

Packed on Ice N

Rush? (Lab MUST Be Notified)
____ Same Day.....200%
____ Next Day.....100%
____ Two Day.....50%

Date Results Needed: 8/26/03
Email? __No __Yes
FAX? __No__Yes

CoCode SEICSC (lab use only)
Template/Prelogin
Shipped Via:

Sample ID	Comp/Grab	Matrix*	Depth	Date	Time	No. of Cntrs	BTEX, Naph, MTBE (8260B)	Remarks/Contaminant	Sample # (lab only)
MW24	G	GW		8/18/03	1155	2	X		L124714-17
MW25	↓	↓		↓	1245	↓	↓		18
MW26	↓	↓		↓	1335	↓	↓		19
MW1	↓	↓		8/19/03	1145	↓	↓		20
MW17	↓	↓		8/19/03	1330	↓	↓		21
WSW2	↓	↓		8/19/03	1435	↓	↓		22

*Matrix: SS - Soil/Solid GW - Groundwater WW - WasteWater DW - Drinking Water OT - Other_____

pH _____ Temp _____

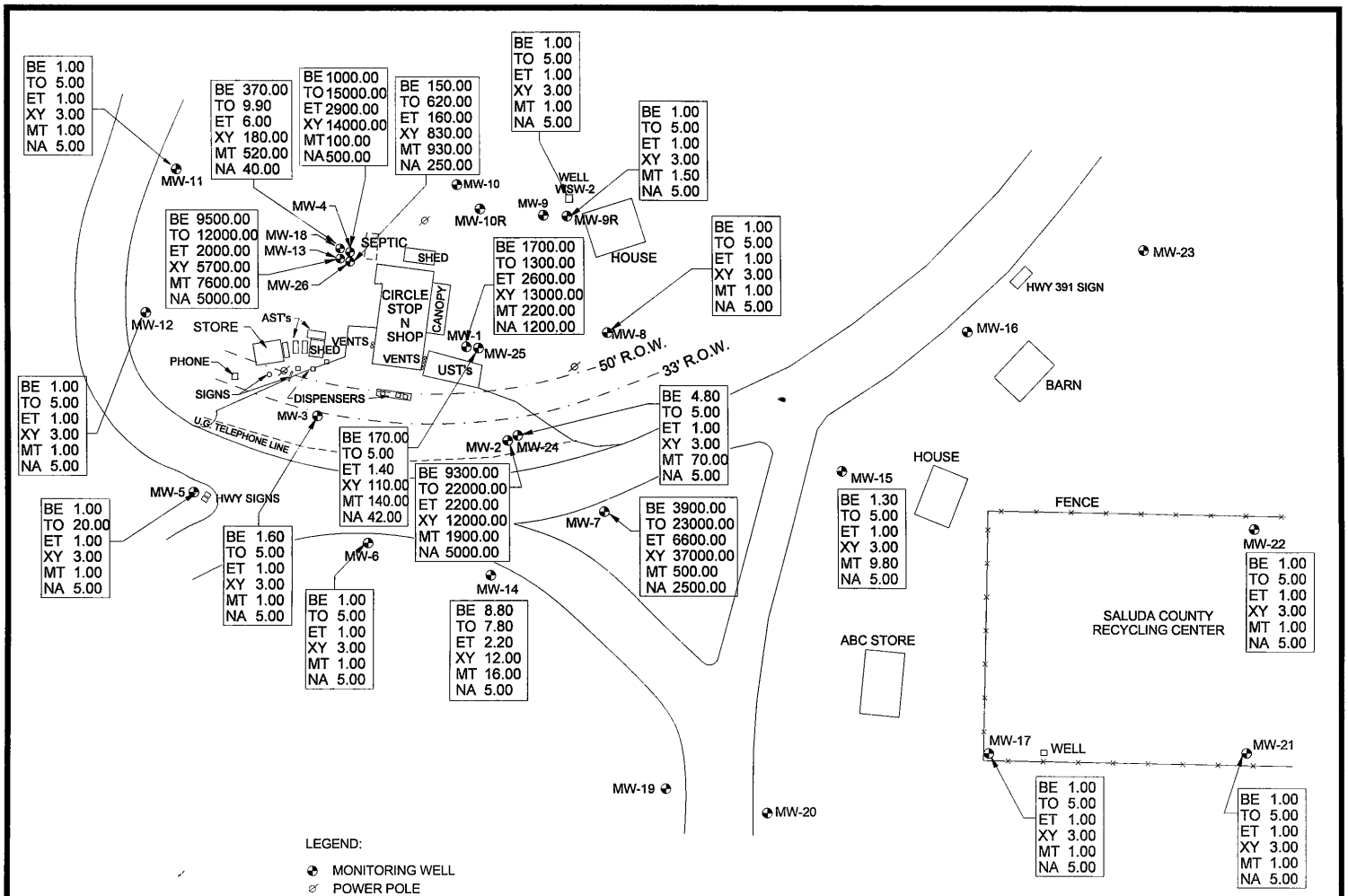
Remarks:

Flow _____ Other _____

Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Samples returned via: ☐ UPS ☐ FedEx ☐ Courier ☐ _____		Condition: (lab use only)	
	8/19/03	1520				OK	
Relinquished by: (Signature)	Date:	Time:	Received by: (Signature)	Temp: 2.7°	Bottles Received: 6/4oz 1/1L		
Relinquished by: (Signature)	Date:	Time:	Received for lab by: (Signature)	Date: 8/20/03	Time: 9:00	pH Checked:	NCF:

Appendix E

Figure 3 – August 18 & 19, 2003 CoC Map



SEI Environmental, Inc.

FIGURE 3: GROUNDWATER COC SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 9/3/03
DWG #CS00643B	DRAWN BY: JCJ

Appendix F

Non-Hazardous Manifest & Disposal Receipt

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. [illegible]

2. Page 1 of

08/13/03

3. Generator's Name and Mailing Address
SEI ENVIRONMENTAL, INC
3021 MCNAUGHTON DR., SUITE 9
COLUMBIA, SC 29223

4. Generator's Phone ( )

5. Transporter 1 Company Name
SEI ENVRIONMENTAL, INC

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
PO BOX 1384
SUMTER, SC 29151

10. US EPA ID Number
987573557

C. Facility's Phone
800-800-6840

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINANTED WATER CIRCLE STOP AND SHOP LEESVILLE, SC			255.	gal
b.				
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

GENERATOR

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

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: JEFF WEYAND | Signature | Month: 8 | Day: 19 | Year: 03

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: 8 | Day: 19 | Year: 03

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

12-BLC-M5

TRANSPORTER # 1

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

Tons 255.0 gallons
Circle Stop and Shop
Leesville, SC

Contaminant NonHazardous Petroleum
Contaminanted Water

This is to cerify the above ~~soil~~ water has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. [illegible]

Date 08/19/03

Appendix G

Table 4 – August 18 & 19, 2003 System Effectiveness

Table 4
Summary of System Efficiency
August 18 & 19, 2003
Circle Stop and Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Monitoring Well	Benzene (ppb)	Toleune (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	Naphthalene (ppb)	Total Conc. (ppb)
MW-1	1,700.00	1,300.00	2,600.00	13,000.00	2,200.00	1,200.00	22,000.00
MW-2	9,300.00	22,000.00	2,200.00	12,000.00	1,900.00	5,000.00	52,400.00
MW-3	1.60	5.00	1.00	3.00	1.00	5.00	16.60
MW-4	1,000.00	15,000.00	2,900.00	14,000.00	100.00	500.00	33,500.00
MW-5	1.00	20.00	1.00	3.00	1.00	5.00	31.00
MW-6	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-7	3,900.00	23,000.00	6,600.00	37,000.00	500.00	2,500.00	73,500.00
MW-8	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-9R	1.00	5.00	1.00	3.00	1.50	5.00	16.50
MW-10R*	5.00	5.00	5.00	15.00	5.00	5.00	40.00
MW-11	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-12	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-13	9,500.00	12,000.00	2,000.00	5,700.00	7,600.00	5,000.00	41,800.00
MW-14	8.8/	7.80	2.20	12.00	16.00	5.00	43.00
MW-15	1.30	5.00	1.00	3.00	9.80	5.00	25.10
MW-17	1.00	5.00	1.00	3.00	1.00	5.00	16.00
MW-18	370.00	9.90	6.00	180.00	520.00	40.00	1,125.90
MW-24	4.80	5.00	1.00	3.00	70.00	5.00	88.80
MW-25	170.00	5.00	1.40	110.00	140.00	42.00	468.40
MW-26	150.00	620.00	160.00	830.00	930.00	250.00	2,940.00
WSW-1*	5.00	5.00	5.00	15.00	6.00	5.00	41.00
WSW-2	1.00	5.00	1.00	3.00	1.00	5.00	16.00

Table 4 - Continued

Summary of System Efficiency
August 18 & 19, 2003
Circle Stop and Shop
2387 Columbia Highway
Leesville, South Carolina
UST Permit # 05981

Initial Mass	26,115.70	74,022.70	16,490.60	82,895.00	14,006.30	14,602.00	228,132.30
SSTL Mass	690.00	112,975.00	14,985.00	63,766.00	409.00	239.00	193,064.00
Initial Mass above SSTL	25,425.70	0.00	1,505.60	19,129.00	13,597.30	14,363.00	74,020.60

Calculation of System Effiency:

Percent of Total Concentration Reduction = ((SSTL Mass) - (Initial Mass above SSTL) / (SSTL Mass) * 100)
Percent of Total Concentration Reduction = ((193,064.00) - (74,020.60) / (193,064.00) * 100) = 60.72%

Notes:

Analytical Results Reported at BDL Reported at their Maximum Concentration
* Laboratory Analytical Data from October 1 and December 19, 2002

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December 19, 2003

RECEIVED
DEC 29 2003
UNDERGROUND STORAGE TANK PROGRAM

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

RE: Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2003. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Sherri Stabel
Sherri.Stabel@pacelabs.com
Project Manager

Enclosures

UST PROGRAM
DOCKETING # 27B

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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628952 | Project Sample Number: 9255726-001 | Date Collected: 12/11/03 10:15
Client Sample ID: MW-7 | Matrix: Water | Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	3300	ug/l	250	50.0	12/16/03 08:04	RWS	71-43-2		
Ethylbenzene	2400	ug/l	250	50.0	12/16/03 08:04	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/16/03 08:04	RWS	1634-04-4		
Naphthalene	680	ug/l	250	50.0	12/16/03 08:04	RWS	91-20-3		
Toluene	14000	ug/l	500	100	12/16/03 08:04	RWS	108-88-3		
m&p-Xylene	8000	ug/l	500	50.0	12/16/03 08:04	RWS			
o-Xylene	4000	ug/l	250	50.0	12/16/03 08:04	RWS	95-47-6		
Toluene-d8 (S)	89	%		1.0	12/16/03 08:04	RWS	2037-26-5		
4-Bromofluorobenzene (S)	99	%		1.0	12/16/03 08:04	RWS	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	12/16/03 08:04	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		1.0	12/16/03 08:04	RWS	17060-07-0		

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Charlotte Certification IDs
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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628960 | Project Sample Number: 9255726-002 | Date Collected: 12/11/03 10:45
Client Sample ID: MW-1 | Matrix: Water | Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	950	ug/l	100	20.0	12/16/03 13:28	RWS	71-43-2		
Ethylbenzene	2900	ug/l	100	20.0	12/16/03 13:28	RWS	100-41-4		
Methyl-tert-butyl ether	1700	ug/l	100	20.0	12/16/03 13:28	RWS	1634-04-4		
Naphthalene	440	ug/l	100	20.0	12/16/03 13:28	RWS	91-20-3		
Toluene	10000	ug/l	500	100	12/16/03 13:28	RWS	108-88-3		
m&p-Xylene	13000	ug/l	1000	100	12/16/03 13:28	RWS			
o-Xylene	5800	ug/l	500	100	12/16/03 13:28	RWS	95-47-6		
Toluene-d8 (S)	99	%		1.0	12/16/03 13:28	RWS	2037-26-5		
4-Bromofluorobenzene (S)	94	%		1.0	12/16/03 13:28	RWS	460-00-4		
Dibromofluoromethane (S)	103	%		1.0	12/16/03 13:28	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	108	%		1.0	12/16/03 13:28	RWS	17060-07-0		

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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628978 | Project Sample Number: 9255726-003 | Date Collected: 12/11/03 11:15
Client Sample ID: MW-2 | Matrix: Water | Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	9100	ug/l	250	50.0	12/16/03 08:21	RWS	71-43-2		
Ethylbenzene	2200	ug/l	250	50.0	12/16/03 08:21	RWS	100-41-4		
Methyl-tert-butyl ether	3100	ug/l	250	50.0	12/16/03 08:21	RWS	1634-04-4		
Naphthalene	1300	ug/l	250	50.0	12/16/03 08:21	RWS	91-20-3		
Toluene	33000	ug/l	2500	500	12/16/03 08:21	RWS	108-88-3		
m&p-Xylene	7500	ug/l	500	50.0	12/16/03 08:21	RWS			
o-Xylene	4100	ug/l	250	50.0	12/16/03 08:21	RWS	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/16/03 08:21	RWS	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	12/16/03 08:21	RWS	460-00-4		
Dibromofluoromethane (S)	90	%		1.0	12/16/03 08:21	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	93	%		1.0	12/16/03 08:21	RWS	17060-07-0		

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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628986 | Project Sample Number: 9255726-004 | Date Collected: 12/11/03 11:30
Client Sample ID: MW-3 | Matrix: Water | Date Received: 12/12/03 12:55

Parameters	Results		Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles										
GC/MS VOCs by 8260	Method: EPA 8260									
Benzene	56.		ug/l	5.0	1.0	12/16/03 08:38	RWS	71-43-2		
Ethylbenzene	3.4	J	ug/l	5.0	1.0	12/16/03 08:38	RWS	100-41-4		
Methyl-tert-butyl ether	ND		ug/l	5.0	1.0	12/16/03 08:38	RWS	1634-04-4		
Naphthalene	4.9	J	ug/l	5.0	1.0	12/16/03 08:38	RWS	91-20-3		
Toluene	12.		ug/l	5.0	1.0	12/16/03 08:38	RWS	108-88-3		
m&p-Xylene	19.		ug/l	10.	1.0	12/16/03 08:38	RWS			
o-Xylene	10.		ug/l	5.0	1.0	12/16/03 08:38	RWS	95-47-6		
Toluene-d8 (S)	101		%		1.0	12/16/03 08:38	RWS	2037-26-5		
4-Bromofluorobenzene (S)	92		%		1.0	12/16/03 08:38	RWS	460-00-4		
Dibromofluoromethane (S)	99		%		1.0	12/16/03 08:38	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	92		%		1.0	12/16/03 08:38	RWS	17060-07-0		

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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628994 | Project Sample Number: 9255726-005 | Date Collected: 12/11/03 12:00
Client Sample ID: MW-4 | Matrix: Water | Date Received: 12/12/03 12:55

Parameters	Results		Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles										
GC/MS VOCs by 8260	Method: EPA 8260									
Benzene	450	J	ug/l	500	100	12/16/03 08:55	RWS	71-43-2		
Ethylbenzene	2500		ug/l	500	100	12/16/03 08:55	RWS	100-41-4		
Methyl-tert-butyl ether	53.		ug/l	5.0	1.0	12/16/03 08:55	RWS	1634-04-4		
Naphthalene	310	J	ug/l	500	100	12/16/03 08:55	RWS	91-20-3		
Toluene	12000		ug/l	500	100	12/16/03 08:55	RWS	108-88-3		
m&p-Xylene	8900		ug/l	1000	100	12/16/03 08:55	RWS			
o-Xylene	3900		ug/l	500	100	12/16/03 08:55	RWS	95-47-6		
Toluene-d8 (S)	77		%		1.0	12/16/03 08:55	RWS	2037-26-5	1	
4-Bromofluorobenzene (S)	98		%		1.0	12/16/03 08:55	RWS	460-00-4		
Dibromofluoromethane (S)	104		%		1.0	12/16/03 08:55	RWS	1868-53-7		
1.2-Dichloroethane-d4 (S)	107		%		1.0	12/16/03 08:55	RWS	17060-07-0		

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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923629000 | Project Sample Number: 9255726-006 | Date Collected: 12/11/03 12:30
Client Sample ID: MW-13 | Matrix: Water | Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	4400	ug/l	1200	250	12/16/03 09:13	RWS	71-43-2		
Ethylbenzene	460	ug/l	5.0	1.0	12/16/03 09:13	RWS	100-41-4	2	
Methyl-tert-butyl ether	68000	ug/l	2500	500	12/16/03 09:13	RWS	1634-04-4		
Naphthalene	150	ug/l	5.0	1.0	12/16/03 09:13	RWS	91-20-3		
Toluene	6100	ug/l	1200	250	12/16/03 09:13	RWS	108-88-3		
m&p-Xylene	3200	ug/l	2500	250	12/16/03 09:13	RWS			
o-Xylene	1600	ug/l	1200	250	12/16/03 09:13	RWS	95-47-6		
Toluene-d8 (S)	96	%		1.0	12/16/03 09:13	RWS	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	12/16/03 09:13	RWS	460-00-4		
Dibromofluoromethane (S)	112	%		1.0	12/16/03 09:13	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	104	%		1.0	12/16/03 09:13	RWS	17060-07-0		

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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	Low surrogate recovery was confirmed as a matrix effect by a second analysis.
[2]	Compound concentration exceeds the calibration range of the instrument (CLP E-Flag).

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QUALITY CONTROL DATA

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

QC Batch: 87280 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 923628952 923628960 923628978 923628986 923628994 923629000

METHOD BLANK: 923633622
Associated Lab Samples: 923628952 923628960 923628978 923628986 923628994 923629000

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	103		
4-Bromofluorobenzene (S)	%	92		
Dibromofluoromethane (S)	%	114		
1,2-Dichloroethane-d4 (S)	%	94		

LABORATORY CONTROL SAMPLE: 923633630

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	33.62	67	
Ethylbenzene	ug/l	50.00	44.65	89	
Methyl-tert-butyl ether	ug/l	50.00	42.53	85	
Naphthalene	ug/l	50.00	38.96	78	
Toluene	ug/l	50.00	44.27	88	
m&p-Xylene	ug/l	100.00	89.11	89	
o-Xylene	ug/l	50.00	43.21	86	
Toluene-d8 (S)				102	
4-Bromofluorobenzene (S)				103	
Dibromofluoromethane (S)				98	
1,2-Dichloroethane-d4 (S)				100	

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QUALITY CONTROL DATA

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 923633648 923633655

Parameter	Units	923628382 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	26.42	50.00	77.81	64.84	103	77	18	
Toluene	ug/l	0	50.00	41.09	46.03	82	92	11	
Toluene-d8 (S)						101	102		
4-Bromofluorobenzene (S)						97	98		
Dibromofluoromethane (S)						100	114		
1,2-Dichloroethane-d4 (S)						99	95		

SAMPLE DUPLICATE: 923633663

Parameter	Units	923628960 Result	DUP Result	RPD	Footnotes
Benzene	ug/l	950.0	1300	27	
Ethylbenzene	ug/l	2900	3000	3	
Methyl-tert-butyl ether	ug/l	1700	1500	7	
Naphthalene	ug/l	440.0	410.0	6	
Toluene	ug/l	10000	12000	12	
m&p-Xylene	ug/l	13000	15000	9	
o-Xylene	ug/l	5800	6300	10	
Toluene-d8 (S)	%	99	103		
4-Bromofluorobenzene (S)	%	94	93		
Dibromofluoromethane (S)	%	103	108		
1,2-Dichloroethane-d4 (S)	%	108	102		

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Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

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SC Environmental	99030
FL NELAP	E87648

Charlotte Certification IDs

NC Wastewater	12
NC Drinking Water	37706
SC	99006
FL NELAP	E87627

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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.

716082

Page: 1 of 1

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201
Phone: 803-896-6240 Fax: 803-896-6245

Required Client Information: **Section B**

Report To: Debra Thoma
Copy To: Debra Thoma
Invoice To: Debra Thoma
P.O.: 416276
Project Name: Circle Stop
Project Number: 05981/20839: P

Client Information (Check quote/contract):
Requested Due Date: 12-22-03 *TAT: 7 days

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 55726
Profile #:

Section D **Required** Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE)	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: 8260B BTEX Naph, MTBE	Remarks / Lab ID
1	MW-7	WT	12-11-03	1015	3				X					X	3628952
2	MW-1	WT	12-11	1045	3				X					X	960
3	MW-2	WT	12-11	1115	3				X					X	978
4	MW-3	WT	12-11	1130	3				X					X	986
5	MW-4	WT	12-11	1200	3				X					X	994
6	MW-13	WT	12-11	1230	3				X					X	9000
7															
8															
9															
10															
11															
12															

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	READ S MINER	12-11	1615	[illegible] MOSER	12-11-3	[illegible]
	[illegible]	12-12	1255	[illegible] Pace	12/12/03	1255

SAMPLE CONDITION

Temp in °C	2.0
Received on Ice	(Y)/N
Sealed Cooler	Y/(N)
Samples Intact	(Y)/N

Additional Comments:

SAMPLE NOTES

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: READ S MINER
SIGNATURE of SAMPLER: Read S Miner
DATE Signed: (MM / DD / YY) 12-11-03

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

Tech - File # 05981

SEI Environmental, Inc.

3021 McNaughton Drive
Suite 9
Columbia, SC 29223
800-377-2826
803-788-2535
Fax 803-788-2399

CORRECTIVE ACTION PLAN
CIRCLE STOP N SHOP
3287 Columbia Hwy
Leesville, South Carolina
Saluda County

UST Permit # 05981

PREPARED FOR:

SCDHEC
Bureau of Land and Waste Mgmt., UST Program
2600 Bull Street
Columbia, South Carolina 29201

PREPARED BY:

SEI Environmental, Inc.
3021 McNaughton Drive, Suite 9
Columbia, South Carolina 29223

SOUTH CAROLINA LICENSED PROFESSIONAL ENGINEER No. 21054 RANDY R. CASEY

6/17/03

Randy R. Casey,
Professional Engineer #21054

June 17, 2003

UST PROGRAM
DOCKETING # 28 Tech

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1.0 INTRODUCTION

The South Carolina Department of Health and Environmental Control Underground Storage Tank Management Program (SCDHEC/USTMP) received bids to conduct remedial actions at Circle Stop N Shop located at 3287 Columbia Highway in Leesville, South Carolina (see Figure 1 for site location). On April 1, 2003, SEI Environmental, Inc. (SEI) was awarded a purchase order to remove free product and reduce the levels of chemicals of concern (CoC) in the ground water to or below defined site-specific target levels (SSTLs). The release at the site was reported December 27, 1991.

2.0 SITE CHARACTERIZATION

For a complete review of the site geologic/hydrogeologic characterization, a review of the complete project file at SCDHEC/USTMP is recommended. The site is located in the Piedmont Physiographic Province of South Carolina. The Piedmont Physiographic Province of South Carolina is characterized by low, rounded hills and gentle slopes. In most places in the Piedmont, a heavy layer of soil and vegetation caps bedrock. Specifically, the Inner Piedmont Belt is beneath the subject property. This belt is characterized by medium to high-grade metamorphic rocks such as granitic gneiss, mica and sillimanite schist, and amphibolite.

3.0 GROUNDWATER QUALITY

October 1, 2002 and December 19, 2002, SCDHEC conducted a baseline gauging and sampling of all twenty-two (22) monitoring wells and detected a single of multiple concentrations of BTEX, MTBE and / or Naphthalene above the Site Specific Target Levels (SSTL) in monitoring wells MW-1, MW-2, MW-4, MW-7, MW13, MW-18 and MW-26. Groundwater quality data and additional site information can be found in the project file at SCDHEC.

4.0 GROUNDWATER REMEDIATION

Ground water remediation will be accomplished by removing the existing free-phase product using a multi-arrayed vacuum system (MAV). The dissolved-phase chemicals of concern will be treated using a patented hydrogen peroxide injection system ("Per-Petual") to enhance natural

attenuation processes in-situ. Detailed descriptions of the two techniques are presented in the sections that follow.

4.1 Free Product Recovery System Design

The proposed free product recovery events will occur until the desired endpoints are achieved. Presently, the target endpoint is ≤ 0.01 feet of free product detected in monitoring well MW-7. This endpoint is based on the designed removal efficiency of the MAV system to be installed. Two MAV points will be installed in the vicinity of MW-7, one (1) upgradient and one (1) downgradient, for removal of free product. Upon completion of removal of free product, the two (2) MAV points will be converted to injection points for the Per-Petual hydrogen peroxide (PPT) system.

Monitoring of the free product recovery system will be conducted monthly for the first twelve months of system operation or until the observance of no free phased free product in the monitoring wells. Free product thickness will be gauged in all monitoring wells during these visits in order to verify system operation. Also, any necessary system maintenance will be conducted during these visits. It is proposed that after this twelve-month period the desired endpoint will be achieved. Monthly monitoring of the site will continue until compliance with the target endpoint is confirmed by SCDHEC.

4.2 In Situ Bioremediation Theory

In situ bioremediation refers to the use of natural microbiological processes occurring in the subsurface environment to breakdown complex organic compounds into simpler, non-toxic compounds without the removal of aquifer material. Contaminant degradation takes place by microorganisms when the contaminants either serve as a primary energy source (electron donor), or are fortuitously metabolized when other primary substrates are available to the microorganisms (co-metabolism). In order for the electron donors to be utilized by the indigenous microbial community, compounds must also be available which allow energy transfer by the microorganisms to take place. Oxygen is required for microorganisms to utilize the compounds for energy transfer.

A hydrogen peroxide injection system (trade name "Per-Petual", U.S. patent application serial number 60/357,550) continuously injects a mild solution of peroxide into numerous injection

points arranged across the groundwater contamination plume in a grid-like fashion. It is our intent to install 41 injection points and inject the peroxide through the use of nitrogen gas. Decontamination occurs through chemical oxidation and through enhanced bioremediation due to elevated dissolved oxygen levels. Chemical oxidation (responsible for roughly 25% of total decontamination) is often augmented by the presence of naturally occurring minerals which act as catalysts (Fenton's Reaction). Bioremediation (responsible for roughly 75% of total decontamination) is enhanced by elevating dissolved oxygen levels from typically 0-5 ppm in the presence of contamination to 100+ ppm, and thereby providing naturally occurring microbes with a sustained oxygen level required for microbial activity.

4.3 In Situ Bioremediation Evaluation and Design

Remediation System design and specifications details are presented in Appendix B. The proposed hydrogen peroxide injection system includes 41 injection points. The injection points are spaced in a grid-like fashion over as much of the contamination plume as possible. Each injection point will simply be the end of a section of ¼ inch, 200-psi polypropylene tubing that is scored with slits/holes along the last 12 inches in order to ensure proper hydrogen peroxide diffusion. Lines emanating from the injection borings run in 12-inch deep trenches back to an enclosure housing the control panel, the hydrogen peroxide tanks and the nitrogen cylinder. The 41 lengths of PPT tubing will exit the boreholes along the rear of the system building and then will run to the enclosure in shallow (1 foot) trenches.

To connect the seven (7) points located in the traffic island, the South Carolina Department of Transportation (SCDOT) will authorize directional drilling underneath S.C. Highway 391. In addition, SCDOT will authorize the installation of 13 points on the right of way (ROW). The proposed 41 injection points will be connected to the PPT tubing and then connected to individual fittings on the patented control panel. The control panel contains a flow meter and control valve for each injection point, as well as a regulator that controls the incoming flow/pressure of nitrogen gas from the nitrogen cylinder to the control panel. The system will have one control panel, one nitrogen gas cylinder and two hydrogen peroxide tanks with a volume of approximately 600 gallons. The control panel is connected via a pressure hose to a

nitrogen gas cylinder. The control panel and nitrogen cylinder will be stored within a 6' x 10' locked wooden enclosure.

After considering the advantages, disadvantages, and feasibility of the available options, the patented PPT injection system is the most effective and least costly option for treatment of the contaminated soil and groundwater at the site. The primary reasons for selecting this option are the ability of this system to enhance bioremediation, the ability of injected hydrogen peroxide to diffuse effectively in the sandy silt and clay soil present at this site, the ability of this system to address the contamination plume under dispensers and the store that could not be attained with other systems, the elimination of costly and time-consuming need for concrete and asphalt cutting, the ability of this system to attack the entire plume by installing injection points in a grid-like fashion across the plume, the ability of this system to be installed quickly and inexpensively relative to other options, and the low maintenance and operating costs associated with this system.

Based on the findings of previous investigations, soil and groundwater at the site have been impacted by a release of petroleum hydrocarbons from the UST system. The perpetual injection of a diluted hydrogen peroxide solution through slotted tubing is recommended to remediate the impacted groundwater at the site.

5.0 CORRECTIVE ACTION MONITORING

SEI will conduct free-phase product gauging on a monthly basis. Quarterly, SEI will sample all monitoring well and potable well required by the SCDHEC and gauge groundwater levels.

The PPT system subcontractor will provide operation and maintenance the remediation system and will provide performance data to SEI. The monthly corrective action monitoring report will contain those elements described in the bid request document.

6.0 VERIFICATION AND ABANDONMENT

Once SSTLs in the monitor and potable wells have been verified by SCDHEC, the aboveground PPT system equipment and the structure housing the equipment will be dismantled and removed from the site. The protective MAV system well vaults and the MAV points will be removed from the site upon free product removal attainment and verification by the SCDHEC. The 41 PPT points will be abandoned in-place by disconnecting the hydrogen peroxide delivery lines. A bentonite slurry grout will be pumped through the peroxide delivery lines. Abandonment in-place of the system will minimize disruption of the owner/operator's normal operations. At the completion of the abandonment operations, an abandonment report will be prepared documenting all abandonment actions and forwarded to SCDHEC.

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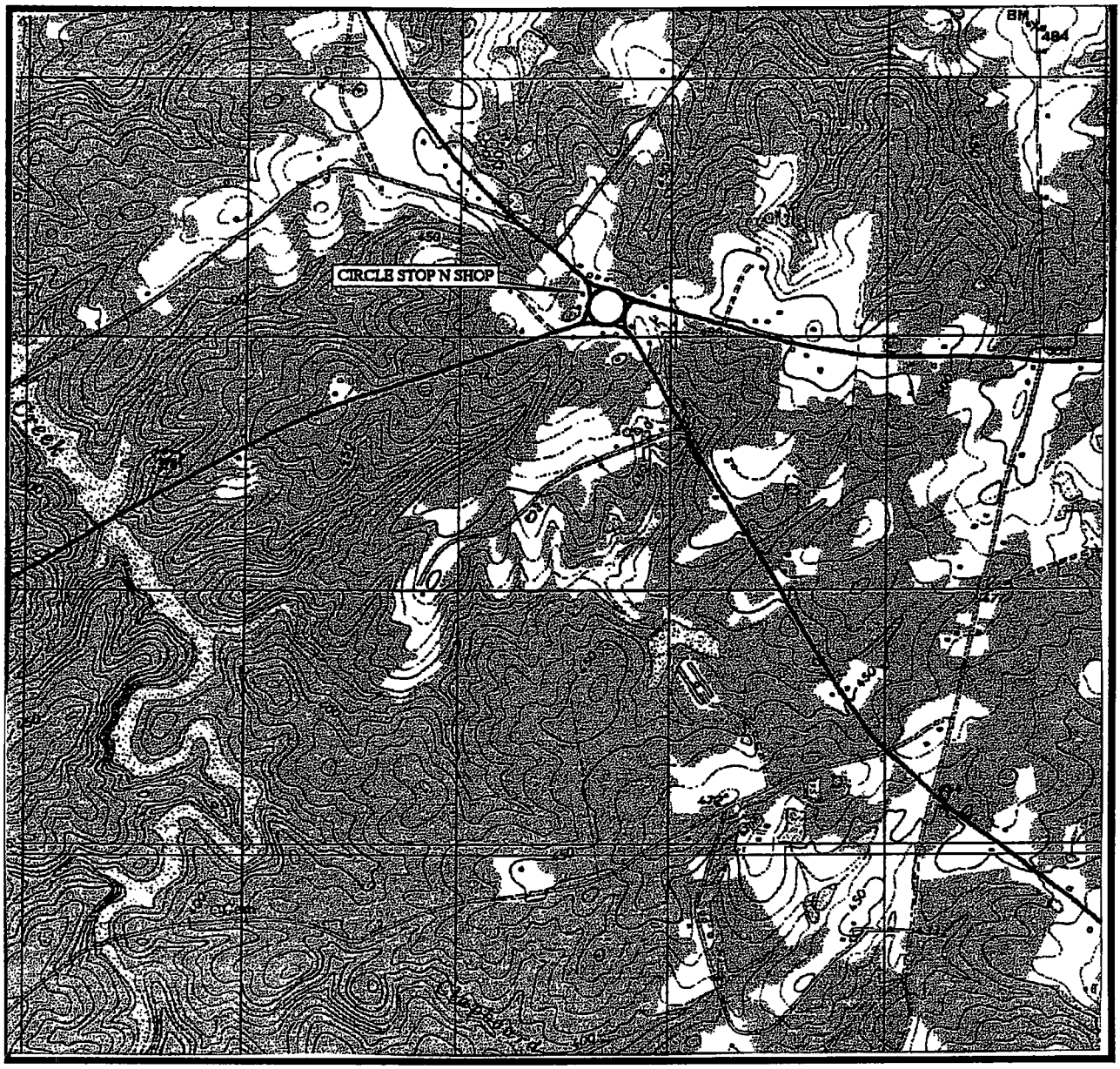
FIGURES

7.5 MINUTE SERIES(TOPOGRAPHIC) DELMAR QUADRANGLE



SCALE 1:24000

1 ½ 0 1 MILE

1000 0 1000 2000 3000 4000 5000 6000 7000 FEET

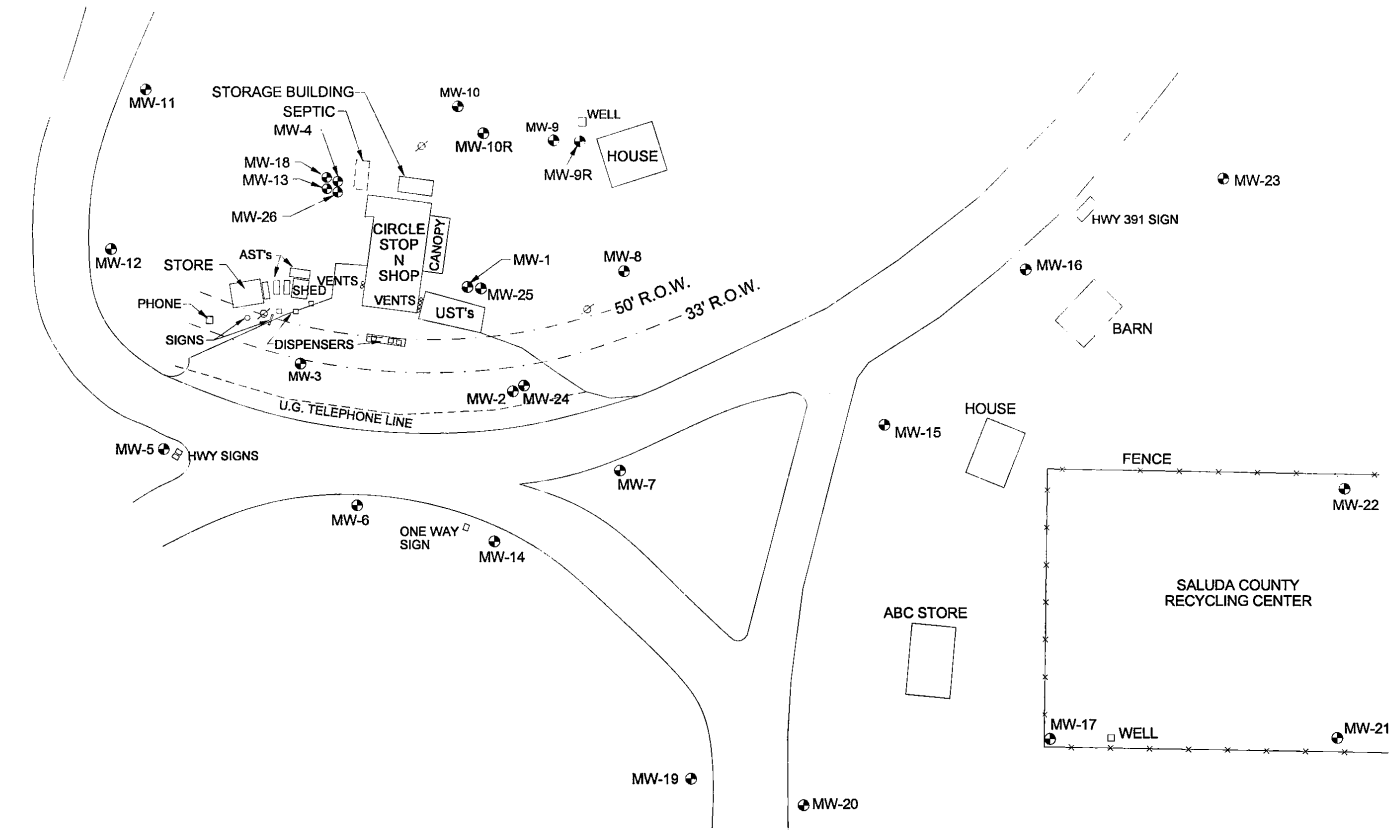
1 .5 0 1 KILOMETER

NORTH

SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064 DWG #	DATE: 6/12/03 DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- POWER POLE

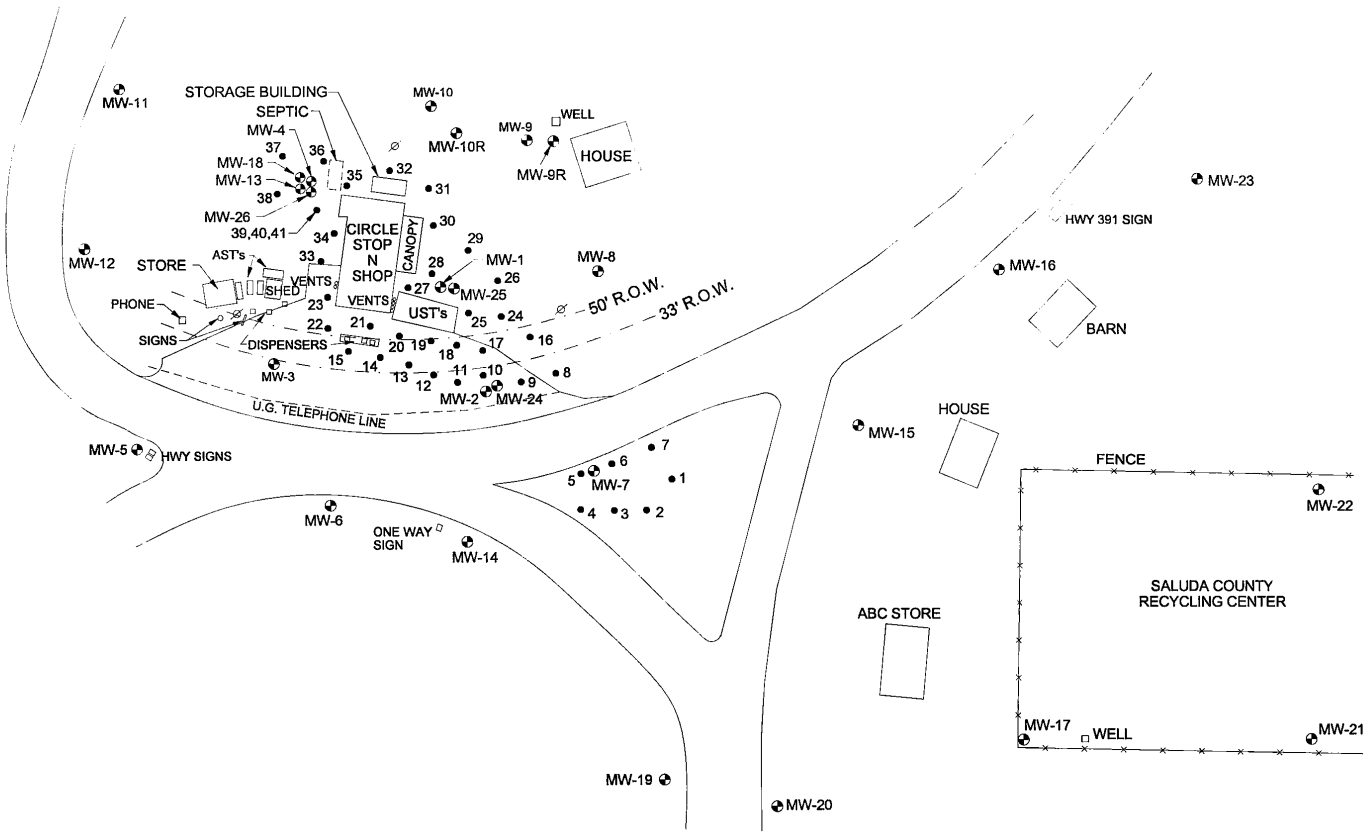
NORTH

0 40 80 FT.

SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 6/17/03
DWG #CS0064F2	DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- POWER POLE
- INJECTION/EXTRACTION POINT

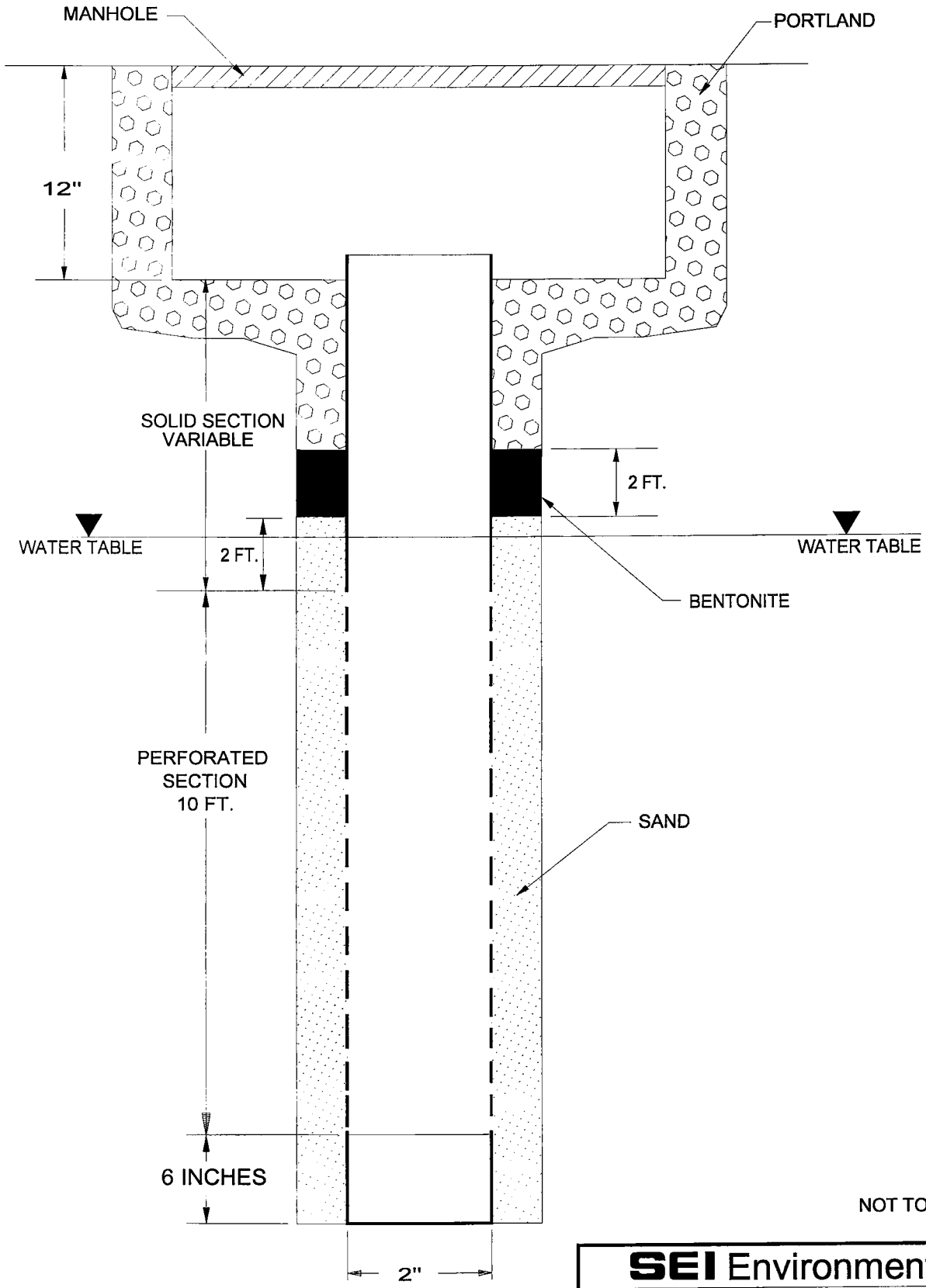
NORTH

0 40 80 FT.

SEI Environmental, Inc.

FIGURE 3: PROPOSED INJECTION/EXTRACTION WELL LOCATIONS
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 6/17/03
DWG #CS0064F3	DRAWN BY: JCJ



NOT TO SCALE

SEI Environmental, Inc.

FIGURE 4: INJECTION WELL SCHEMATIC
CIRCLE STOP & SHOP
U.S. HWY 378 & 391, LEESVILLE, SC
UST PERMIT #05981

WO #303-064 DWG #CS0064F4	DATE: 6/19/03 DRAWN BY: JCJ

TABLES

Table 1
Summary of Laboratory Analytical Results
October 1, 2002 & December 19, 2002
Circle Stop and Shop
2387 Columbia Highway
Leesville, South Carolina

Monitoring Well	Benzene (ppb)	Toleune (ppb)	Ethylbenzene (ppb)	Xylenes (ppb)	MTBE (ppb)	Naphthalene (ppb)	Total Conc. (ppb)
MW-1	2,300.00	29,000.00	3,300.00	18,900.00	2,100.00	710.00	56,310.00
MW-2	10,000.00	26,000.00	2,600.00	9,400.00	1,300.00	520.00	49,820.00
MW-3	85.00	93.00	<5.00	102.00	<5.00	<5.00	295.00
MW-4	5,500.00	47,000.00	3,900.00	17,900.00	6,400.00	590.00	81,290.00
MW-5	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-6	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-7	226,000.00	301,000.00	280,000.00	278,000.00	5,110,000.00	2,000.00	6,197,000.00
MW-8	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-9R	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-10R	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-11	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-12	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-13	7,400.00	14,000.00	2,500.00	7,700.00	69,000.00	290.00	100,890.00
MW-14	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-15	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-17	<5.00	<5.00	<5.00	<15.00	<5.00	<5.00	40.00
MW-18	<5.00	7.00	<5.00	139.00	2,300.00	24.00	2,480.00
MW-24	<5.00	<5.00	<5.00	<15.00	32.00	<5.00	67.00
MW-25	<5.00	<5.00	<5.00	<15.00	9.00	<5.00	44.00
MW-26	<5.00	<5.00	<5.00	<15.00	110.00	<5.00	145.00
WSW-1	<5.00	<5.00	<5.00	<15.00	6.00	<5.00	41.00
WSW-2	<5.00	<5.00	<5.00	<15.00	6.00	<5.00	41.00
Initial Mass	251,365.00	417,175.00	292,381.00	332,366.00	5,191,314.00	4,210.00	6,488,823.00
SSTL Mass	690.00	112,975.00	14,985.00	63,766.00	409.00	239.00	193,604.00
Initial Mass Above SSTL	250,675.00	304,200.00	277,396.00	268,600.00	5,190,905.00	3,971.00	6,295,219.00

Note: MW-7 had 0.08 Feet of Free Phased Product Observed on January 15, 2003

APPENDIX A

UNDERGROUND INJECTION CONTROL PERMIT APPLICATION

CLASS V. A. TYPE I

Attachments A – F only. Injection of diluted hydrogen peroxide is proposed. No injection of fluid whose chemical constituents exceeds any drinking water standard or may otherwise adversely affect the health of persons is proposed.

Form I UIC	D H E C Underground Injection Control Permit Application Ground-Water Protection Division (Collected under the Authority of Title 48 Chapter I of the 1976 South Carolina Code of Laws)	I. EPA ID NUMBER			
				T/A	C
		U			

Read attached instructions before starting.

For OfficialUse Only

Application Approved month day year	Date Received month day year	Permit Well Number

Comments

II. Facility Name and Address			III. Owner/Operator and Address		
Facility Name: Circle Stop & Shop			Owner/OperatorName: Joan Boozer		
Street Address: US Hwy 378 & US Hwy 391			Street Address: 3287 Columbia Hwy.		
City: Leesville	State: SC	Zip Code: 29070	City: Leesville	State: SC	Zip Code: 29070

IV. Ownership Status (Select One)

- ☐ A. Federal
- ☐ B. State
- ☒ C. Private
- ☐ D. Public
- ☐ E. Other (Explain)

V. SIC Codes

VI. Well Status (Select A, B or C)

- ☐ A. Operating — Date Started *(MM/DD/YYYY)*
- ☐ B. Modification/Conversion
- ☒ C. Proposed

VII. Type of Permit Requested - Class and Type of Well (see reverse)

A. Class(es) enter code(s)	B. Type(s) enter code(s)	C. If class is "other" or type is code 'Y', explain	D. Number of Wells per type
V A	I		

VIII. Location of Wells or Approximate Center of field or Project

C	A. Latitude				B. Longitude			
I		Deg	Min	Sec		Deg	Min	Sec

IX. Attachments

Complete the following questions on a separate sheet(s) and number accordingly; see instructions for Classes II, III, and V, complete and submit on a separate sheet(s) attachments A-U as appropriate. Attach maps where required. List attachments by letter which are applicable and include with your application.

X. Certification

I certify under penalty of law that I have personally examined and am familiar with the information submitted in this document and all attachments and that, based on my inquiry of those individuals immediately responsible for obtaining the information, I believe that the information is true, accurate, and complete. I am aware that there are significant penalties for submitting false information, including the possibility of a fine and imprisonment.

A. Name (Type or Print)	Title	B. Phone No.
John Paul Bekish	Branch Manager	803 788 2535

C. Signature	D. Date Signed (MM/DD/YYYY)
[signature]	06/19/2003

DHEC2502(08/1997)

Well Class and Type Codes

Class I			Industrial, municipal, and other injection wells for the subsurface disposal of fluids. (Prohibited)
Class II			Oil and gas production and storage related injection wells.
	Type	"D"	Produced fluid disposal well
		"R"	Enhanced recovery well
		"R"	Hydrocarbon storage well (excluding natural gas)
		"X"	Other Class II wells
Class III			Special process injection wells.
	Type	"G"	Solution mining well
		"S"	Sulfur mining well by frasch process
		"U"	Uranium mining well (excluding solution mining of conventional mines)
		"X"	Other Class III wells
Class IV			Hazardous or radioactive waste disposal injection wells. (Prohibited)
Class V.A			Injection wells not included in Class I, II, III, IV or V.B
	Type	"A"	Storm runoff drainage wells
		"B"	Aquifer recharge wells
		"C"	Salt-water intrusion barrier wells
		"D"	Subsidence control wells
		"E"	Backfill wells associated with subsurface mining
		"F"	Geothermal energy recovery wells
		"G"	Experimental technology well
		"H"	Natural gas storage wells
		"I"	Corrective action wells
Class V.B			Non-contact return flow system wells
	Type	"A"	Heat pump return flow wells
	Type	"B"	Cooling water return flow wells

Instructions for Attachments to Form 1
Underground Injection Control
for Corrective Action Wells
(effective 01/91)

The following ATTACHMENTS should be submitted with an underground injection control (UIC) permit application for Class V.A. corrective action wells associated with aquifer remediation that are to be used to inject fluid whose chemical constituents are below all drinking water standards, as established under R.61-58.5.

Attachment A: Activity for Review

Submit a brief description of the activities to be conducted that require a UIC permit.

Attachment B: Well Construction Details

Submit schematic or other appropriate drawings of the surface and subsurface construction details of the recovery and injection wells.

Attachment C: Operating Data

Submit the following proposed operating data for each injection well:

1) Average and maximum daily rate and volume of fluid to be injected. In addition, indicate the average and maximum daily rate and volume of fluid to be withdrawn from each recovery well. Verification of the aquifer's hydraulic ability to produce and accept the quantities proposed should be presented.

2) Average and maximum injection pressure.

3) Pumping schedule (i.e. continuous, alternating cycles, etc.).

4) Proposed ranges in the concentration of all contaminant constituents within the injection fluid. Include comprehensive ground-water quality data from a "worst case" well sample.

5) Length of time the project is expected to require injection to complete remediation (to ensure the effective dates of the permit will allow sufficient time to complete the project).

Attachment D: Monitoring Program

Discuss the planned monitoring program in detail:

1) Include a discussion of monitoring devices, sampling frequency (sufficient to verify treatment system efficiency), sampling protocol, sampling location, parameters to be analyzed, and proposed method(s) of analysis.

2) This plan should indicate how, through monitoring, the proposed contaminant levels in the injectate will be verified.

3) This plan should also clearly illustrate exactly how hydraulic control of the contaminant plume (and injectate, where relevant) will be verified through monitoring (i.e., piezometers, quality analyses, etc.).

Attachment E: Existing or Pending State/Federal Permits

List the program and permit number of any existing State or Federal permits for the facility (i.e., NPDES, RCRA, UST, etc.).

Attachment F: Description of Business

Give a brief description of the nature of the business of the facility and any immediately adjacent facilities.

Attachment G: Area of Review

1) The area of review should be a fixed radius of 1/4 mile from the injection well, the outermost injection wells (if a wellfield).

2) If a fixed radius is not selected, the methods and the calculations used to determine the size of the area of review should be submitted.

Attachment H: Maps of Wells and Area of Review

1) Submit a topographic map of the area, extending one mile beyond the project property boundaries. This map should show all hazardous waste treatment, storage, or disposal facilities, and all intake and discharge structures associated with the project facility. Any known areas of soil and/or ground-water contamination within a one mile radius should be indicated. Also indicate all surface bodies of water, springs, mines (surface and subsurface), quarries, and other pertinent surface features such as residences, roads, and geologic faults (known or suspected).

2) A scaled map(s) should be included which shows the name and/or number and the location of ALL production, injection, monitoring, abandoned and dry wells within the area of review. This should be accomplished by file and field surveys. Information regarding the construction (i.e., total depth, diameter, casing/screened intervals, grouting, etc.) and the current status (i.e., actively used, temporarily abandoned, permanently abandoned) of ALL wells within the area of review should be submitted. If any wells have been abandoned, details on the method the wells were abandoned (i.e., cemented/grouted, filled with sand, etc.) should be included.

3) A potentiometric map of the project site should be submitted which accurately locates all monitoring wells and proposed recovery and injection wells and outlines the horizontal extent of both the free-phase contaminant (where applicable) and dissolved contaminant plumes. Include all water level and product thickness data. The date and time that water levels and product thicknesses were measured should be indicated.

Attachment I: Cross Sections/Diagrams

1) Geologic cross sections indicating the lithology and stratigraphy of the site and the horizontal and vertical extent of the contaminant plume, should be submitted. At least two stratigraphic cross sections, one parallel and one perpendicular to the horizontal ground-water flow direction, should be submitted. In areas where the site stratigraphy is complex, additional cross sections should be submitted to clearly illustrate the local conditions.

2) A schematic diagram, in the form of a cross section, showing the proposed remediation system with the components of flow (above and below ground) and all associated appurtenances (i.e., stripping tower, piping, wells, etc.).

Attachment J: Name and Depth of Underground Sources of Drinking Water (USDW's)

Identify and describe all aquifers which may be affected by the injection.

Attachment K: Hydraulic Control

1) Sufficient supporting data (i.e. time/drawdown data, Theis curves and methods, calculations, etc.), used to determine aquifer characteristics to verify complete hydraulic control over the contaminant plume (and injectate, if proposed injectate quality does not conform to classified ground-water standards) during injection should be submitted. At a minimum, values should be given for transmissivity, hydraulic conductivity, effective porosity and specific yield.

2) Demonstrate the presence and magnitude of, or the absence of, any vertical hydraulic gradient at the site. If a vertical hydraulic gradient exists, show how its direction and magnitude are incorporated in the calculations demonstrating hydraulic control.

3) Ground-water flow computer models (especially 2-D map view with potentiometric and flow lines) may be utilized and submitted. All calculations should be in English units. All model-derived data and maps should be properly labeled and keyed so as to be clearly understood.

Subsequent Action

After receipt of a complete Underground Injection Control Permit Application, the Department will make a determination to deny or issue a Permit to Construct the injection well(s). After the well(s) is/are constructed, the Department should be notified in writing of the well(s) completion and sent a copy of the completed well record form(s) signed by a South Carolina certified well driller which illustrates the "as built" well construction. If the system is in compliance with the approved application, the Department may then issue an Approval to Operate. This Approval to Operate is the final permission necessary prior to injection.

Attachment A – Activity for Review

The permit application is in support of the remedial activities proposed for the Circle Stop N Shop in Leesburg, South Carolina (SCDHEC UST Permit #05981). Remedial activities proposed the installation and operation of a system for remediation of dissolved phase hydrocarbons. The operation of the proposed system requires the injection of hydrogen peroxide as the oxygen delivery system for the aerobic degradation of the hydrocarbons.

Attachment B – Well Construction Details

41 injection points are proposed. Attached is a typical schematic of an injection point. This borehole layout was designed to get injection points spaced in a grid like fashion over as much of the contamination plume as possible. Each injection point will simply be the end of a section of ¼ inch polypropylene tubing that is scored with slits/holes along the last 12 inches in order to ensure proper oxygen diffusion.

Attachment C – Operating Data

For each injection point:

1. No routine recovery of ground water is anticipated. No air permeability data is available.

2. Average and maximum injection pressure will be less than 5 pounds per square inch.

3. Injection will be conducted at intervals.

4. A diluted solution of hydrogen peroxide will be in the injected fluid.

5. Based on calculations in the Corrective Action Plan estimated length of clean up will be 24 months. It is requested that the permit be valid for an initial period of three years.

Attachment D – Monitoring Program

1. At 30, 60, and 90 days after startup free-phase product will be monitored at all the monitor wells. In addition, prior to system startup water levels in each well will be gauged including free-phase product thickness at all the monitoring wells.

   Free-phase product gauging will be conducted on a quarterly basis. The quarterly corrective action monitoring report will contain those elements described in the bid request document.

2. No contaminant constituents will be present in the injectate.

3. No hydraulic impact on the contaminant plume is anticipated. Water level measurements will be collected and potentiometric maps at intervals specified above to confirm that the existing groundwater flow direction is not affected.

Attachment E – Existing or Pending State/Federal Permits

The site is identified under SCDHEC UST Permit #05981. Underground storage tanks currently do not exist on the site. No other known permits exist.

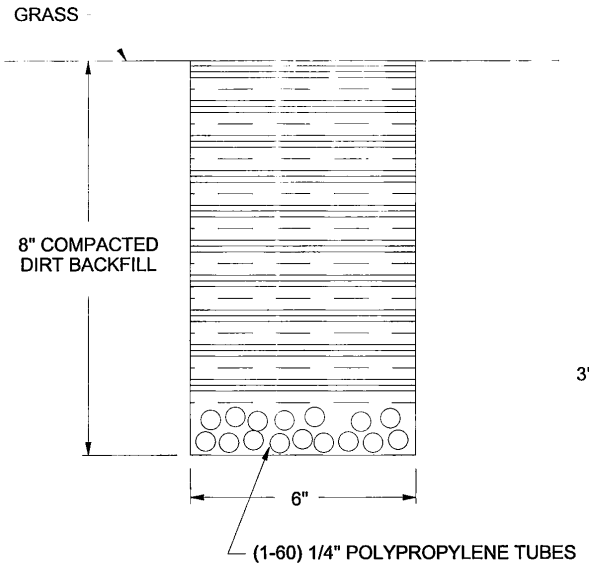
Attachment F – Description of Business

The site is currently a SCDOT maintenance facility.

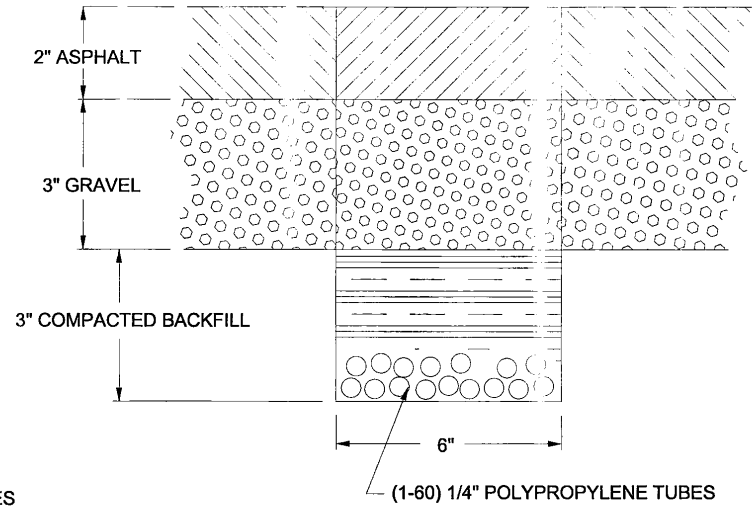
APPENDIX B

INFORMATION FOR REMEDIATION PROJECT

Note: The information provided in this appendix describes the full system with trenching, system building and supplied oxygen tanks. The system proposed is a modification of the full system outlined as follows. The proposed system includes periodic injection of hydrogen peroxide. Therefore, the trenching and system building are not proposed. The full system description is provided in the event the proposed system will require modification in order to operate effectively.



1/2 TRENCH SECTION(GRASS AREA)



2/2 TRENCH SECTION(PARKING LOT)

SEI Environmental, Inc.

APPENDIX B, FIGURE 1: TRENCH DETAILS
CIRCLE STOP & SHOP
U.S. HWY 378 & 391, LEESVILLE, SC
UST PERMIT #05981

WO #303-064	DATE: 6/19/03
DWG #: CS0064S1	DRAWN BY: JCJ

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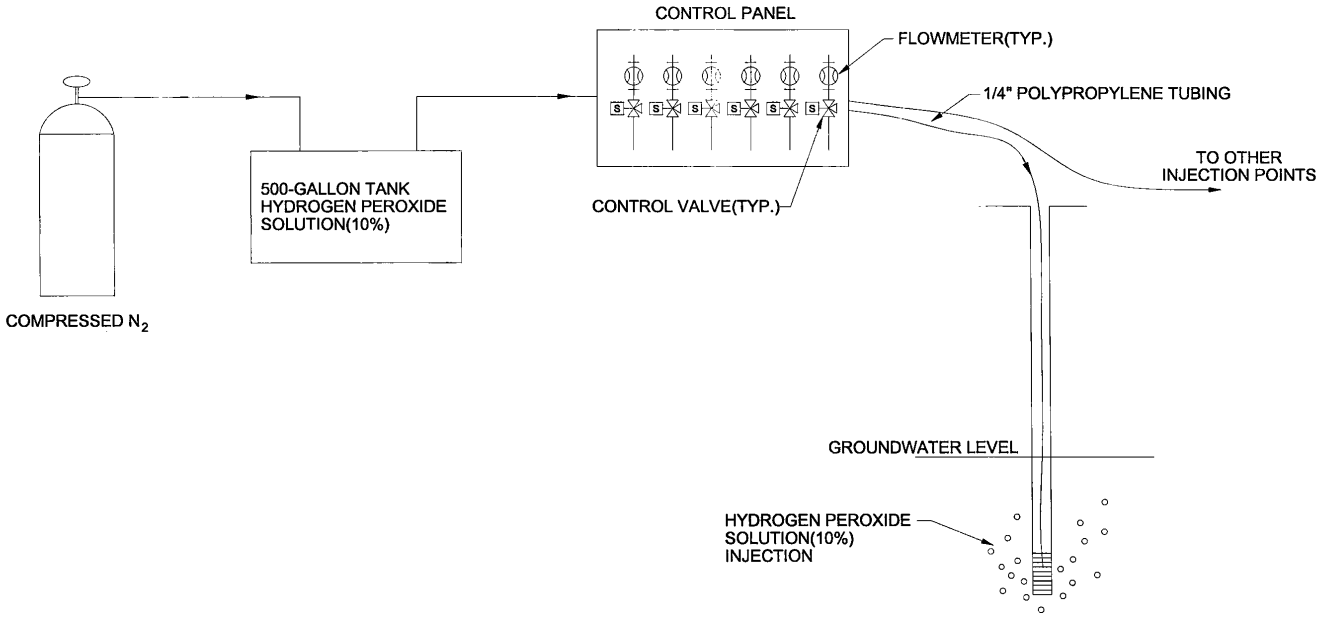

SEI Environmental, Inc.

APPENDIX B, FIGURE 2: PROCESS FLOW DIAGRAM
CIRCLE STOP & SHOP
U.S. HWY 378 & 391, LEESVILLE, SC
UST PERMIT #05981

WO #303-064	DATE: 6/19/03
DWG #: CS0064S2	DRAWN BY: JCJ

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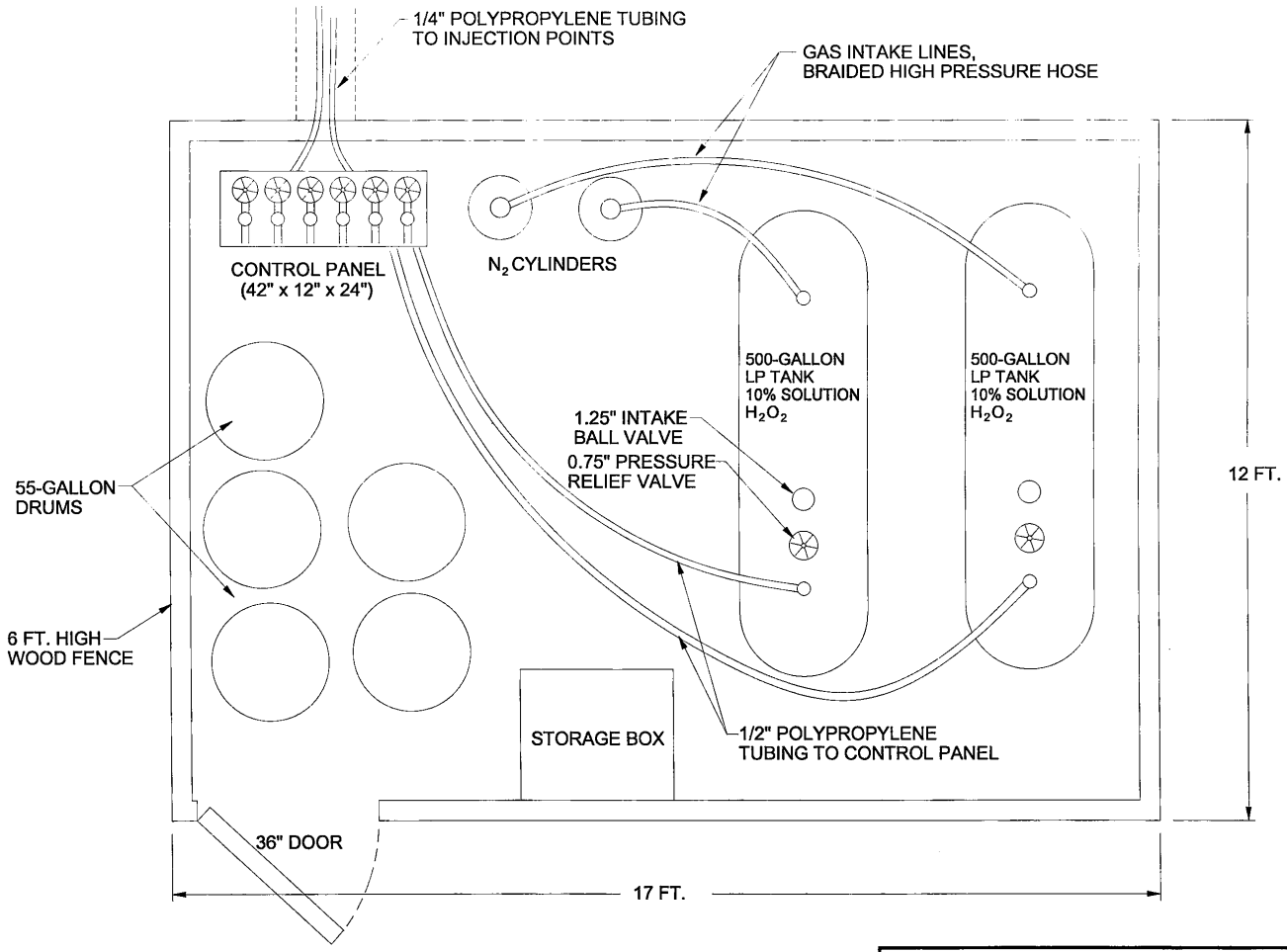

0 15 30 INCHES

SEI Environmental, Inc.

APPENDIX B, FIGURE 3: PROCESS PLAN
CIRCLE STOP & SHOP
U.S. HWY 378 & 391, LEESVILLE, SC
UST PERMIT #05981

WO #303-064	DATE: 6/19/03
DWG #: CS0064S3	DRAWN BY: JCJ

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APPENDIX C

TAX MAP INFORMATION

Property Tax Map Information Circle Stop N Shop / Leesburg, South Carolina	
Tax Map No.	*Property Owner*
190-30 subject property	Circle Stop N Shop J.M. Northey Route 4, Box 190 Leesville, South Carolina 29070
190-28	Paul N. Shealy Route 4, Box 215 Leesville, South Carolina 29070
190-32	Randall L. Kirkland Route 4, Box 174 Leesville, South Carolina 29070
190-36	Charles Boland Post Office Box 631 Saluda, South Carolina 29138
190-15	Herman C. Shealy Post Office Box 675 McCormick, South Carolina 29835

2711

FARM APPRAISAL CARD

SOUTH CAROLINA

COUNTY_____

CARD_____OF_____CARDS

TAX MAP 190-00-00-030	DISTRICT	DATE OF APPRAISAL	APPRAISER

CLARK, Louise N.

TRANSFERRED FROM	Deed Book	Deed Page	Acres or Lots	Plat Book	Plat Page	Date of Sale	SALES PRICE
Northey, J.M. 85-ES-4400		85	2.73	24	90	8/11-85	IP
Mid-Carolina Electric	376	261	2.8	High-8-1-2-1		3/3/97	IP
Louise G. Northey	521	13	2.8			5/17/01	deed of dist

Owner's Name and Address ~~2920 Prosperity Hwy~~ ~~PR. 4, Box 189~~ Leesville, SC 29070

PROPERTY LOCATION	GENERAL DATA	COST DATA	INCOME APPROACH		
St., Rt. & No.	Yr. Built	Land	Econ. Rent	Cap. Rate	Remarks:
City	Economic Life	Imp.	Expenses	Income	
Use	Condition	L. H.	Net Inc.	Cap. Rate	
Subdivision	Quality	Total	Land Inc.	Imp. Value	
Legal Description	Annual Rent	Stamps	Imp. Inc.	Land Value	
	Bldg. Permit	Old Map Ref.	Recap	Total Value	
	Mort.	File No.	Int. Rate		

STANDARD CLASSIFICATION				PROPERTY DATA			
NEIGHBORHOOD		TRANSPORTATION		LAND IMP.		UTILITIES	
Progressive		Paved Road		Buildings		Electricity	
Static		Earth Road		Pavement		Water	
Regressive		Railroad		Fence		Gas	
Old		Water		Landscaping		Sewer	
New		Airport		Well		All Utilities	

LAND

Number of Acres	2.8	Number of Lots	
Per Acre Value		Number of Front Ft.	
Value for Acres		Per Lot Value	
Returned Area		Per Front Ft. Value	
Legal Area		Value for Lots	
Planimetered Area		Value for Fr. Ft.	
Total Land Value			

LAND VALUATION

CLASS	ACRES	MARKET VALUE Price per Acre	MARKET VALUE Total	USE VALUE Price per Acre	USE VALUE Total
R.G.	~~1.0~~	~~2000 1000~~ ~~1400~~	~~2000~~		
AG	1.8	~~1.0~~	~~1470~~ ~~2520~~	4500	254
R.G.	.6		1500	13000	
R.G.	.4		4000	7000	
				20000	
			15000		
TOTAL	2.8		~~3920~~		

ESTIMATED MARKET VALUE

	Land Acres or Lots	Improvement	Total
Number			
Cost Approach			
Market Approach			
Income Approach			
Correlated Value			
Assessed %	BGC 2-6-95		
Reviewed by	CDS	Date 12-22-83	

LAND VALUATION BY YEAR

	1980	19____	19____	19____	19____
Market Value					
Use Value					
Difference					

DU/JH 1-23-90 JB 3-3-00

PT 169

2710

FARM APPRAISAL CARD

SOUTH CAROLINA

COUNTY_____ CARD_____ OF_____ CARDS

MFD

TAX MAP 190-00-00-015	DISTRICT 1-12	DATE OF APPRAISAL	APPRAISER

Sheely Lorraine C.
P.O. Box 675 - Fifth Ave.
McCormick, S.C. 29835

Owner's Name and Address

TRANSFERRED FROM	Deed Book	Deed Page	Acres or Lots	Plat Book	Plat Page	Date of Sale	SALES PRICE
~~Pagroth, Albert P.~~	~~39~~	~~464~~				~~10-49~~	~~200.00~~
~~Eudora Sheely~~	~~216~~	~~212~~	~~0.522~~	~~216~~	~~214~~	~~6-3-91~~	~~deed of dist.~~
	~~259~~	~~182~~	~~0.02~~	~~quit-claim deed~~	~~10-30-92~~	~~1.00~~	
Herman C. Sheely Sr. Est	462	203	0.522	216	214	2/9/99	deed of dist.

PROPERTY LOCATION	GENERAL DATA	COST DATA	INCOME APPROACH		
St., Rt. & No.	Yr. Built 1986	Land	Econ. Rent	Cap. Rate	Remarks:
City	Economic Life	Imp.	Expenses	Income	
Use	Condition	L. H.	Net Inc.	Cap. Rate ÷	
Subdivision	Quality existing building	Total	Land Inc.	Imp. Value	
Legal Description	Annual Rent	Stamps	Imp. Inc.	Land Value	
	Bldg. Permit 3812	Old Map Ref.	Recap	Total Value	
	Mort.	File No.	Int. Rate		

STANDARD CLASSIFICATION				PROPERTY DATA			
NEIGHBORHOOD		TRANSPORTATION		LAND IMP.		UTILITIES	
Progressive		Paved Road		Buildings		Electricity	
Static		Earth Road		Pavement		Water	
Regressive		Railroad		Fence		Gas	
Old		Water		Landscaping		Sewer	
New		Airport		Well		All Utilities	

LAND

Number of Acres 1.5	Number of Lots
Per Acre Value	Number of Front Ft.
Value for Acres	Per Lot Value
Returned Area	Per Front Ft. Value
Legal Area	Value for Lots
Planimetered Area	Value for Fr. Ft.
Total Land Value	

LAND VALUATION

CLASS	ACRES	MARKET VALUE Price per Acre	MARKET VALUE Total	USE VALUE Price per Acre	USE VALUE Total
		~~2000+1000 1/20~~	~~3000 1/20~~		
RG	.5	2000+1000 1/20	~~3000~~		
			5500		
			10000		
TOTAL			~~3100~~		

ESTIMATED MARKET VALUE

	Land Acres or Lots	Improvement	Total
Number			
Cost Approach			
Market Approach			
Income Approach			
Correlated Value			
Assessed %			

Reviewed by CDS Date 2-6-95 21-Jan-03

LAND VALUATION BY YEAR

	19 79	19____	19____	19____	19____
Market Value	1650				
Use Value					
Difference					

DUJH 1-23-90

PT-168

FARM APPRAISAL CARD

SOUTH CAROLINA

COUNTY_____

CARD_____OF_____CARDS

TAX MAP 190-00-00-028	DISTRICT	DATE OF APPRAISAL				APPRAISER		
Sheely, Paul N.	TRANSFERRED FROM	Deed Book	Deed Page	Acres or Lots	Plat Book	Plat Page	Date of Sale	SALES PRICE
~~Route 4, Box 215~~	Eudora Sheely	216	215	1.12	216	217	6-3-91	Deed of dist.
Leesville, S.C. 29070								
113 Big Mans Rd								
Owner's Name and Address								

PROPERTY LOCATION	GENERAL DATA	COST DATA	INCOME APPROACH		
St., Rt. & No.	Yr. Built 1986	Land	Econ. Rent	Cap. Rate	Remarks:
City	Economic Life	Imp.	Expenses	Income	
Use	Condition	L. H.	Net Inc.	Cap. Rate ÷	
Subdivision	Quality existing building	Total	Land Inc.	Imp. Value	
Legal Description	Annual Rent	Stamps	Imp. Inc.	Land Value	
	Bldg. Permit 3812	Old Map Ref.	Recap	Total Value	
	Mort.	File No.	Int. Rate		

STANDARD CLASSIFICATION				PROPERTY DATA			
NEIGHBORHOOD		TRANSPORTATION		LAND IMP.		UTILITIES	
Progressive		Paved Road		Buildings		Electricity	
Static		Earth Road		Pavement		Water	
Regressive		Railroad		Fence		Gas	
Old		Water		Landscaping		Sewer	
New		Airport		Well		All Utilities	

LAND

Number of Acres	Number of Lots
Per Acre Value	Number of Front Ft.
Value for Acres	Per Lot Value
Returned Area	Per Front Ft. Value
Legal Area	Value for Lots
Planimetered Area	Value for Fr. Ft.
Total Land Value	

ESTIMATED MARKET VALUE

	Land Acres or Lots	Improvement	Total
Number			
Cost Approach			
Market Approach			
Income Approach			
Correlated Value			
Assessed %			
Reviewed by [illegible] 7-6-95 SB [illegible] Date			

LAND VALUATION

CLASS	ACRES	MARKET VALUE Price per Acre	MARKET VALUE Total	USE VALUE Price per Acre	USE VALUE Total
RC	1.0	2000 + 1000	~~3000~~		
			10000		
12-17-92					
Mrs. Sheely requested the fee to be taken off but the Assessor did not close until Sept., 1992 We will take the fee off for 1993. The fee was					
TOTAL from July 1, 1992 thru July 1, 1993					

LAND VALUATION BY YEAR

	19____	19____	19____	19____	19____
Market Value					
Use Value					
Difference					

PT-168

(3119)

FARM APPRAISAL CARD

SOUTH CAROLINA

CARD ____ OF ____ CARDS

COUNTY ____

TAX MAP 190-00-00-032

Kirkland, Randall L.
Route 4, Box 174
Lexville, S.C. 29070

3267 Columbiahwy

Owner's Name and Address

DISTRICT	DATE OF APPRAISAL					APPRAISER		
TRANSFERRED FROM	Deed Book	Deed Page	Acres or Lots	Plat Book	Plat Page	Date of Sale	SALES PRICE
						3-69	500
Whitlo, Elmore D	62	365	26				
Patricia Ann Whitlo Norton	210	208	26 AC			2-23-91	32,500
Mid Carolina Electric	378	255	26	Right-of-Way		3/8/97	10

PROPERTY LOCATION	GENERAL DATA	COST DATA	INCOME APPROACH		Remarks:
St., Rt. & No.	Yr. Built 1992	Land	Econ. Rent	Cap. Rate	
City	Economic Life	Imp.	Expenses	Income ÷	
Use	Condition	L. H.	Net Inc.	Cap. Rate	
Subdivision	Quality AVG	Total	Land Inc.	Imp. Value	
Legal Description	Annual Rent	Stamps	Imp. Inc.	Land Value	
	Bldg. Permit # 5096	Old Map Ref.	Recap	Total Value	
	Mort. $ 92,000	File No.	Int. Rate		

STANDARD CLASSIFICATION		PROPERTY DATA	
NEIGHBORHOOD	TRANSPORTATION	LAND IMP.	UTILITIES
Progressive	Paved Road	Buildings	Electricity
Static	Earth Road	Pavement	Water
Regressive	Railroad	Fence	Gas
Old	Water	Landscaping	Sewer
New	Airport	Well	All Utilities

LAND

Number of Acres	26.0	Number of Lots	
Per Acre Value		Number of Front Ft.	
Value for Acres		Per Lot Value	
Returned Area		Per Front Ft. Value	
Legal Area		Value for Lots	
Planimetered Area		Value for Fr. Ft.	
Total Land Value			

LAND VALUATION

CLASS	ACRES	MARKET VALUE Price per Acre	MARKET VALUE Total	USE VALUE Price per Acre	USE VALUE Total
			37500		
			~~2300~~		3500
AG	25	~~600~~	~~20,000~~		~~3,525~~
			4000		
00	1.0	2000+1000			
			62500		
			5000		
			67500		
			23,000		
TOTAL	26	~~600~~	~~15,600~~		

ESTIMATED MARKET VALUE

	Land Acres or Lots	Improvement	Total
Number			
Cost Approach			
Market Approach			
Income Approach			
Correlated Value			
Assessed %	[illegible]	[illegible]	

Date 12-1-87

Reviewed by GG

JB 3-13-90 DW 3-14 1-23-90

LAND VALUATION BY YEAR

1992 Hmes	19 92	19 91	19 90	19 89	19 Fr
Market Value	RG	800	800	600	600
Use Value		141	129	73	73
Difference		659	671	527	527
Assessed value		40	40	30	30

PT-168

FARM APPRAISAL CARD

SOUTH CAROLINA

COUNTY_____

N72E 633 S83E 6.1 Ac. N32E 674 S24W 647

CARD_____OF_____CARDS

TAX MAP 190-00-00-036	DISTRICT	DATE OF APPRAISAL	APPRAISER

Bolaire Charles
P.O. Box 631
SALUDA, SC 29138

Owner's Name and Address

TRANSFERRED FROM	Deed Book	Deed Page	Acres or Lots	Plat Book	Plat Page	Date of Sale	SALES PRICE
Whittle, Elmore W.	48	289	6.1			1958	1800.00

PROPERTY LOCATION	GENERAL DATA	COST DATA	INCOME APPROACH		
St., Rt. & No.	Yr. Built	Land	Econ. Rent	Cap. Rate	Remarks:
City	Economic Life	Imp.	Expenses	Income	
Use	Condition	L. H.	Net Inc.	Cap. Rate	
Subdivision	Quality	Total	Land Inc.	Imp. Value	
Legal Description	Annual Rent	Stamps	Imp. Inc.	Land Value	
	Bldg. Permit	Old Map Ref.	Recap	Total Value	
	Mort.	File No.	Int. Rate		

STANDARD CLASSIFICATION				PROPERTY DATA			
NEIGHBORHOOD		TRANSPORTATION		LAND IMP.		UTILITIES	
Progressive		Paved Road		Buildings		Electricity	
Static		Earth Road		Pavement		Water	
Regressive		Railroad		Fence		Gas	
Old		Water		Landscaping		Sewer	
New		Airport		Well		All Utilities	

LAND

Number of Acres	6.1	Number of Lots	
Per Acre Value		Number of Front Ft.	
Value for Acres		Per Lot Value	
Returned Area		Per Front Ft. Value	
Legal Area		Value for Lots	
Planimetered Area		Value for Fr. Ft.	
Total Land Value			

LAND VALUATION

CLASS	ACRES	MARKET VALUE Price per Acre	MARKET VALUE Total	USE VALUE Price per Acre	USE VALUE Total
R.G.	1	~~2000 + 130 = 2130~~ ~~1400~~	~~3000~~ ~~1400~~ 4400		
A.G.	5.1	~~650~~	~~3315~~ ~~3315~~		759
			12,750		
				5000	
				30600	
			16,750		
TOTAL	6.1		~~4715~~	35600	

ESTIMATED MARKET VALUE

	Land Acres or Lots	Improvement	Total
Number			
Cost Approach			
Market Approach			
Income Approach			
Correlated Value			
Assessed %	Dec	2+6=5	
Reviewed by	GG	JB 3-12-91 Date	12-1-87

LAND VALUATION BY YEAR

	19 79	19____	19____	19____	19____
Market Value	2346				
Use Value	663				
Difference	1683				

DU/JH 1-23-90

PT-168

FARM APPRAISAL CARD

SOUTH CAROLINA

COUNTY_____

CARD_____**OF**_____**CARDS**

TAX MAP 190-00-00-045	DISTRICT	DATE OF APPRAISAL	APPRAISER

Sheely, Paul N. + Jo Ann W.
~~Rt. 4, Box 215~~ 113 Big Manor Rd
Lexsville, SC.

Owner's Name and Address SURVIVORSHIP

TRANSFERRED FROM	Deed Book	Deed Page	Acres or Lots	Plat Book	Plat Page	Date of Sale	SALES PRICE
Rinehart, Joseph A. + Sylvia N.	109	249	.85 G .70 N	109	253	10-21-85	3,000.00

PROPERTY LOCATION	GENERAL DATA	COST DATA	INCOME APPROACH		
St., Rt. & No.	Yr. Built	Land	Econ. Rent	Cap. Rate	Remarks:
City	Economic Life	Imp.	Expenses	Income	
Use	Condition	L. H.	Net Inc.	Cap. Rate	
Subdivision	Quality	Total	Land Inc.	Imp. Value	
Legal Description	Annual Rent	Stamps	Imp. Inc.	Land Value	
	Bldg. Permit	Old Map Ref.	Recap	Total Value	
	Mort.	File No.	Int. Rate		

STANDARD CLASSIFICATION				PROPERTY DATA			
NEIGHBORHOOD		TRANSPORTATION		LAND IMP.		UTILITIES	
Progressive		Paved Road		Buildings		Electricity	
Static		Earth Road		Pavement		Water	
Regressive		Railroad		Fence		Gas	
Old		Water		Landscaping		Sewer	
New		Airport		Well		All Utilities	

LAND

Number of Acres	Number of Lots
Per Acre Value	Number of Front Ft.
Value for Acres	Per Lot Value
Returned Area	Per Front Ft. Value
Legal Area	Value for Lots
.85 Planimetered Area .76	Value for Fr. Ft.
Total Land Value	

ESTIMATED MARKET VALUE

	Land Acres or Lots	Improvement	Total
Number			
Cost Approach			
Market Approach			
Income Approach			
Correlated Value			
Assessed %			

Reviewed by G-G 2-6-95 Date 12-1-87

DJ 5+ 1-23-90 10-13-90

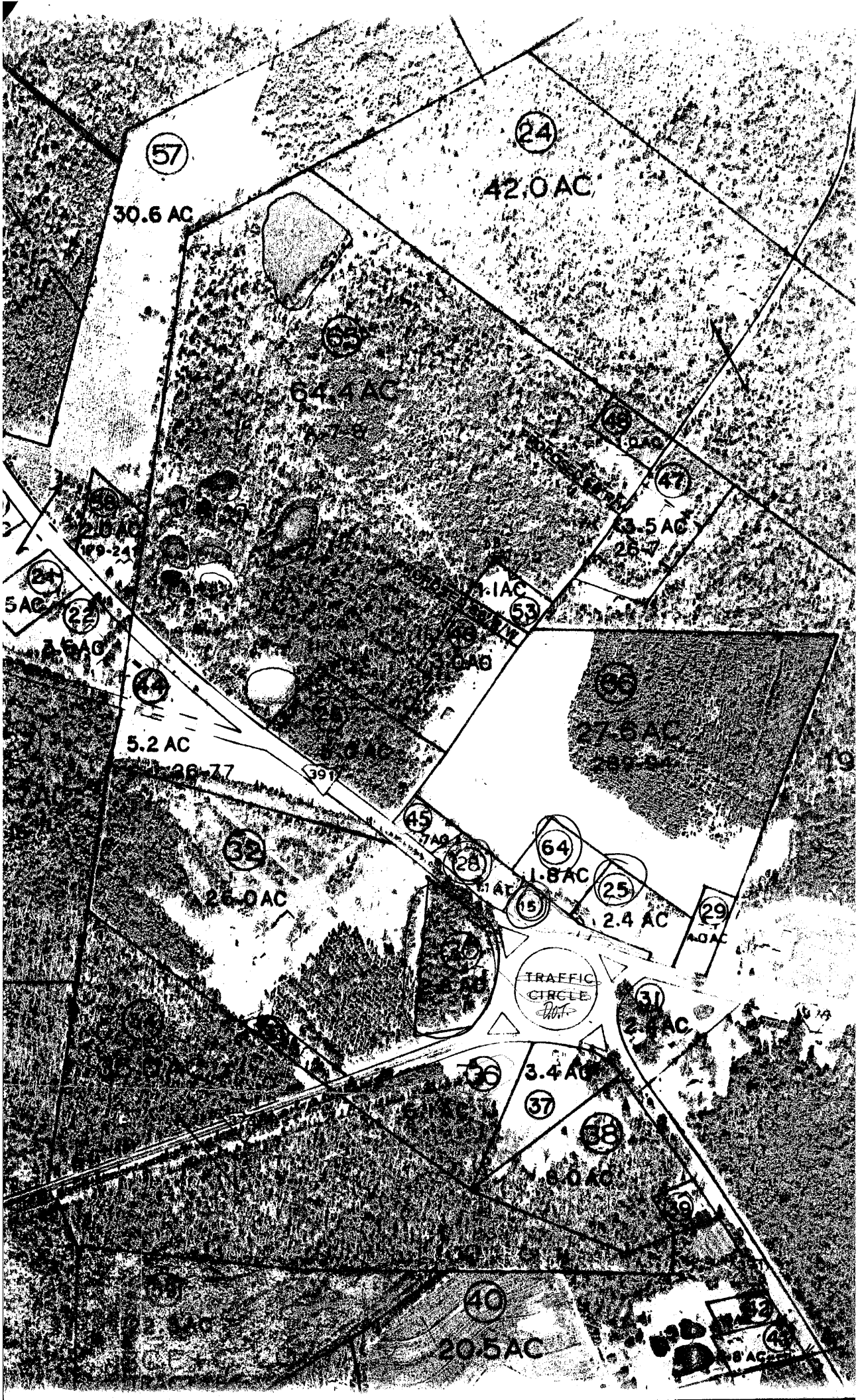
LAND VALUATION

CLASS	ACRES	MARKET VALUE Price per Acre	MARKET VALUE Total	USE VALUE Price per Acre	USE VALUE Total
~~AG~~	.7	~~2000~~ 1400	~~2000~~ ~~700~~		
Commercial					
			6500		
TOTAL					

LAND VALUATION BY YEAR

	19____	19____	19____	19____	19____
Market Value					
Use Value					
Difference					

PT-168


57
30.6 AC
24
42.0 AC
65
64.4 AC
48
47
3.5 AC
53
44
5.2 AC
46
27.5 AC
19
391
45
32
25.0 AC
64
1.8 AC
28
25
2.4 AC
29
TRAFFIC CIRCLE
31
36
3.4 AC
37
38
8.0 AC
39
40
20.5 AC

UK E/S
2/28
99

Geological Resources, Inc.

RECEIVED

JAN 0 6 2003

UNDERGROUND STORAGE
TANK PROGRAM

December 31, 2002

Mr. Robert Faller
Environmental Health Manager
Bureau of Underground Storage Tank Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Re: Circle Stop N Shop
Site ID# 05981
CP # 17795:P; PO # 404342

Dear Mr. Faller:

Please find enclosed the **original report** for the above referenced site.

The original invoice has been submitted to Ms. Pat Holland of the Finance Section as specified in the contract.

Sincerely,

Shawn L. Judd
Project Coordinator

UST PROGRAM
DOCKETING # 291ch

4913 Albemarle Road Suite 101 Charlotte, NC 28205
Phone: (704) 563-1663 / (888) 870-4133 Fax: (704) 563-1662
www.geologicalresourcesinc.com

FIELD ACTIVITY WORKSHEET ORDER

Date of Request: _____

Type of Request:

(Please indicate your request with a check mark)

Emergency	(<2 Working Days)	☐
Specific	(1-5 Working Days)	☐
Routine	(10 Working Days)	☐

Please specify the type of work to be completed:

Sample all wells (26 monitoring, 2-supply wells for BTEX, Naph, MTBE, Nitrates, Sulfates, and ferrous iron. Gauge and record free product level in MW-7, sample for BTEX, Naph, MTBE, Nitrates, Sulfates, and ferrous iron, if no free product is found.

Complete After wells are installed.

Facility Name: **Circle Stop N Shop**

Permit Number: **05981**

Project Manager: UMAR K. KHATTAK

County: SALUDA

(Field Staff Only)

Date Field Activity Completed: _____

Completed by Field Staff: _____

Date Field Notes Entered into EFIS: _____

Field Staff Comments:

_____

_____

_____

REMEMBER TO ESTABLISH COST PROPOSALS

PACE CA#: **17794** GRI CA#: **17795**

PALMETTO ENV GROUP CA#: _____

Fill out back of this form. Photocopy, attach a completed CP cover for each CP. Thank you very much!

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit #05981

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, Louise Northey Clark, 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 Circle Stop and Shop Phone # (803) 532 9974

Street Address of Facility 3287 Columbia Hwy

Town, City, District, Suburb Leesville, S.C.

Name of nearest intersecting street, road, highway, alley US 378 & S.C. 391 (Traffic Circle) Is this facility within the city limits? (yes or no) No

Does a public water or sewer utility service this facility? (yes or no) Public Water - yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines Septic tank lines - F. R. Clark, phone number (803) 5326038

Were underground storage tanks previously removed from the ground at this facility? (yes or no)_____ 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 Gail Smith Phone number (803) 532 4780

Is the property currently leased or rented to someone? (yes or no) yes. If yes, please provide their name Steve & Joan Booger 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): LOUISE NORTHEY CLARK

Phone Number (home) (803) 5326038 (work)

Current Mailing Address: 2920 PROSPERITY HWY. LEESVILLE, S.C. 29070

Signature of Property Owner: Louise Northey Clark

Witness: Jimmie M. Northey

Date: 4-29-02 Month _____ Day _____ Year

RECEIVED

MAY 0 1 2002

Underground Storage Tank Program

PERMISSION FORM

UNDERGROUND STORAGE TANK OWNER

UST Permit #05981

If you are the owner of the former or existing underground storage tanks or are designated as their authorized representative, but do not own the property, please complete this form.

I, Joan Boozer certify that I am the legal owner of the underground storage tank(s) located at the facility identified below or serve as the authorized representative for the UST owner. I grant permission to the South Carolina Department of Health and Environmental Control (SCDHEC) to secure on my behalf services of a contractor to conduct assessment and corrective action activities, as required. The contractor will be designated as my contractor 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 be responsible for obtaining right-of-entry from the property owner and notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Division of Underground Storage Tank Management in writing.

Name of Facility Circle Stop & Shop Phone # 803-532-9974

Street Address of Facility 3287 Columbia Hwy

Town, City, District, Suburb Leesville, SC 29070 - Saluda County

Name of nearest intersecting street, road, highway, alley Hwys 378 & 391

Is this facility within the city limits? (yes or no) NO

Does a public water or sewer utility service this facility? (yes or no) yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) yes 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 Gail Smith Phone number 803-532-4780

Is the property currently leased or rented to someone? (yes or no) yes. If yes, please provide their name Buddy & Louise Clark and phone number 803-532-6038 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. (Don't know where former tank was.)

NAME of UST owner (Please Print): JOAN BOOZER

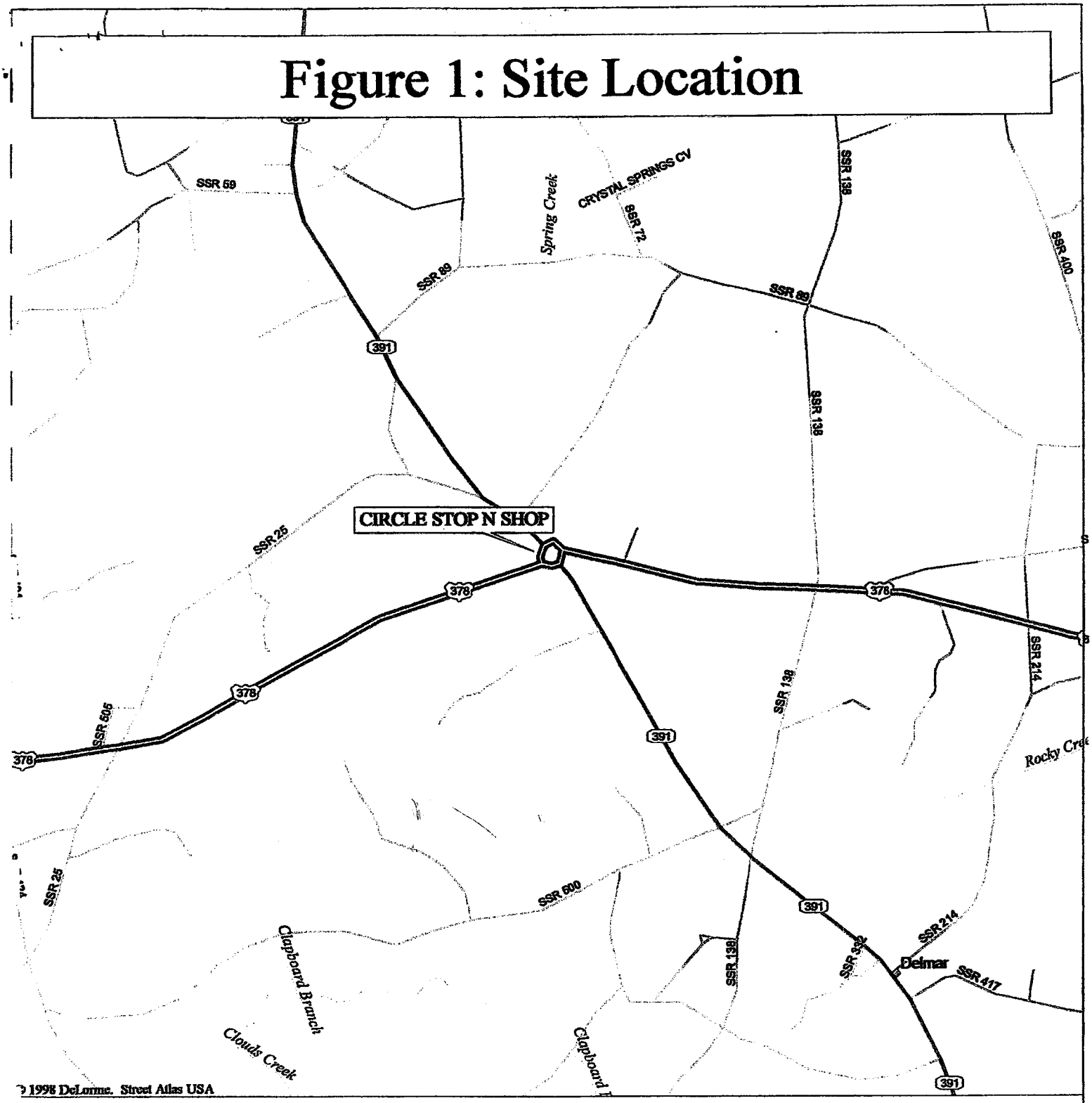
Phone Number (home) 532-3264 (work) 532-9974

Signature of UST Owner: Joan Boozer

Witness: Steve L. Boozer

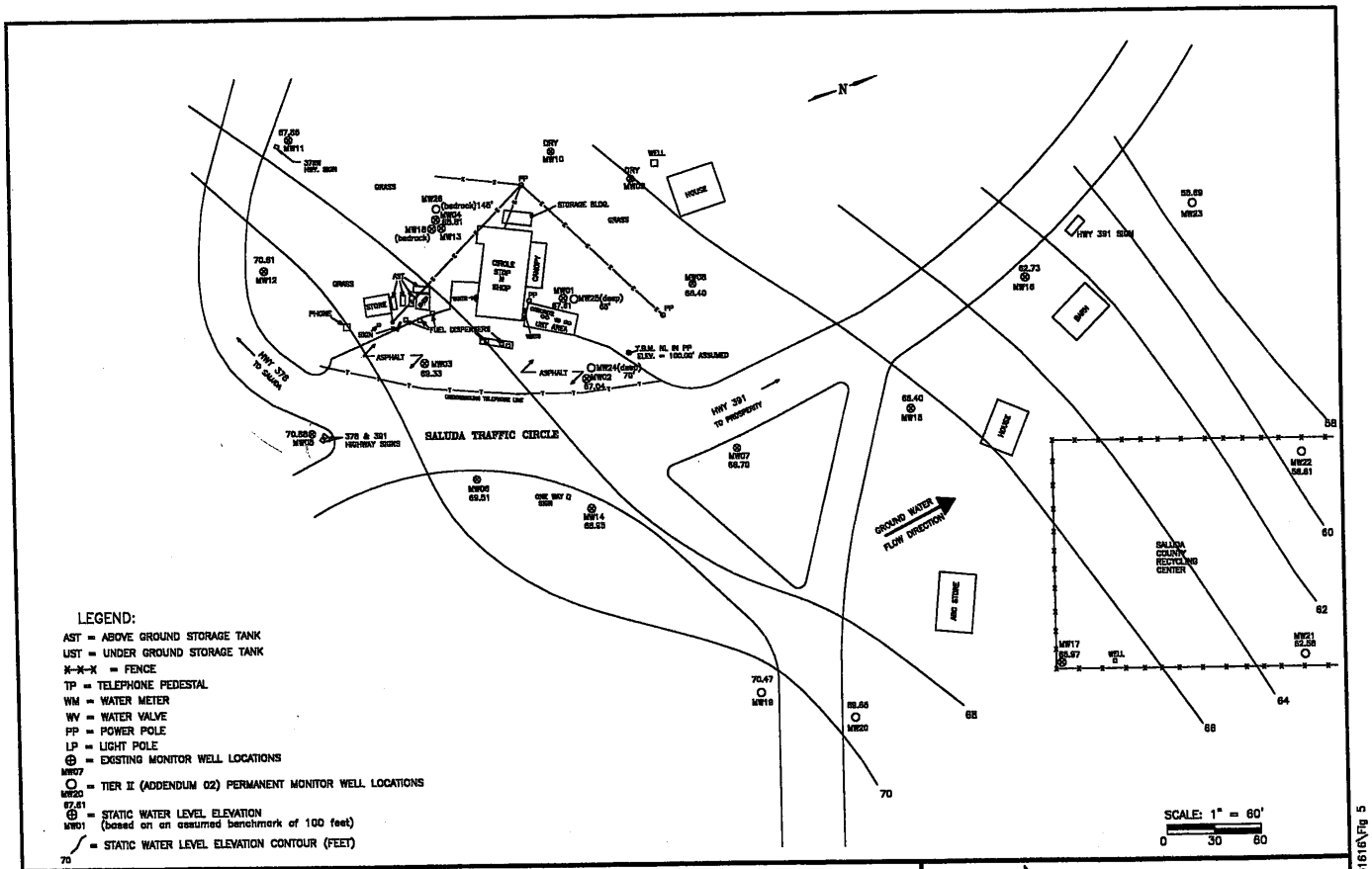
Date: 4-25-02 Month _____ Day _____ Year

Figure 1: Site Location



Mag 14.00
Sun Oct 14 21:57 2001
Scale 1:31,250 (at center)
2000 Feet
1000 Meters

Local Road
State Route
US Highway
Locale
Cemetery
Water
Woodland
River/Canal
Intermittent River



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2001\01616\Fig 5

Approved Cost Agreement 17794

Facility: 05981 CIRCLE STOP N SHOP
KHATTAUK
PO Number: 416276

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	28.0000	30.00	840.00
		F	EDB	28.0000	40.00	1,120.00
		K	NITRATE	26.0000	10.00	260.00
		L	SULFATE	26.0000	10.00	260.00
		M	FERROUS IRON	26.0000	10.00	260.00
				Total Amount		2,740.00

Approved Cost Agreement 17795

Facility: 05981 CIRCLE STOP N SHOP
KHATTAUK
PO Number: 404342

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	49.75	49.75
10 SAMPLE COLLECTION						
		A	GROUND WATER	28.0000	19.95	558.60
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	200.0000	0.55	110.00
18 MISCELLANEOUS						
			GAUGE ONLY	1.0000	7.25	7.25
			TAP SAMPLE	2.0000	4.00	8.00
				Total Amount		733.60

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

DEC 0 5 2002

Attn: Sherri
1812-3

MS SHAWN JUDD
GEOLOGICAL RESOURCES, INC.
4913 ALBEMARLE RD, STE. 101
CHARLOTTE, NC 28205

Re: **Notice to Proceed**
Bid # SB-19032-04/09/02; PO# 404342

Dear Ms. Judd:

Based on the award of the referenced bid package, enclosed is the information packet to conduct one (1) groundwater sampling event. The packet contains 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 #404342 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	Parameters	PACE CA#	GRI CA#
05981	Circle Stop N Shop	Saluda	28	28-BTEX, Naph, MTBE (8260) 26 Nitrates, Sulfates, Ferrous Iron	17794:P	17795:P

Geological Resources, 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 contact Debra Thoma before commencing work at this facility. If you have any questions or need further assistance, please contact Debra Thoma at (803) 896-6397 or (800) 826-5435 (within SC only)

Sincerely,

Umar K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division

enc: Field Activity Worksheet Information Packet
Approved Cost Agreement

cc: Sherri Howard, PACE Analytical Services, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078
(w/ Approved Cost Agreement)
Debra Thoma, State Lead & Field Services
Technical/Read File

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 41.6°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-1
Well Diameter (D): .167 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 Ground Water (DGW) 32.89 feet
Total Well Depth (TWD) 48.94 feet
Length of the water column (LWC = TWD-DGW) 16.05 feet

1 casing volume (CV = LWC X C) = 16.05 X .163 = 2.61
3 casing volume 3 X CV = 7.83 gals (standard purge volume)

Total volume of Water Purged Before Sampling 5.75 gals
Total volume of Water Purged for Post Sampling — gals
5.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	3.0	5.75					
Time (military)	737	742	746					~~1585~~ 747
pH (s.u.)	5.4	4.7	4.4					
Specific Cond. (umhos/cm)	3.0	.26	.09					
Water Temperature (degrees C)	18	18	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	2.5	1.0	1.0					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/18/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 50°F C

Quality Assurance

pH Meter serial no.	809061	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-2
Well Diameter (D): .167 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 Ground Water (DGW)	~~38.89~~	feet 31.43
Total Well Depth (TWD)	~~48.94~~	feet 40.30
Length of the water column (LWC = TWD-DGW)	8.87	feet

1 casing volume (CV = LWC X C) = 8.87 X .163 = 1.45
3 casing volume 3 X CV = 4.35 gals (standard purge volume)

Total volume of Water Purged Before Sampling 3.25 gals
Total volume of Water Purged for Post Sampling — gals
3.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.75	3.25					
Time (military)	1649	1652	1656					~~1555~~ 1657
pH (s.u.)	5.3	5.1	4.5					
Specific Cond. (umhos/cm)	.03	.02	.03					
Water Temperature (degrees C)	20	20	21					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	1.2	1.2	1.1					
PID readings, if required								

Remarks:
Hot

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 47°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # mw-3
Well Diameter (D): .167 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 Ground Water (DGW) 30.77 feet
Total Well Depth (TWD) 39.69 feet
Length of the water column (LWC = TWD-DGW) 8.92 feet

1 casing volume (CV = LWC X C) = 8.92 X .163 = 1.45
3 casing volume 3 X CV = 4.35 gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.75 gals
Total volume of Water Purged for Post Sampling — gals
1.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.75	~~3.25~~					
Time (military)	935	940						~~0.35~~ 941
pH (s.u.)	4.6	4.6						
Specific Cond. (umhos/cm)	.03	.03						
Water Temperature (degrees C)	20	21						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy						
Dissolved Oxygen (mg/l)	1.2	2.0						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 50°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # mw-4
Well Diameter (D): .167 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 Ground Water (DGW) 34.36 feet
Total Well Depth (TWD) 40.13 feet
Length of the water column (LWC = TWD-DGW) 5.77 feet

1 casing volume (CV = LWC X C) = 5.77 x .163 = .94
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.25 gals
Total volume of Water Purged for Post Sampling — gals
1.25 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25						
Time (military)	1059	1102						1104
pH (s.u.)	5.2	5.2						
Specific Cond. (umhos/cm)	.31	.31						
Water Temperature (degrees C)	17	16						
Turbidity (subjective: clear, slightly cloudy, cloudy)	sclouds	cloudy						
Dissolved Oxygen (mg/l)	1.2	1.0						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 50°F C

Quality Assurance

pH Meter serial no.	809061	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # mw-5
Well Diameter (D): .167 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 Ground Water (DGW) 29.92 feet
Total Well Depth (TWD) 44.72 feet
Length of the water column (LWC = TWD-DGW) 14.8 feet

1 casing volume (CV = LWC X C) = 14.8 x .163 = 2.41
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.75 gals
Total volume of Water Purged for Post Sampling gals
2.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	2.75						
Time (military)	1152	1201						1202
pH (s.u.)	6.1	5.9						
Specific Cond. (umhos/cm)	.09	.08						
Water Temperature (degrees C)	18	20						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	Cloudy						
Dissolved Oxygen (mg/l)	3.5	2.6						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP

General Weather Conditions:

Ambient Air Temperature: C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-6

Well Diameter (D): .167 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 Ground Water (DGW) 28.50 feet
Total Well Depth (TWD) 39.48 feet
Length of the water column (LWC = TWD-DGW) 10.98 feet

1 casing volume (CV = LWC X C) = 10.98 x .163 = 1.79
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.25 gals
Total volume of Water Purged for Post Sampling gals
2.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	2.25	~~4.25~~					
Time (military)	1217	1223						~~1855~~ 1224
pH (s.u.)	6.0	5.5						
Specific Cond. (umhos/cm)	.03	.03						
Water Temperature (degrees C)	19	20						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy						
Dissolved Oxygen (mg/l)	5.1	4.4						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

MW-7

Date (mm/dd/yy): 12/18/02
Field Personnel:

General Weather Conditions:

Ambient Air Temperature: _____ C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # [redacted]

Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) =
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								[redacted]
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

No well located / Per property owner, well was there at one time, but could not locate.
looked ~22 min

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/18/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 50°F C

Quality Assurance

pH Meter serial no.	809061	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW8
Well Diameter (D): .167 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 Ground Water (DGW)	33.23	feet
Total Well Depth (TWD)	39.51	feet
Length of the water column (LWC = TWD-DGW)	6.28	feet

1 casing volume (CV = LWC X C) = 6.28 X .163 = 1.02
3 casing volume 3 X CV = 3.06 gals (standard purge volume)

Total volume of Water Purged Before Sampling	2.75	gals
Total volume of Water Purged for Post Sampling	—	gals
	2.75	Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.5	2.75					
Time (military)	1709	1712	1715					~~15:55~~ 1716
pH (s.u.)	4.6	4.7	4.8					
Specific Cond. (umhos/cm)	.05	.06	.05					
Water Temperature (degrees C)	17	17	17					
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	3.1	3.3	2.1					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 47°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	80906	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-9R
Well Diameter (D): .167 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 Ground Water (DGW) 44.03 feet
Total Well Depth (TWD) 66.37 feet
Length of the water column (LWC = TWD-DGW) 22.34 feet

1 casing volume (CV = LWC X C) = 22.34 x .163 = 3.64
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling 4.0 gals
Total volume of Water Purged for Post Sampling — gals
4.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	4.0						
Time (military)	842	847						~~1855~~ 848
pH (s.u.)	5.1	4.9						
Specific Cond. (umhos/cm)	.08	.07						
Water Temperature (degrees C)	16	17						
Turbidity (subjective: clear, slightly cloudy, cloudy)	S cloudy	cloudy						
Dissolved Oxygen (mg/l)	3.9	4.8						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 47 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-10R
Well Diameter (D): .167 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 Ground Water (DGW) 48.71 feet
Total Well Depth (TWD) 66.77 feet
Length of the water column (LWC = TWD-DGW) 18.06 feet

1 casing volume (CV = LWC X C) = 18.06x.163 2.94
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling 3.25 gals
Total volume of Water Purged for Post Sampling _____ gals
3.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	3.25						
Time (military)	859	905						907
pH (s.u.)	5.0	4.8						
Specific Cond. (umhos/cm)	.06	.07						
Water Temperature (degrees C)	16	16						
Turbidity (subjective: clear, slightly cloudy, cloudy)	S cloudy	cloudy						
Dissolved Oxygen (mg/l)	3.2	4.1						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 49°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-11
Well Diameter (D): .167 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 Ground Water (DGW) 32.58 feet
Total Well Depth (TWD) 39.75 feet
Length of the water column (LWC = TWD-DGW) 7.17 feet

1 casing volume (CV = LWC X C) = 7.17 x .163 = 1.17
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.5 gals
Total volume of Water Purged for Post Sampling gals
1.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.5						
Time (military)	950	956						957
pH (s.u.)	4.6	4.3						
Specific Cond. (umhos/cm)	.05	.05						
Water Temperature (degrees C)	18	19						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy						
Dissolved Oxygen (mg/l)	5.1	5.5						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KR
General Weather Conditions: Cloudy
Ambient Air Temperature: 49°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-12
Well Diameter (D): .167 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 Ground Water (DGW) 30.53 feet
Total Well Depth (TWD) 39.77 feet
Length of the water column (LWC = TWD-DGW) 9.24 feet

1 casing volume (CV = LWC X C) = 9.24 x .163 = 1.51
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.0 gals
Total volume of Water Purged for Post Sampling — gals
2.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	2.0						
Time (military)	1007	1012						1013
pH (s.u.)	4.6	4.6						
Specific Cond. (umhos/cm)	.06	.06						
Water Temperature (degrees C)	17	19						
Turbidity (subjective: clear, slightly cloudy, cloudy)	s cloudy	cloudy						
Dissolved Oxygen (mg/l)	4.4	4.1						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 50°F C

Quality Assurance

pH Meter serial no.	809061	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-13
Well Diameter (D): .167 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 Ground Water (DGW)	35.29	feet
Total Well Depth (TWD)	59.90	feet
Length of the water column (LWC = TWD-DGW)	24.61	feet

1 casing volume (CV = LWC X C) = 24.61 x .163 = 4.01
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling	4.5	gals
Total volume of Water Purged for Post Sampling	—	gals
	4.5	Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	4.5	~~8.75~~					
Time (military)	1113	1125						1127
pH (s.u.)	4.5	4.7						
Specific Cond. (umhos/cm)	.44	.43						
Water Temperature (degrees C)	17	18						
Turbidity (subjective: clear, slightly cloudy, cloudy)	s cloudy	cloudy						
Dissolved Oxygen (mg/l)	3.3	1.7						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 50°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-14
Well Diameter (D): .167 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 Ground Water (DGW) 27.9 feet
Total Well Depth (TWD) 38.97 feet
Length of the water column (LWC = TWD-DGW) 11.07 feet

1 casing volume (CV = LWC X C) = 11.07 x .163 = 1.80
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.25 gals
Total volume of Water Purged for Post Sampling _____ gals
2.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	2.25	~~4.25~~					
Time (military)	1233	1238						~~1235~~ 1239
pH (s.u.)	5.2	4.9						
Specific Cond. (umhos/cm)	.03	.03						
Water Temperature (degrees C)	19	20						
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	cloudy						
Dissolved Oxygen (mg/l)	1.5	3.2						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 53°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-5
Well Diameter (D): .167 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 Ground Water (DGW) 29.01 feet
Total Well Depth (TWD) 34.95 feet
Length of the water column (LWC = TWD-DGW) 5.94 feet

1 casing volume (CV = LWC X C) = 5.94 x .163 = .97
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.25 gals
Total volume of Water Purged for Post Sampling _____ gals
1.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25						
Time (military)	1328	1334						15:55 1335
pH (s.u.)	5.0	4.6						
Specific Cond. (umhos/cm)	.03	.03						
Water Temperature (degrees C)	20	20						
Turbidity (subjective: clear, slightly cloudy, cloudy)	Cloudy	cloudy						
Dissolved Oxygen (mg/l)	3.7	4.2						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 53°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-16
Well Diameter (D): .167 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 Ground Water (DGW) 30.12 feet
Total Well Depth (TWD) 34.81 feet
Length of the water column (LWC = TWD-DGW) 4.69 feet

1 casing volume (CV = LWC X C) = 4.69 x .163 = .76
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.25 gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.25	~~2.25~~					
Time (military)	1416	1420						~~1555~~ 1421
pH (s.u.)	4.5	4.0						
Specific Cond. (umhos/cm)	.08	.08						
Water Temperature (degrees C)	18	19						
Turbidity (subjective: clear, slightly cloudy, cloudy)	s cloudy	cloudy						
Dissolved Oxygen (mg/l)	4.3	3.3						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/20/02
Field Personnel: KP
General Weather Conditions: Sunny
Ambient Air Temperature: 57°F C

Quality Assurance

pH Meter serial no.	809061	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-17
Well Diameter (D): .167 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 Ground Water (DGW) 25.12 feet
Total Well Depth (TWD) 38.14 feet
Length of the water column (LWC = TWD-DGW) 13.02 feet

1 casing volume (CV = LWC X C) = 13.02 X .163 = 2.12
3 casing volume 3 X CV = 6.36 gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
4.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	2.5	4.75					
Time (military)	1439	1445	1451					1452
pH (s.u.)	6.5	6.3	5.9					
Specific Cond. (umhos/cm)	.17	.07	.06					
Water Temperature (degrees C)	19	19	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	Cloudy	cloudy					
Dissolved Oxygen (mg/l)	4.1	5.2	3.7					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel:
General Weather Conditions: cloudy
Ambient Air Temperature: 50 °F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # mw-18
Well Diameter (D): .167 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 Ground Water (DGW)	36.15	feet
Total Well Depth (TWD)	102	feet
Length of the water column (LWC = TWD-DGW)	65.85	feet

1 casing volume (CV = LWC X C) = 65.85 x .163 = 10.73
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling	11.0	gals
Total volume of Water Purged for Post Sampling	—	gals
	11.0	Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	11.0	~~21.75~~					
Time (military)	1028	1049						~~1055~~ 1050
pH (s.u.)	4.7	5.2						
Specific Cond. (umhos/cm)	.12	.13						
Water Temperature (degrees C)	16	18						
Turbidity (subjective: clear, slightly cloudy, cloudy)	S cloudy	clear						
Dissolved Oxygen (mg/l)	1.7	2.0						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 52°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-19
Well Diameter (D): .167 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 Ground Water (DGW) 24.00 feet
Total Well Depth (TWD) 36.98 feet
Length of the water column (LWC = TWD-DGW) 12.98 feet

1 casing volume (CV = LWC X C) = 12.98 x .163 = 2.12
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.5 gals
Total volume of Water Purged for Post Sampling gals
2.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	2.5	~~1.25~~					
Time (military)	1248	1254						1255
pH (s.u.)	4.7	4.7						
Specific Cond. (umhos/cm)	.03	.03						
Water Temperature (degrees C)	19	20						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy						
Dissolved Oxygen (mg/l)	3.7	3.3						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: Cloudy
Ambient Air Temperature: 52°F C

Quality Assurance

pH Meter serial no.	809061	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # mw-20
Well Diameter (D): .167 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 Ground Water (DGW)	25.67	feet
Total Well Depth (TWD)	39.43	feet
Length of the water column (LWC = TWD-DGW)	13.76	feet
1 casing volume (CV = LWC X C) =	13.76 x .163 = 2.24	
3 casing volume 3 X CV =		gals (standard purge volume)
Total volume of Water Purged Before Sampling	2.5	gals
Total volume of Water Purged for Post Sampling	—	gals
	2.5	Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	2.5	~~1.5~~					
Time (military)	1300	1313						1314
pH (s.u.)	4.6	4.3						
Specific Cond. (umhos/cm)	.13	.13						
Water Temperature (degrees C)	20	21						
Turbidity (subjective: clear, slightly cloudy, cloudy)	Sclouds	cloudy						
Dissolved Oxygen (mg/l)	2.5	3.7						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/20/02
Field Personnel: KP
General Weather Conditions: Sunny
Ambient Air Temperature: 57°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-21
Well Diameter (D): .167 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 Ground Water (DGW)	21.79	feet
Total Well Depth (TWD)	40.53	feet
Length of the water column (LWC = TWD-DGW)	18.74	feet
1 casing volume (CV = LWC X C) =	18.74 x .163 = 3.05	
3 casing volume 3 X CV =	9.15	gals (standard purge volume)
Total volume of Water Purged Before Sampling		gals
Total volume of Water Purged for Post Sampling		gals
	6.75	Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	3.5	6.75					
Time (military)	1509	1517	1525					1526
pH (s.u.)	5.8	5.8	5.3					
Specific Cond. (umhos/cm)	.05	.03	.03					
Water Temperature (degrees C)	18	18	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	clear	cloudy	cloudy					
Dissolved Oxygen (mg/l)	3.2	4.6	3.8					
PID readings, if required								

Remarks:
~~Recycling center closed~~

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/20/02
Field Personnel:
General Weather Conditions: Sunny
Ambient Air Temperature: 57°F C

Quality Assurance

pH Meter serial no.	809041	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-22
Well Diameter (D): .167 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 Ground Water (DGW) 25.92 feet
Total Well Depth (TWD) 44.92 feet
Length of the water column (LWC = TWD-DGW) 17 feet
1 casing volume (CV = LWC X C) = 17 x .163 = 2.77
3 casing volume 3 X CV = 8.31 gals (standard purge volume)
Total volume of Water Purged Before Sampling 6.25 gals
Total volume of Water Purged for Post Sampling gals
6.25 Total Purged
*If free product is present over 1/8 inch, sampling will not be required.

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	3.25	6.25					
Time (military)	1533	1541	1549					1550
pH (s.u.)	4.7	4.6	4.3					
Specific Cond. (umhos/cm)	.05	.04	.05					
Water Temperature (degrees C)	17	16	17					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	Cloudy	Cloudy					
Dissolved Oxygen (mg/l)	5.9	5.1	3.1					
PID readings, if required								

Remarks:
~~Recycling Center closed~~

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: RP

General Weather Conditions: cloudy
Ambient Air Temperature: 53°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-23

Well Diameter (D): .167 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 Ground Water (DGW) 38.17 feet
Total Well Depth (TWD) 44.58 feet
Length of the water column (LWC = TWD-DGW) 6.41 feet

1 casing volume (CV = LWC X C) = 6.41 x .163 = 1.04
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.5 gals
Total volume of Water Purged for Post Sampling — gals
1.5 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.5						
Time (military)	1633	1638						~~1638~~ 1639
pH (s.u.)	4.3	4.2						
Specific Cond. (umhos/cm)	.15	.15						
Water Temperature (degrees C)	17	17						
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy						
Dissolved Oxygen (mg/l)	4.4	4.4						
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/18/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 50°F C

Quality Assurance

pH Meter serial no.	809061	Conductivity Meter serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-24
Well Diameter (D): .167 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 Ground Water (DGW)	31.43	feet
Total Well Depth (TWD)	69.99	feet
Length of the water column (LWC = TWD-DGW)	38.56	feet
1 casing volume (CV = LWC X C) =	38.56 X .163 = 6.29	
3 casing volume 3 X CV =	18.87	gals (standard purge volume)
Total volume of Water Purged Before Sampling	13.25	gals
Total volume of Water Purged for Post Sampling	—	gals
	13.25	Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	6.75	13.25					
Time (military)	1607	1614	1621					~~1655~~ 1622
pH (s.u.)	5.2	5.2	5.4					
Specific Cond. (umhos/cm)	.19	.09	.08					
Water Temperature (degrees C)	19	19	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	1.6	2.7	3.6					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP

General Weather Conditions:

Ambient Air Temperature: C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	809061	serial no.	
pH=4.0	✓	Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-25

Well Diameter (D): .167 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 Ground Water (DGW) 33.42 feet
Total Well Depth (TWD) 64.48 feet
Length of the water column (LWC = TWD-DGW) 31.06 feet

1 casing volume (CV = LWC X C) = 31.06 x .163 = 5.06
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling 10.75 gals
Total volume of Water Purged for Post Sampling — gals
10.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	5.5	10.75					
Time (military)	801	809	820					~~13:55~~ 822
pH (s.u.)	4.8	4.6	4.9					
Specific Cond. (umhos/cm)	.13	.12	.10					
Water Temperature (degrees C)	17	17	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	clear	Cloudy	Cloudy					
Dissolved Oxygen (mg/l)	2.6	2.4	1.7					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/18/02
Field Personnel: KP

General Weather Conditions: _____

Ambient Air Temperature: _____ C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # mw-2e

Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) 149.00 feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								[illegible]
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:
DRY

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/19/02
Field Personnel: KP
General Weather Conditions: cloudy
Ambient Air Temperature: 47°F C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # SW-1
Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) =
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								~~15:55~~
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:
Pump not in service

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 12/20/02
Field Personnel: KP

General Weather Conditions: _____

Ambient Air Temperature: _____ C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # SW-2

Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								1457
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

~~Recycling Center Closed~~

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 2 3

Required Client Information: **Section A**

Company: DWC
Address: 220 Bull Street
Columbia SC 29201
Phone: [illegible] Fax: [illegible]

Required Client Information: **Section B**

Report To: Dina Thomas
Copy To:
Invoice To: [illegible]
P.O.: 000242
Project Name: Circle Sq. [illegible]
Project Number: C598 1

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:

Section D **Required** Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Requested Analysis: BTEX, Naphthalene, MTBE 8260, Nitrates, Sulfates, Ferrous Iron

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX	Naphthalene	MTBE 8260	Nitrates	Sulfates	Ferrous Iron	Remarks / Lab ID
1	MW-1	WT	12/19/02	747	5	2			3					X	X	X	X			
2	MW-3			911	5	2			3					X	X	X	X			
3	MW-4			1104	5	2			3					X	X	X	X			
4	MW-5			1202	5	2			3					X	X	X	X			
5	MW-6			1224	5	2			3					X	X	X	X			
6	MW-7			—										—	—	—	—			NO well located
7	MW-9R			848	5	2			3					X	X	X	X			
8	MW-10R			907	5	2			3					X	X	X	X			
9	MW-11			957	5	2			3					X	X	X	X			
10	MW-12			1013	5	2			3					X	X	X	X			
11	MW-13			1127	5	2			3					X	X	X	X			
12	MW-14			1239	5	2			3					X	X	X	X			

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

SAMPLE CONDITION

Temp in °C	
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

Additional Comments:

SAMPLE NOTES
GRI CAH 17795
PACE CAH 17794

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ken Florientz
SIGNATURE of SAMPLER: Ken Florientz
DATE Signed: (MM / DD / YY) 12/19/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

Required Client Information: **Section A**

Company: [illegible]
Address: [illegible]
Phone: [illegible] Fax: [illegible]

Required Client Information: **Section B**

Report To: [illegible]
Copy To:
Invoice To: Holland
P.O.: 412
Project Name: [illegible]
Project Number: [illegible]

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:
Requested Analysis:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh: mm a/p	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX/MTBE 8260	Nitrates	Sulfates	Remarks / Lab ID
1	MW-15	WT	12/19/02	1335	5	2			3					X	X	X	X	
2	MW-16			1421	5	2			3					X	X	X	X	
3	MW-17			—										—	—	—	—	Recycling Center Closed
4	MW-18			1050	5	2			3					X	X	X	X	
5	MW-19			1255	5	2			3					X	X	X	X	
6	MW-20			1314	5	2			3					X	X	X	X	
7	MW-21			—										—	—	—	—	Recycling Center Closed
8	MW-22			—										—	—	—	—	Recycling Center Closed
9	MW-23			1639	5	2			3					X	X	X	X	
10	MW-25			822	5	2			3					X	X	X	X	
11	MW-26			—										—	—	—	—	DRY
12	SW-1																—	Pump NOT in Service

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	*TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

SAMPLE CONDITION

Temp in °C	
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

PCC CAS [illegible]
[illegible] # [illegible]

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ken Pimienta

SIGNATURE of SAMPLER: Ken Pimienta

DATE Signed: (MM / DD / YY) 12/19/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 3 of 3

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull St
Columbia SC 29201
Phone: (803) 896-6246 Fax: (803) 896-6246

Required Client Information: **Section B**

Report To: Debra Thorna
Copy To:
Invoice To: Pat Holland
P.O. 4041342
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:
Requested Analysis:

Section D **Required** Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE)	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh: mm a/p	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Remarks / Lab ID
1	SW-2	WT	12/19/02	—										Recycling Center Closed
2														
3														
4														
5														
6														
7														
8														
9														
10														
11														
12														

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

SAMPLE CONDITION

Temp in °C	
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ken Pirrinato
SIGNATURE of SAMPLER: Ken Pirrinato
DATE Signed: (MM / DD / YY) 12/19/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 1 of 1

Required Client Information: **Section A**

Company: [illegible]
Address: [illegible]
[illegible]
Phone: [illegible] Fax: [illegible]

Required Client Information: **Section B**

Report To: [illegible]
Copy To:
Invoice To: [illegible]
P.O. 4144312
Project Name: [illegible]
Project Number: [illegible]

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: BTEX, Nitrate, Sulfate, Ferrous Iron, MTBE 8260

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX	Nitrate	Sulfate	Ferrous Iron	MTBE 8260	Remarks / Lab ID
1	MW-24	WT	12/18/02	1622	5	2			3					X	X	X	X		
2	MW-8	↓	↓	1716	5	2			3					X	X	X	X		
3	MW-2	↓	↓	1657	5	2			3					X	X	X	X		
4																			
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

SAMPLE CONDITION

Temp in °C	
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

[illegible]

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ken Pimienta
SIGNATURE of SAMPLER: Ken Pimienta
DATE Signed: (MM / DD / YY) 12/18/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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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.

676437

Page: 1 of 1

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull St
Columbia SC
Phone: (803) 876-6240 Fax: (803) 876-6245

Required Client Information: **Section B**

Report To: Debra Thoma
Copy To:
Invoice To: Pat Holland
P.O. 404342
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:
Requested Analysis: BTEX, Naphthalene, 1,2 Dichloroethane, Lead, Total Petroleum Scan

Section D **Required** Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE)	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX	Naphthalene	1,2 Dichloroethane	Lead	Total Petroleum Scan	Remarks / Lab ID
1	MW-17	WT	12/20/02	1452	5	2			3					X	X	X	X		
2	MW-21			1526	5	2			3					X	X	X	X		
3	MW-22			1550	5	2			3					X	X	X	X		
4	SW-2			1457	3				3					X					
5																			
6																			
7																			
8																			
9																			
10																			
11																			
12																			

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME

SAMPLE CONDITION

Temp in °C	
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ken Pimienta
SIGNATURE of SAMPLER: Ken Pimienta
DATE Signed: (MM / DD / YY) 12/20/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

HAZ~MAT

TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237
(704) 332-5600
FAX (704) 375-7183

NON-HAZARDOUS SPECIAL WASTE

Manifest No. 14552
P.O. No.
Job No. 02 5757

Section I. GENERATOR (Generator completes all of Section I)

GENERATOR LOCATION
NAME Circle Stop N Shop
ORIGINATING ADDRESS 3287 Columbia Hwy
MAILING ADDRESS
CITY Lancaster STATE SC ZIP
PHONE NO.
CONTACT NAME
DES. OF WASTE: H2O-non hazardous

WORK CONTRACTED BY
Bill To (If different from information at left)
NAME GK I
ADDRESS 4913 Albemarle Rd
CITY Charlotte STATE NC ZIP 28205
PHONE NO.
CONTACT NAME Shawn Judd

No.	Type	Units	Quantity

Section II. INVOICE INFORMATION

DESCRIPTION	GALLONS QUANTITY	DRUMS QUANTITY	GALLONS LINE TOTAL	DRUMS LINE TOTAL
1. WATER, OIL & COOLANT PUMPED FROM TANKS OR DRUMS				
2. OFF SPEC LIGHT OIL, WATER & GAS PUMPED FROM TANKS OR DRUMS				
3. 55 GALLON DRUMS REMOVED - SOLID				
4. 55 GALLON DRUMS REMOVED - LIQUID	17.75			
5.				
6.				
7.				
8.				
9. ARRIVAL TIME:				
10. DEPARTURE TIME:				

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if the waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

Generator Authorized Agent Name _____ Signature _____ Shipment Date 12 23 02

Section III. TRANSPORTER

TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

HAZ~MAT
TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237

a. Driver Name / Title
b. Phone No. c. Truck No.

Hazardous Waste Transporter Permits
EPA NCR 000003186
EPA NCD048461370

d. Driver Signature _____ Shipment Date

TRANSPORTER II
e. Name Carolina Recovery Inc.
f. Address 4913 Albemarle Road
Charlotte NC
g. Driver Name / Title Scott Lanier
h. Phone No. 704 563 1663 i. Truck No.
j. Transporter II Permit Nos.

Driver Signature _____ Shipment Date 12 23 02

Section IV. FACILITY INFORMATION AND CERTIFICATE OF DISPOSAL

Site Name: Haz-Mat Transportation & Disposal, Inc.
Physical Address: 210 Dalton Avenue, Charlotte, N.C. 28237
a. Phone No. 704-332-5600
b. Mailing Address: P.O. Box 37392, Charlotte, N.C. 28237

e. Discrepancy Indication Space

This is to certify that all non-hazardous material removed from above location has been received and will be disposed of in accordance with applicable local, state and federal regulations in the following manner: (1) Petroleum products are blended into a beneficial reusable fuel for use in large industrial burners. (2) Waste waters are to be treated with polymers, pH adjusters, and a flocculant, then flows through a dissolved air flotation system for pretreatment separation, then into the CMUD sanitation sewer system under permit IUP#5012. (3) Sludges from treatment systems are hauled to E.P.A. approved facilities for proper disposal. Manifest and certificate of disposal are on file. (4) Our treatment system operates on a first in, first out basis and product should be processed within seven days.

SIGNATURE OF FACILITY AGENT	DATE	MONTH 12	DAY 23	YEAR 02

ORIGINAL - FINAL T.S.D. • YELLOW - DISPOSER • PINK - 1ST T.S.D. • GOLD - GENERATOR

HAZ~MAT

TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237
(704) 332-5600
FAX (704) 375-7183

Manifest No. 14336

P.O. No.

Job No. 03 5727

NON-HAZARDOUS SPECIAL WASTE

Section I. GENERATOR (Generator completes all of Section I)

GENERATOR LOCATION

NAME Circle Stop n Shop

ORIGINATING ADDRESS

MAILING ADDRESS

CITY ST ATE ZIP

PHONE NO.

CONTACT NAME

DES. OF WASTE: H20 - non hazardous

WORK CONTRACTED BY
Bill To (If different from information at left)

NAME

ADDRESS 2413 Wilmarle road

CITY ST ATE ZIP

PHONE NO. 704 563 1662

CONTACT NAME Sharon Todd

No. Type Units Quantity

Section II. INVOICE INFORMATION

DESCRIPTION	GALLONS QUANTITY	DRUMS QUANTITY	GALLONS LINE TOTAL	DRUMS LINE TOTAL
1. WATER, OIL & COOLANT PUMPED FROM TANKS OR DRUMS				
2. OFF SPEC LIGHT OIL, WATER & GAS PUMPED FROM TANKS OR DRUMS				
3. 55 GALLON DRUMS REMOVED - SOLID				
4. 55 GALLON DRUMS REMOVED - LIQUID	8 1.25 gal			
5.	17.75			
6.				
7.	99.00			
8.				
9. ARRIVAL TIME:				
10. DEPARTURE TIME:				

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if the waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

Generator Authorized Agent Name

Ken Pimienta
Signature

Shipment Date 12 20 02

Section III. TRANSPORTER

TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

HAZ~MAT
TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237

a. Driver Name / Title

b. Phone No. c. Truck No.

Hazardous Waste Transporter Permits
EPA NCR 000003186
EPA NCD048461370

d. Driver Signature Shipment Date

TRANSPORTER II

e. Name Federal Express Inc

f. Address 2413 Wilmarle Road
Charlotte NC 28205

g. Driver Name / Title

h. Phone No. i. Truck No.

j. Transporter II Permit Nos.

Ken Pimienta
Driver Signature

Shipment Date 12 20 02

Section IV. FACILITY INFORMATION AND CERTIFICATE OF DISPOSAL

Site Name: Haz-Mat Transportation & Disposal, Inc.
Physical Address: 210 Dalton Avenue
Charlotte, N.C. 28237

a. Phone No. 704-332-5600
b. Mailing Address: P.O. Box 37392
Charlotte, N.C. 28237

e. Discrepancy Indication Space

This is to certify that all non-hazardous material removed from above location has been received and will be disposed of in accordance with applicable local, state and federal regulations in the following manner: (1) Petroleum products are blended into a beneficial reusable fuel for use in large industrial burners. (2) Waste waters are to be treated with polymers, pH adjusters, and a flocculant, then flows through a dissolved air flotation system for pretreatment separation, then into the CMUD sanitation sewer system under permit IUP#5012. (3) Sludges from treatment systems are hauled to E.P.A. approved facilities for proper disposal. Manifest and certificate of disposal are on file. (4) Our treatment system operates on a first in, first out basis and product should be processed within seven days.

SIGNATURE OF FACILITY AGENT	DATE	MONTH	DAY	YEAR

ORIGINAL - FINAL T.S.D. • YELLOW - DISPOSER • PINK - 1ST T.S.D. • GOLD - GENERATOR

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www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

December 30, 2002

RECEIVED
JAN 02 2003
UNDERGROUND STORAGE TANK PROGRAM

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

RE: Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on December 20, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Sherri Stabel
Sherri.Stabel@pacelabs.com
Project Manager

UST PROGRAM 30 Tech
DOCKETING # _____

Enclosures

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712120 | Project Sample Number: 9239745-001 | Date Collected: 12/19/02 07:47
Client Sample ID: MW-1 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/20/02	HEH			
Sulfate	1.4	mg/l	1.0	1.0	12/20/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	2500	ug/l	500	100	12/27/02 01:25	RWS	71-43-2		
Ethylbenzene	3100	ug/l	500	100	12/27/02 01:25	RWS	100-41-4		
Methyl-tert-butyl ether	2500	ug/l	500	100	12/27/02 01:25	RWS	1634-04-4		
Naphthalene	ND	ug/l	500	100	12/27/02 01:25	RWS	91-20-3		
Toluene	25000	ug/l	1000	200	12/27/02 01:25	RWS	108-88-3		
m&p-Xylene	11000	ug/l	1000	100	12/27/02 01:25	RWS			
o-Xylene	5300	ug/l	500	100	12/27/02 01:25	RWS	95-47-6		
Toluene-d8 (S)	97	%		1.0	12/27/02 01:25	RWS	2037-26-5		
4-Bromofluorobenzene (S)	90	%		1.0	12/27/02 01:25	RWS	460-00-4		
Dibromofluoromethane (S)	97	%		1.0	12/27/02 01:25	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	92	%		1.0	12/27/02 01:25	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS
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Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712138 | Project Sample Number: 9239745-002 | Date Collected: 12/19/02 09:41
Client Sample ID: MW-3 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/20/02	HEH			
Sulfate	1.3	mg/l	1.0	1.0	12/20/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	0.60	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	120	ug/l	5.0	1.0	12/27/02 01:42	RWS	71-43-2		
Ethylbenzene	18.	ug/l	5.0	1.0	12/27/02 01:42	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 01:42	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 01:42	RWS	91-20-3		
Toluene	230	ug/l	50.	10.0	12/27/02 01:42	RWS	108-88-3		
m&p-Xylene	110	ug/l	10.	1.0	12/27/02 01:42	RWS			
o-Xylene	59.	ug/l	5.0	1.0	12/27/02 01:42	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	12/27/02 01:42	RWS	2037-26-5		
4-Bromofluorobenzene (S)	86	%		1.0	12/27/02 01:42	RWS	460-00-4		
Dibromofluoromethane (S)	109	%		1.0	12/27/02 01:42	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	104	%		1.0	12/27/02 01:42	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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VA Drinking Water 213
FL NELAP E87627

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712146 | Project Sample Number: 9239745-003 | Date Collected: 12/19/02 11:04
Client Sample ID: MW-4 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/20/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	12/20/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	4300	ug/l	500	100	12/27/02 01:58	RWS	71-43-2		
Ethylbenzene	3100	ug/l	500	100	12/27/02 01:58	RWS	100-41-4		
Methyl-tert-butyl ether	2400	ug/l	500	100	12/27/02 01:58	RWS	1634-04-4		
Naphthalene	350	ug/l	50.	10.0	12/27/02 01:58	RWS	91-20-3		
Toluene	30000	ug/l	500	100	12/27/02 01:58	RWS	108-88-3	2	
m&p-Xylene	12000	ug/l	1000	100	12/27/02 01:58	RWS			
o-Xylene	5700	ug/l	500	100	12/27/02 01:58	RWS	95-47-6		
Toluene-d8 (S)	85	%		1.0	12/27/02 01:58	RWS	2037-26-5	3	
4-Bromofluorobenzene (S)	102	%		1.0	12/27/02 01:58	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	12/27/02 01:58	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	100	%		1.0	12/27/02 01:58	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712153 | Project Sample Number: 9239745-004 | Date Collected: 12/19/02 12:02
Client Sample ID: MW-5 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.34	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	3.3	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 13:34	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 13:34	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 13:34	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 13:34	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 13:34	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 13:34	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 13:34	RWS	95-47-6		
Toluene-d8 (S)	94	%		1.0	12/27/02 13:34	RWS	2037-26-5		
4-Bromofluorobenzene (S)	88	%		1.0	12/27/02 13:34	RWS	460-00-4		
Dibromofluoromethane (S)	103	%		1.0	12/27/02 13:34	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	95	%		1.0	12/27/02 13:34	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712161 | Project Sample Number: 9239745-005 | Date Collected: 12/19/02 12:24
Client Sample ID: MW-6 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.19	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	ND	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 02:31	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 02:31	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 02:31	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 02:31	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 02:31	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 02:31	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 02:31	RWS	95-47-6		
Toluene-d8 (S)	96	%		1.0	12/27/02 02:31	RWS	2037-26-5		
4-Bromofluorobenzene (S)	83	%		1.0	12/27/02 02:31	RWS	460-00-4		
Dibromofluoromethane (S)	104	%		1.0	12/27/02 02:31	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	98	%		1.0	12/27/02 02:31	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712179 | Project Sample Number: 9239745-006 | Date Collected: 12/19/02 08:48
Client Sample ID: MW-9R | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.18	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.5	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 02:48	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 02:48	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 02:48	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 02:48	RWS	91-20-3		
Toluene	8.5	ug/l	5.0	1.0	12/27/02 02:48	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 02:48	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 02:48	RWS	95-47-6		
Toluene-d8 (S)	84	%		1.0	12/27/02 02:48	RWS	2037-26-5	4	
4-Bromofluorobenzene (S)	82	%		1.0	12/27/02 02:48	RWS	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	12/27/02 02:48	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		1.0	12/27/02 02:48	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712187 | Project Sample Number: 9239745-007 | Date Collected: 12/19/02 09:07
Client Sample ID: MW-10R | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.5	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 14:07	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 14:07	RWS	100-41-4		
Methyl-tert-butyl ether	40.	ug/l	5.0	1.0	12/27/02 14:07	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 14:07	RWS	91-20-3		
Toluene	26.	ug/l	5.0	1.0	12/27/02 14:07	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 14:07	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 14:07	RWS	95-47-6		
Toluene-d8 (S)	88	%		1.0	12/27/02 14:07	RWS	2037-26-5		
4-Bromofluorobenzene (S)	87	%		1.0	12/27/02 14:07	RWS	460-00-4		
Dibromofluoromethane (S)	104	%		1.0	12/27/02 14:07	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	97	%		1.0	12/27/02 14:07	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712195 | Project Sample Number: 9239745-008 | Date Collected: 12/19/02 09:57
Client Sample ID: MW-11 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.94	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.2	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 04:11	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 04:11	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 04:11	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 04:11	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 04:11	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 04:11	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 04:11	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	12/27/02 04:11	RWS	2037-26-5		
4-Bromofluorobenzene (S)	81	%		1.0	12/27/02 04:11	RWS	460-00-4		
Dibromofluoromethane (S)	108	%		1.0	12/27/02 04:11	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	100	%		1.0	12/27/02 04:11	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712203 | Project Sample Number: 9239745-009 | Date Collected: 12/19/02 10:13
Client Sample ID: MW-12 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.27	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 03:21	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 03:21	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 03:21	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 03:21	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 03:21	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 03:21	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 03:21	RWS	95-47-6		
Toluene-d8 (S)	90	%		1.0	12/27/02 03:21	RWS	2037-26-5		
4-Bromofluorobenzene (S)	84	%		1.0	12/27/02 03:21	RWS	460-00-4		
Dibromofluoromethane (S)	106	%		1.0	12/27/02 03:21	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		1.0	12/27/02 03:21	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712211 | Project Sample Number: 9239745-010 | Date Collected: 12/19/02 11:27
Client Sample ID: MW-13 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	3.3	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	7200	ug/l	2500	500	12/27/02 03:38	RWS	71-43-2		
Ethylbenzene	1400	ug/l	50.	10.0	12/27/02 03:38	RWS	100-41-4		
Methyl-tert-butyl ether	78000	ug/l	2500	500	12/27/02 03:38	RWS	1634-04-4		
Naphthalene	210	ug/l	50.	10.0	12/27/02 03:38	RWS	91-20-3		
Toluene	15000	ug/l	2500	500	12/27/02 03:38	RWS	108-88-3		
m&p-Xylene	5400	ug/l	5000	500	12/27/02 03:38	RWS			
o-Xylene	2600	ug/l	2500	500	12/27/02 03:38	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	12/27/02 03:38	RWS	2037-26-5		
4-Bromofluorobenzene (S)	89	%		1.0	12/27/02 03:38	RWS	460-00-4		
Dibromofluoromethane (S)	110	%		1.0	12/27/02 03:38	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	105	%		1.0	12/27/02 03:38	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712229 | Project Sample Number: 9239745-011 | Date Collected: 12/19/02 12:39
Client Sample ID: MW-14 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	17.	ug/l	5.0	1.0	12/27/02 03:54	RWS	71-43-2		
Ethylbenzene	5.7	ug/l	5.0	1.0	12/27/02 03:54	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 03:54	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 03:54	RWS	91-20-3		
Toluene	68.	ug/l	5.0	1.0	12/27/02 03:54	RWS	108-88-3		
m&p-Xylene	36.	ug/l	10.	1.0	12/27/02 03:54	RWS			
o-Xylene	7.2	ug/l	5.0	1.0	12/27/02 03:54	RWS	95-47-6		
Toluene-d8 (S)	97	%		1.0	12/27/02 03:54	RWS	2037-26-5		
4-Bromofluorobenzene (S)	88	%		1.0	12/27/02 03:54	RWS	460-00-4		
Dibromofluoromethane (S)	114	%		1.0	12/27/02 03:54	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	111	%		1.0	12/27/02 03:54	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712237 | Project Sample Number: 9239745-012 | Date Collected: 12/19/02 13:35
Client Sample ID: MW-15 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.22	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	ND	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 06:07	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 06:07	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 06:07	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 06:07	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 06:07	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 06:07	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 06:07	RWS	95-47-6		
Toluene-d8 (S)	98	%		1.0	12/27/02 06:07	RWS	2037-26-5		
4-Bromofluorobenzene (S)	86	%		1.0	12/27/02 06:07	RWS	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	12/27/02 06:07	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	94	%		1.0	12/27/02 06:07	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712245 | Project Sample Number: 9239745-013 | Date Collected: 12/19/02 14:21
Client Sample ID: MW-16 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	2.3	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.4	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 06:23	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 06:23	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 06:23	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 06:23	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 06:23	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 06:23	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 06:23	RWS	95-47-6		
Toluene-d8 (S)	98	%		1.0	12/27/02 06:23	RWS	2037-26-5		
4-Bromofluorobenzene (S)	84	%		1.0	12/27/02 06:23	RWS	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/27/02 06:23	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	97	%		1.0	12/27/02 06:23	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712252 | Project Sample Number: 9239745-014 | Date Collected: 12/19/02 10:50
Client Sample ID: MW-18 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	340	ug/l	250	50.0	12/27/02 06:40	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 06:40	RWS	100-41-4		
Methyl-tert-butyl ether	3900	ug/l	250	50.0	12/27/02 06:40	RWS	1634-04-4		
Naphthalene	9.1	ug/l	5.0	1.0	12/27/02 06:40	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 06:40	RWS	108-88-3		
m&p-Xylene	57.	ug/l	10.	1.0	12/27/02 06:40	RWS			
o-Xylene	19.	ug/l	5.0	1.0	12/27/02 06:40	RWS	95-47-6		
Toluene-d8 (S)	95	%		1.0	12/27/02 06:40	RWS	2037-26-5		
4-Bromofluorobenzene (S)	89	%		1.0	12/27/02 06:40	RWS	460-00-4		
Dibromofluoromethane (S)	110	%		1.0	12/27/02 06:40	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	12/27/02 06:40	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712260 | Project Sample Number: 9239745-015 | Date Collected: 12/19/02 12:55
Client Sample ID: MW-19 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.24	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.2	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 06:56	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 06:56	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 06:56	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 06:56	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 06:56	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 06:56	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 06:56	RWS	95-47-6		
Toluene-d8 (S)	97	%		1.0	12/27/02 06:56	RWS	2037-26-5		
4-Bromofluorobenzene (S)	84	%		1.0	12/27/02 06:56	RWS	460-00-4		
Dibromofluoromethane (S)	104	%		1.0	12/27/02 06:56	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	98	%		1.0	12/27/02 06:56	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712278 | Project Sample Number: 9239745-016 | Date Collected: 12/19/02 13:14
Client Sample ID: MW-20 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.52	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.4	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 07:13	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 07:13	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 07:13	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 07:13	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 07:13	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 07:13	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 07:13	RWS	95-47-6		
Toluene-d8 (S)	96	%		1.0	12/27/02 07:13	RWS	2037-26-5		
4-Bromofluorobenzene (S)	84	%		1.0	12/27/02 07:13	RWS	460-00-4		
Dibromofluoromethane (S)	106	%		1.0	12/27/02 07:13	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	101	%		1.0	12/27/02 07:13	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712286 | Project Sample Number: 9239745-017 | Date Collected: 12/19/02 16:39
Client Sample ID: MW-23 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	7.3	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	ND	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 14:40	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 14:40	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 14:40	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 14:40	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 14:40	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 14:40	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 14:40	RWS	95-47-6		
Toluene-d8 (S)	96	%		1.0	12/27/02 14:40	RWS	2037-26-5		
4-Bromofluorobenzene (S)	86	%		1.0	12/27/02 14:40	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	12/27/02 14:40	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		1.0	12/27/02 14:40	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922712294 | Project Sample Number: 9239745-018 | Date Collected: 12/19/02 08:22
Client Sample ID: MW-25 | Matrix: Water | Date Received: 12/20/02 11:40

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	ND	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	170	ug/l	25.	5.0	12/27/02 17:09	RWS	71-43-2		
Ethylbenzene	ND	ug/l	25.	5.0	12/27/02 17:09	RWS	100-41-4		
Methyl-tert-butyl ether	90.	ug/l	25.	5.0	12/27/02 17:09	RWS	1634-04-4		
Naphthalene	ND	ug/l	25.	5.0	12/27/02 17:09	RWS	91-20-3		
Toluene	ND	ug/l	25.	5.0	12/27/02 17:09	RWS	108-88-3		
m&p-Xylene	ND	ug/l	50.	5.0	12/27/02 17:09	RWS			
o-Xylene	ND	ug/l	25.	5.0	12/27/02 17:09	RWS	95-47-6		
Toluene-d8 (S)	96	%		1.0	12/27/02 17:09	RWS	2037-26-5		
4-Bromofluorobenzene (S)	83	%		1.0	12/27/02 17:09	RWS	460-00-4		
Dibromofluoromethane (S)	113	%		1.0	12/27/02 17:09	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	12/27/02 17:09	RWS	17060-07-0		

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Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	Analysis conducted in excess of EPA recommended holding time.
[2]	Compound concentration exceeds the calibration range of the instrument (CLP E-Flag).
[3]	The surrogate and/or spike recovery was outside acceptance limits.
[4]	Low surrogate recovery was confirmed as a matrix effect by a second analysis.

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QUALITY CONTROL DATA

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68066 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922712120, 922712138, 922712146, 922712153, 922712161, 922712179, 922712187, 922712195, 922712203, 922712211, 922712229

METHOD BLANK: 922720032
Associated Lab Samples: 922712120, 922712138, 922712146, 922712153, 922712161, 922712179, 922712187, 922712195, 922712203, 922712211, 922712229

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	98		
4-Bromofluorobenzene (S)	%	98		
Dibromofluoromethane (S)	%	89		
1,2-Dichloroethane-d4 (S)	%	84		

LABORATORY CONTROL SAMPLE: 922720040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	39.86	80	
Ethylbenzene	ug/l	50.00	41.53	83	
Methyl-tert-butyl ether	ug/l	50.00	39.08	78	
Naphthalene	ug/l	50.00	37.76	76	
Toluene	ug/l	50.00	39.16	78	
m&p-Xylene	ug/l	100.00	83.44	83	
o-Xylene	ug/l	50.00	42.06	84	
Toluene-d8 (S)				99	
4-Bromofluorobenzene (S)				100	
Dibromofluoromethane (S)				95	
1,2-Dichloroethane-d4 (S)				92	

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QUALITY CONTROL DATA

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922720057 922720065

Parameter	Units	922706940 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0.9048	50.00	44.79	45.21	88	89	1	
Toluene	ug/l	2.671	50.00	42.25	43.53	79	82	3	
Toluene-d8 (S)						95	100		
4-Bromofluorobenzene (S)						91	91		
Dibromofluoromethane (S)						113	112		
1,2-Dichloroethane-d4 (S)						110	107		

SAMPLE DUPLICATE: 922721782

Parameter	Units	922712195 Result	DUP Result	RPD	Footnotes
Benzene	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
Methyl-tert-butyl ether	ug/l	ND	ND	NC	
Naphthalene	ug/l	ND	ND	NC	
Toluene	ug/l	ND	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	
o-Xylene	ug/l	ND	ND	NC	
Toluene-d8 (S)	%	92	96		
4-Bromofluorobenzene (S)	%	81	86		
Dibromofluoromethane (S)	%	108	106		
1,2-Dichloroethane-d4 (S)	%	100	100		

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QUALITY CONTROL DATA

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68129 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922712237 922712245 922712252 922712260 922712278 922712286

METHOD BLANK: 922721790
Associated Lab Samples: 922712237 922712245 922712252 922712260 922712278 922712286

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	97		
4-Bromofluorobenzene (S)	%	88		
Dibromofluoromethane (S)	%	104		
1,2-Dichloroethane-d4 (S)	%	97		

LABORATORY CONTROL SAMPLE: 922721808

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	42.16	84	
Ethylbenzene	ug/l	50.00	42.73	86	
Methyl-tert-butyl ether	ug/l	50.00	37.93	76	
Naphthalene	ug/l	50.00	33.81	68	
Toluene	ug/l	50.00	40.29	81	
m&p-Xylene	ug/l	100.00	79.85	80	
o-Xylene	ug/l	50.00	41.51	83	
Toluene-d8 (S)				100	
4-Bromofluorobenzene (S)				94	
Dibromofluoromethane (S)				100	
1,2-Dichloroethane-d4 (S)				97	

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QUALITY CONTROL DATA

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68146
QC Batch Method: EPA 8260
Associated Lab Samples: 922712294

Analysis Method: EPA 8260
Analysis Description: GC/MS VOCs by 8260

METHOD BLANK: 922722277
Associated Lab Samples: 922712294

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	96		
4-Bromofluorobenzene (S)	%	89		
Dibromofluoromethane (S)	%	106		
1.2-Dichloroethane-d4 (S)	%	96		

LABORATORY CONTROL SAMPLE: 922722285

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	42.09	84	
Ethylbenzene	ug/l	50.00	41.07	82	
Methyl-tert-butyl ether	ug/l	50.00	37.07	74	
Naphthalene	ug/l	50.00	26.30	53	
Toluene	ug/l	50.00	41.10	82	
m&p-Xylene	ug/l	100.00	83.37	83	
o-Xylene	ug/l	50.00	41.87	84	
Toluene-d8 (S)				100	
4-Bromofluorobenzene (S)				95	
Dibromofluoromethane (S)				105	
1,2-Dichloroethane-d4 (S)				99	

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QUALITY CONTROL DATA

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

SAMPLE DUPLICATE: 922722293

Parameter	Units	922700158 Result	DUP Result	RPD	Footnotes
Benzene	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
Methyl-tert-butyl ether	ug/l	ND	ND	NC	
Naphthalene	ug/l	ND	ND	NC	
Toluene	ug/l	ND	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	
o-Xylene	ug/l	ND	ND	NC	
Toluene-d8 (S)	%	98	100		
4-Bromofluorobenzene (S)	%	88	90		
Dibromofluoromethane (S)	%	114	93		
1,2-Dichloroethane-d4 (S)	%	104	90		

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QUALITY CONTROL DATA

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68112 — Analysis Method: SM 3500-Fe D#4
QC Batch Method: SM 3500-Fe D#4 — Analysis Description: Iron, Ferrous
Associated Lab Samples: 922712120, 922712138, 922712146, 922712153, 922712161, 922712179, 922712187, 922712195, 922712203, 922712211, 922712229, 922712237, 922712245, 922712252, 922712260, 922712278, 922712286, 922712294

METHOD BLANK: 922721519
Associated Lab Samples: 922712120, 922712138, 922712146, 922712153, 922712161, 922712179, 922712187, 922712195, 922712203, 922712211, 922712229, 922712237, 922712245, 922712252, 922712260, 922712278, 922712286, 922712294

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Iron, Ferrous	mg/l	ND	0.50	

SAMPLE DUPLICATE: 922721527

Parameter	Units	922712120 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	1

SAMPLE DUPLICATE: 922721535

Parameter	Units	922712229 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	1

Laboratory Certification IDs
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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

QC Batch: 67904 — Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 — Analysis Description: Ion Chromatography
Associated Lab Samples: 922712120, 922712138, 922712146, 922712153, 922712161, 922712179, 922712187, 922712195, 922712203, 922712211, 922712229, 922712237, 922712245, 922712252, 922712260, 922712278, 922712286, 922712294

METHOD BLANK: 922713326
Associated Lab Samples: 922712120, 922712138, 922712146, 922712153, 922712161, 922712179, 922712187, 922712195, 922712203, 922712211, 922712229, 922712237, 922712245, 922712252, 922712260, 922712278, 922712286, 922712294

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Nitrate	mg/l	ND	0.10	
Sulfate	mg/l	ND	1.0	

LABORATORY CONTROL SAMPLE: 922713334

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Nitrate	mg/l	10.00	9.920	99	
Sulfate	mg/l	100.00	99.06	99	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922713359 922713367

Parameter	Units	922712252 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Nitrate	mg/l	0	10.00	9.760	9.740	98	97	0	
Sulfate	mg/l	1.610	100.00	99.06	99.10	98	98	0	

SAMPLE DUPLICATE: 922713342

Parameter	Units	922712211 Result	DUP Result	RPD	Footnotes
Nitrate	mg/l	ND	ND	NC	
Sulfate	mg/l	3.300	3.200	2	

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239745
Client Project ID: Circle Stop N Shop 05981

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	Analysis conducted in excess of EPA recommended holding time.

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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.

676530

Page: 1 of 23

Required Client Information: **Section A**

Company: DHEC
Address: 2600 Bull Street, Columbia SC 29201
Phone: 803 896 6270 Fax: 803 896 6245

Required Client Information: **Section B**

Report To: Debra Thoma
Copy To:
Invoice To: PAT Holland
P.O.: 4/4/3412
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 912,9745
Profile #: 1700 1

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Preservatives: Unpreserved, H_2SO_4, HNO_3, HCl, NaOH, $Na_2S_2O_3$, Methanol, Other

Analyses: BTEX, Naph, MTBE 8260, Nitrates, Sulfates, Ferrous Iron

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX	Naph	Nitrates	Sulfates	Ferrous Iron	Remarks / Lab ID
1	MW-1	WT	12/19/02	747	5	2			3					X	X	X	X		912712120
2	MW-3			941	5	2			3					X	X	X	X		912712130
3	MW-4			1104	5	2			3					X	X	X	X		912712146
4	MW-5			1202	5	2			3					X	X	X	X		912712153
5	MW-6			1224	5	2			3					X	X	X	X		912712161
6	MW-7			—										—					No well located
7	MW-9R			848	5	2			3					X	X	X	X		912712179
8	MW-10R			907	5	2			3					X	X	X	X		912712187
9	MW-11			957	5	2			3					X	X	X	X		912712195
10	MW-12			1013	5	2			3					X	X	X	X		912712203
11	MW-13			1127	5	2			3					X	X	X	X		912712211
12	MW-14			1239	5	2			3					X	X	X	X		912712219

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
				[illegible]	[illegible]	[illegible]

SAMPLE CONDITION

Temp in °C	2.5
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

Additional Comments:

SAMPLE NOTES

GRI CA# 17795
PACE CA# 17794

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ken Pimienta
SIGNATURE of SAMPLER: Ken Pimienta
DATE Signed: (MM / DD / YY) 12/19/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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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.

678575

Page: 2 of 2

Required Client Information: Section A

Company: SCDHEC
Address: 2600 Bull Street
Columbia SC 29201
Phone: 803-896-4240 Fax: 803-896-4245

Required Client Information: Section B

Report To: Debra Thomas
Copy To:
Invoice To: Pat Holland
P.O. 4/01342
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 91-4103
Profile #:

Section D Required Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE)	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh: mm a/p	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX/Naph/MTBE 8260	Nitrates	Sulfates	Percolation	Remarks / Lab ID
1	MW-15	WT	12/19/02	1335	5	2			3					X	X	X	X		922712237
2	MW-16			1421	5	2			3					X	X	X	X		922712245
3	~~MW-17~~			—															~~Recycling Center Closed~~
4	MW-18			1050	5	2			3					X	X	X	X		922712252
5	MW-19			1255	5	2			3					X	X	X	X		922712260
6	MW-20			1314	5	2			3					X	X	X	X		922712279
7	~~MW-21~~			—															~~Recycling Center Closed~~
8	~~MW-22~~			—															~~Recycling Center Closed~~
9	MW-23			1639	5	2			3					X	X	X	X		922712286
10	MW-25			822	5	2			3					X	X	X	X		922712294
11	MW-26			—															DRY
12	SW-1																		Pump Not in Service

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
				[illegible]	12/20/02	1140

SAMPLE CONDITION

Temp in °C	2.5
Received on Ice	(Y)/N
Sealed Cooler	(Y)/N
Samples Intact	(Y)/N

SAMPLE NOTES

PACE CA# 17791
GLI CA# 17795

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: Ken Pimienta
SIGNATURE of SAMPLER: Ken Pimienta
DATE Signed: (MM / DD / YY) 12/19/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.
2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.
3. A separate COC must be filled out for each day of sample collection.
4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.
5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.
6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.
7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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December 30, 2002

RECEIVED
JAN 02 2003
UNDERGROUND STORAGE TANK PROGRAM

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

RE: Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on December 21, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Sherri Stabel
Sherri.Stabel@pacelabs.com
Project Manager

Enclosures

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Phone: 704.875.9092
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Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922714738 | Project Sample Number: 9239797-001 | Date Collected: 12/20/02 14:52
Client Sample ID: MW-17 | Matrix: Water | Date Received: 12/21/02 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.90	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.4	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 17:42	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 17:42	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 17:42	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 17:42	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 17:42	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 17:42	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 17:42	RWS	95-47-6		
Toluene-d8 (S)	98	%		1.0	12/27/02 17:42	RWS	2037-26-5		
4-Bromofluorobenzene (S)	80	%		1.0	12/27/02 17:42	RWS	460-00-4		
Dibromofluoromethane (S)	112	%		1.0	12/27/02 17:42	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	101	%		1.0	12/27/02 17:42	RWS	17060-07-0		

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Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922714746 | Project Sample Number: 9239797-002 | Date Collected: 12/20/02 15:26
Client Sample ID: MW-21 | Matrix: Water | Date Received: 12/21/02 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.54	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	1.8	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 17:58	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 17:58	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 17:58	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 17:58	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 17:58	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 17:58	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 17:58	RWS	95-47-6		
Toluene-d8 (S)	83	%		1.0	12/27/02 17:58	RWS	2037-26-5		
4-Bromofluorobenzene (S)	84	%		1.0	12/27/02 17:58	RWS	460-00-4		
Dibromofluoromethane (S)	110	%		1.0	12/27/02 17:58	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	101	%		1.0	12/27/02 17:58	RWS	17060-07-0		

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922714753 | Project Sample Number: 9239797-003 | Date Collected: 12/20/02 15:50
Client Sample ID: MW-22 | Matrix: Water | Date Received: 12/21/02 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.58	mg/l	0.10	1.0	12/21/02	HEH			
Sulfate	6.4	mg/l	1.0	1.0	12/21/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/26/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 18:15	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 18:15	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/27/02 18:15	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 18:15	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 18:15	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 18:15	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 18:15	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	12/27/02 18:15	RWS	2037-26-5		
4-Bromofluorobenzene (S)	80	%		1.0	12/27/02 18:15	RWS	460-00-4		
Dibromofluoromethane (S)	114	%		1.0	12/27/02 18:15	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	104	%		1.0	12/27/02 18:15	RWS	17060-07-0		

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922714761 | Project Sample Number: 9239797-004 | Date Collected: 12/20/02 14:57
Client Sample ID: SW-1 | Matrix: Water | Date Received: 12/21/02 09:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/27/02 18:32	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 18:32	RWS	100-41-4		
Methyl-tert-butyl ether	8.5	ug/l	5.0	1.0	12/27/02 18:32	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 18:32	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 18:32	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 18:32	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 18:32	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	12/27/02 18:32	RWS	2037-26-5		
4-Bromofluorobenzene (S)	78	%		1.0	12/27/02 18:32	RWS	460-00-4		
Dibromofluoromethane (S)	114	%		1.0	12/27/02 18:32	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	12/27/02 18:32	RWS	17060-07-0		

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	Analysis conducted in excess of EPA recommended holding time.

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS
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Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

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Pace Analytical Services, Inc.
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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68146 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922714738 922714746 922714753 922714761

METHOD BLANK: 922722277
Associated Lab Samples: 922714738 922714746 922714753 922714761

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	96		
4-Bromofluorobenzene (S)	%	89		
Dibromofluoromethane (S)	%	106		
1,2-Dichloroethane-d4 (S)	%	96		

LABORATORY CONTROL SAMPLE: 922722285

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	42.09	84	
Ethylbenzene	ug/l	50.00	41.07	82	
Methyl-tert-butyl ether	ug/l	50.00	37.07	74	
Naphthalene	ug/l	50.00	26.30	53	
Toluene	ug/l	50.00	41.10	82	
m&p-Xylene	ug/l	100.00	83.37	83	
o-Xylene	ug/l	50.00	41.87	84	
Toluene-d8 (S)				100	
4-Bromofluorobenzene (S)				95	
Dibromofluoromethane (S)				105	
1,2-Dichloroethane-d4 (S)				99	

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Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

SAMPLE DUPLICATE: 922722293

Parameter	Units	922700158 Result	DUP Result	RPD	Footnotes
Benzene	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
Methyl-tert-butyl ether	ug/l	ND	ND	NC	
Naphthalene	ug/l	ND	ND	NC	
Toluene	ug/l	ND	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	
o-Xylene	ug/l	ND	ND	NC	
Toluene-d8 (S)	%	98	100		
4-Bromofluorobenzene (S)	%	88	90		
Dibromofluoromethane (S)	%	114	93		
1,2-Dichloroethane-d4 (S)	%	104	90		

Laboratory Certification IDs
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Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68112 Analysis Method: SM 3500-Fe D#4
QC Batch Method: SM 3500-Fe D#4 Analysis Description: Iron, Ferrous
Associated Lab Samples: 922714738 922714746

METHOD BLANK: 922721519
Associated Lab Samples: 922714738 922714746

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Iron, Ferrous	mg/l	ND	0.50	

SAMPLE DUPLICATE: 922721527

Parameter	Units	922712120 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	1

SAMPLE DUPLICATE: 922721535

Parameter	Units	922712229 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	1

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Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68113
QC Batch Method: SM 3500-Fe D#4
Associated Lab Samples: 922714753

Analysis Method: SM 3500-Fe D#4
Analysis Description: Iron, Ferrous

METHOD BLANK: 922721543
Associated Lab Samples: 922714753

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Iron, Ferrous	mg/l	ND	0.50	

SAMPLE DUPLICATE: 922721550

Parameter	Units	922714753 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	1

Laboratory Certification IDs
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Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

QC Batch: 67967 — Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 — Analysis Description: Ion Chromatography
Associated Lab Samples: 922714738 922714746 922714753

METHOD BLANK: 922716733
Associated Lab Samples: 922714738 922714746 922714753

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Nitrate	mg/l	ND	0.10	
Sulfate	mg/l	ND	1.0	

LABORATORY CONTROL SAMPLE: 922716741

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Nitrate	mg/l	10.00	9.920	99	
Sulfate	mg/l	100.00	99.06	99	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922716774 922716782

Parameter	Units	922714886 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Nitrate	mg/l	0	10.00	9.360	9.520	94	95	2	
Sulfate	mg/l	53.85	100.00	154.6	155.0	101	101	0	

SAMPLE DUPLICATE: 922716766

Parameter	Units	922714878 Result	DUP Result	RPD	Footnotes
Nitrate	mg/l	0.8900	0.8900	0	
Sulfate	mg/l	110.0	110.0	2	

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239797
Client Project ID: Circle Stop N Shop 05981

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	Analysis conducted in excess of EPA recommended holding time.

Laboratory Certification IDs
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VA Drinking Water 213
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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.

676437

Page: 1 of 1

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull St
Columbia SC
Phone: (803) 876-6240 Fax: (803) 876-6245

Required Client Information: **Section B**

Report To: Debra Thomas
Copy To:
Invoice To: Pat Holland
P.O. 404342
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 9239797
Profile #:
Requested Analysis:

Section D Required Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AIR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE)	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX Naph MTBE 8260	Nitrate	Sulfate	Percent Solids	Remarks / Lab ID
1	MW-17	WT	12/20/02	1452	5	2			3					X	X	X	X	922714738
2	MW-21			1526	5	2			3					X	X	X	X	922714746
3	MW-22			1550	5	2			3					X	X	X	X	922714753
4	SW-1			1457	3				3					X				922714761
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
					12/21	0930

SAMPLE CONDITION

Temp in °C	2.8
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ken Pimienta
SIGNATURE of SAMPLER: Ken Pimienta
DATE Signed: (MM / DD / YY) 12/20/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 04

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.
2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.
3. A separate COC must be filled out for each day of sample collection.
4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.
5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.
6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.
7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

UKK

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Huntersville, NC 28078
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Fax: 704.875.9091

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January 20, 2003

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

RECEIVED
JAN 22 2003
UNDERGROUND STORAGE TANK PROGRAM

RE: Lab Project Number: 9240489
Client Project ID: Circle Stop N Shop/05981/17992

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on January 17, 2003. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Sherri Stabel
Sherri.Stabel@pacelabs.com
Project Manager

Enclosures

Laboratory Certification IDs	
NC Wastewater	12
NC Drinking Water	37706
SC	99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs	
LA Wastewater	04034
VA Drinking Water	213
FL NELAP	E87627

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9240489
Client Project ID: Circle Stop N Shop/05981/17992

Lab Sample No: 922752951 | Project Sample Number: 9240489-001 | Date Collected: 01/15/03 11:00
Client Sample ID: MW-26 | Matrix: Water | Date Received: 01/17/03 10:20

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260, low level	Method: EPA 8260								
Benzene	ND	ug/l	1.0	1.0	01/17/03 23:01	RWS	71-43-2		
Ethylbenzene	ND	ug/l	1.0	1.0	01/17/03 23:01	RWS	100-41-4		
Methyl-tert-butyl ether	83.	ug/l	50.	50.0	01/17/03 23:01	RWS	1634-04-4		
Naphthalene	ND	ug/l	1.0	1.0	01/17/03 23:01	RWS	91-20-3		
Toluene	ND	ug/l	1.0	1.0	01/17/03 23:01	RWS	108-88-3		
m&p-Xylene	ND	ug/l	2.0	1.0	01/17/03 23:01	RWS			
o-Xylene	ND	ug/l	1.0	1.0	01/17/03 23:01	RWS	95-47-6		
Toluene-d8 (S)	98	%		1.0	01/17/03 23:01	RWS	2037-26-5		
4-Bromofluorobenzene (S)	94	%		1.0	01/17/03 23:01	RWS	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	01/17/03 23:01	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	01/17/03 23:01	RWS	17060-07-0		

Laboratory Certification IDs
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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9240489
Client Project ID: Circle Stop N Shop/05981/17992

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate

Laboratory Certification IDs

NC Wastewater	12
NC Drinking Water	37706
SC	99006

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9240489
Client Project ID: Circle Stop N Shop/05981/17992

QC Batch: 68951 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: GC/MS VOCs by 8260, low level
Associated Lab Samples: 922752951

METHOD BLANK: 922755392
Associated Lab Samples: 922752951

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	1.0	
Ethylbenzene	ug/l	ND	1.0	
Methyl-tert-butyl ether	ug/l	ND	1.0	
Naphthalene	ug/l	ND	1.0	
Toluene	ug/l	ND	1.0	
m&p-Xylene	ug/l	ND	2.0	
o-Xylene	ug/l	ND	1.0	
Toluene-d8 (S)	%	100		
4-Bromofluorobenzene (S)	%	96		
Dibromofluoromethane (S)	%	104		
1,2-Dichloroethane-d4 (S)	%	102		

LABORATORY CONTROL SAMPLE: 922755400

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	10.00	9.833	98	
Ethylbenzene	ug/l	10.00	9.636	96	
Methyl-tert-butyl ether	ug/l	10.00	9.846	98	
Naphthalene	ug/l	10.00	8.135	81	
Toluene	ug/l	10.00	9.191	92	
m&p-Xylene	ug/l	20.00	19.35	97	
o-Xylene	ug/l	10.00	9.574	96	
Toluene-d8 (S)				97	
4-Bromofluorobenzene (S)				100	
Dibromofluoromethane (S)				112	
1,2-Dichloroethane-d4 (S)				109	

Laboratory Certification IDs
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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9240489
Client Project ID: Circle Stop N Shop/05981/17992

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate

Laboratory Certification IDs
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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.

661700

Page: of

Required Client Information: **Section A**

Company: SC DHEC
Address: 2600 Bull Street
Columbia, SC 29201
Phone: 803-896-6240 Fax: 803-896-6245

Required Client Information: **Section B**

Report To: Debra Thoma
Copy To: Debra Thoma
Invoice To: Debra Thoma
P.O. 416276
Project Name: Circle Stop N Shop
Project Number: 05981/17992

Client Information (Check quote/contract):
Requested Due Date:
*TAT: 24 hrs.

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days. 24 hr

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: L 40489.
Profile #:

Section D **Required** Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE)	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Requested Analysis: BTEX+Naph+MTBE (8260 B)	Remarks / Lab ID
1	MW-26	WT	01/15/03	11:00	3				X					X	2752951
2															
3															
4															
5															
6															
7															
8															
9															
10															
11															
12															

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	Read S. Miner	1-16-03	0745	[illegible]	1/16/03	1000

SAMPLE CONDITION

Temp in °C	2.5
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: READ S. MINER / UMAR KHATTAK
SIGNATURE of SAMPLER: U.K. Khattak
DATE Signed: (MM / DD / YY) 01/15/03

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0601

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet, name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.
2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.
3. A separate COC must be filled out for each day of sample collection.
4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.
5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.
6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.
7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

Geological Resources, Inc.

December 24, 2002

Mr. John D. Abernathy
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201-1708

RECEIVED
DEC 30 2002
UNDERGROUND STORAGE
TANK PROGRAM

Re: Monitoring Well Installation Report
Circle Stop N Shop
Leesville, Saluda County
UST Permit #: 05981
CA #: 17400

Dear Mr. Abernathy:

Please find enclosed the following information related to the replacement and/or installation of monitoring wells at the above referenced site:

Attachment 1: Site Base Map
Attachment 2: Well Construction/Lithologic Record
Attachment 3: Survey Data
Attachment 4: Material Manifest

Please do not hesitate to contact me at (704) 563-1663 if you have any questions or require additional information.

Sincerely,
Geological Resources, Inc.

Shawn Judd

Shawn L. Judd
Administrative Manager

enclosures

cc: file

4913 Albemarle Road Suite 101 Charlotte, NC 28205
Phone: (704) 563-1663 / (888) 870-4133 Fax: (704) 563-1662
www.geologicalresourcesinc.com

HAZ~MAT

TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237
(704) 332-5600
FAX (704) 375-7183

NON-HAZARDOUS SPECIAL WASTE

Manifest No. 14555

P.O. No.

Job No. 02 3767

Section I. GENERATOR (Generator completes all of Section I)

GENERATOR LOCATION

NAME [illegible]

ORIGINATING ADDRESS [illegible]

MAILING ADDRESS

CITY [illegible] ST ATE [illegible] ZIP

PHONE NO.

CONTACT NAME

WORK CONTRACTED BY
Bill To (If different from information at left)

NAME [illegible]

ADDRESS [illegible]

CITY [illegible] ST ATE [illegible] ZIP [illegible]

PHONE NO. [illegible]

CONTACT NAME [illegible]

DES. OF WASTE:

No.	Type	Units	Quantity

Section II. INVOICE INFORMATION

DESCRIPTION	QUANTITY GALLONS	QUANTITY DRUMS	LINE TOTAL GALLONS	LINE TOTAL DRUMS
1. WATER, OIL & COOLANT PUMPED FROM TANKS OR DRUMS				
2. OFF SPEC LIGHT OIL, WATER & GAS PUMPED FROM TANKS OR DRUMS				
3. 55 GALLON DRUMS REMOVED - SOLID		1/4		
4. 55 GALLON DRUMS REMOVED - LIQUID				
5.				
6.				
7.				
8.				
9. ARRIVAL TIME:				
10. DEPARTURE TIME:				

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if the waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

Generator Authorized Agent Name: [illegible] / [illegible]

Signature

Shipment Date: 12 16 02

Section III. TRANSPORTER

TRANSPORTER (Generator complete a-d; Transporter I complete e-g; Transporter II complete h-n)

HAZ~MAT
TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237

a. Driver Name / Title

b. Phone No. c. Truck No.

Hazardous Waste Transporter Permits
EPA NCR 000003186
EPA NCD048461370

d. Driver Signature

Shipment Date

TRANSPORTER II

e. Name [illegible]

f. Address [illegible]

g. Driver Name / Title [illegible]

h. Phone No. [illegible] i. Truck No.

j. Transporter II Permit Nos.

Driver Signature

Shipment Date: 12 16 02

Section IV. FACILITY INFORMATION AND CERTIFICATE OF DISPOSAL

Site Name: Haz-Mat Transportation & Disposal, Inc.

Physical Address: 210 Dalton Avenue
Charlotte, N.C. 28237

a. Phone No. 704-332-5600

b. Mailing Address: P.O. Box 37392
Charlotte, N.C. 28237

e. Discrepancy Indication Space

This is to certify that all non-hazardous material removed from above location has been received and will be disposed of in accordance with applicable local, state and federal regulations in the following manner: (1) Petroleum products are blended into a beneficial reusable fuel for use in large industrial burners. (2) Waste waters are to be treated with polymers, pH adjusters, and a flocculant, then flows through a dissolved air flotation system for pretreatment separation, then into the CMUD sanitation sewer system under permit IUP#5012. (3) Sludges from treatment systems are hauled to E.P.A. approved facilities for proper disposal. Manifest and certificate of disposal are on file. (4) Our treatment system operates on a first in, first out basis and product should be processed within seven days.

SIGNATURE OF FACILITY AGENT	DATE	MONTH 12	DAY 16	YEAR 02

ORIGINAL - FINAL T.S.D. • YELLOW - DISPOSER • PINK - 1ST T.S.D. • GOLD - GENERATOR

SURVEY FORM

Project Name: Circle Stop N Shop

Location: Leesville

Personnel: Joel Lenk

Date: 12/11/02

TOC DATA					
Station No.	Reference Point/ Elevation (A)	Rod Height @ Reference Point (B)	Instrument Height (C)	Survey Point/ Rod Height @ TOC (D)	TOC Elevation (E)
1	MW-9/99.68	3.74	103.42	MW-9R/3.99	99.43
				MW-10R/2.84	100.58
	MW-8/98.70			MW-8/4.72	98.70

CROSS TIES		
Reference Point	Distance To	Survey Point
MW-9	4'	MW-9R
MW-9	66'	MW-10R
MW-10	13'	MW-10R
MW-10	50'	MW-9R

EXAMPLE					
1	MW-1/100.00	5.54	105.54	MW-13/2.00	103.54
				MW-14/3.00	102.54
	MW-2/99.00			MW-2/6.53	99.01✓
	A + B = C			C - D = E	

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

1. WELL OWNER INFORMATION:
Name: BOOZER (last) JOAN (first)
Address: 3287 COLUMBIA HWY
City: LEESVILLE State: SC Zip: 29070
Telephone: Work: 532-9974 Home: 532-3264

LOCATION OF WELL: SEE SITE MAP
Name: MW-9R
Street Address: 3287 COLUMBIA HWY
City: LEESVILLE SC Zip: 29070
COUNTY: SALUDA
Latitude: 034°02'33.71" Longitude: 081°32'42.35" W

3. SYSTEM NAME: CIRCLE STOP N' SHOP
SYSTEM NUMBER: MW-9R

4. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description:	Thickness of Stratum	Depth to Bottom of Stratum
MICACEOUS SILTY CLAY	70'	70'
RANGING IN COLOR		
FROM RED ORANGE AT		
THE SURFACE TO PURPLE		
FROM 12'-37', LIGHT BROWN		
FROM 35'-51', YELLOW		
GREEN FROM 51'-70'		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: BENTONITE FROM 52-55'

6. PERMIT NUMBER: UMW-16661

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

8. WELL DEPTH (completed) 67' ft. Date Started: 12-11-02 Date Completed: 12-11-02

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☒ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 57 ft. depth
in. to ft. depth
Height: Above/Below
Surface 0 ft.
Weight Sch. 40 lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: 57 ft. and 67 ft.
ft. and ft.
Sieve Analysis Yes (please enclose) (No)

12. STATIC WATER LEVEL 45' 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 55 ft. to 67 ft.
Effective size #3 Uniformity Coefficient

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 50' ft. to 52' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION:
75' ft. SE direction
Type well disinfected upon completion ☐ Yes Type: ☒ No 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: CERT. NO.: 836
Address: 4913 Albemarle Road, Suite 101, Charlotte, NC 28205
Telephone No.: 704-563-1663

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

Signed: [signature] Date: 12-11-02
Authorized Representative

DHEC 1903 (07/2001)

COPY 1 MAIL TO: S.C. DEPARTMENT 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: BOOZER (last) JOHN (first)
Address: 3287 COLUMBIA HWY
City: LEESVILLE State: SC Zip: 29070
Telephone: Work: 532-9974 Home: 532-3264

LOCATION OF WELL: SEE SITE MAP
Name: MW-10R
Street Address: 3287 COLUMBIA HWY
City: LEESVILLE SC Zip: 29070
COUNTY: SALUDA
Latitude: 034°02'33.71 Longitude: 081°32'42.35"N

3. SYSTEM NAME: CIRCLE STOP N SHOP **SYSTEM NUMBER:** MW-10R

4. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description:	Thickness of Stratum	Depth to Bottom of Stratum
MICACEOUS SILTY CLAY	70'	70'
RANGING IN COLOR FROM		
RED ORANGE AT SURFACE		
TO 8', PURPLE FROM 8'-		
50' YELLOW GREEN FROM		
50'-70'		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS: BENTONITE FROM 52'-55'

6. PERMIT NUMBER: UMW-16661

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

8. WELL DEPTH (completed) Date Started: 12-11-02
67' ft. Date Completed: 12-11-02

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☒ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☐ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 57' ft. depth
_____ in. to _____ ft. depth

Height: Above/Below
Surface 0 ft.
Weight Sch. 40 lb./ft.
Drive Shoe? ☐ Yes ☒ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 10 Length: 10'
Set Between: 57 ft. and 67 ft.
_____ ft. and _____ ft.

Sieve Analysis Yes (please enclose) (No)

12. STATIC WATER LEVEL
45 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 55 ft. to 67 ft.
Effective size #2 Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 52 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION:
50' ft. W direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No 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

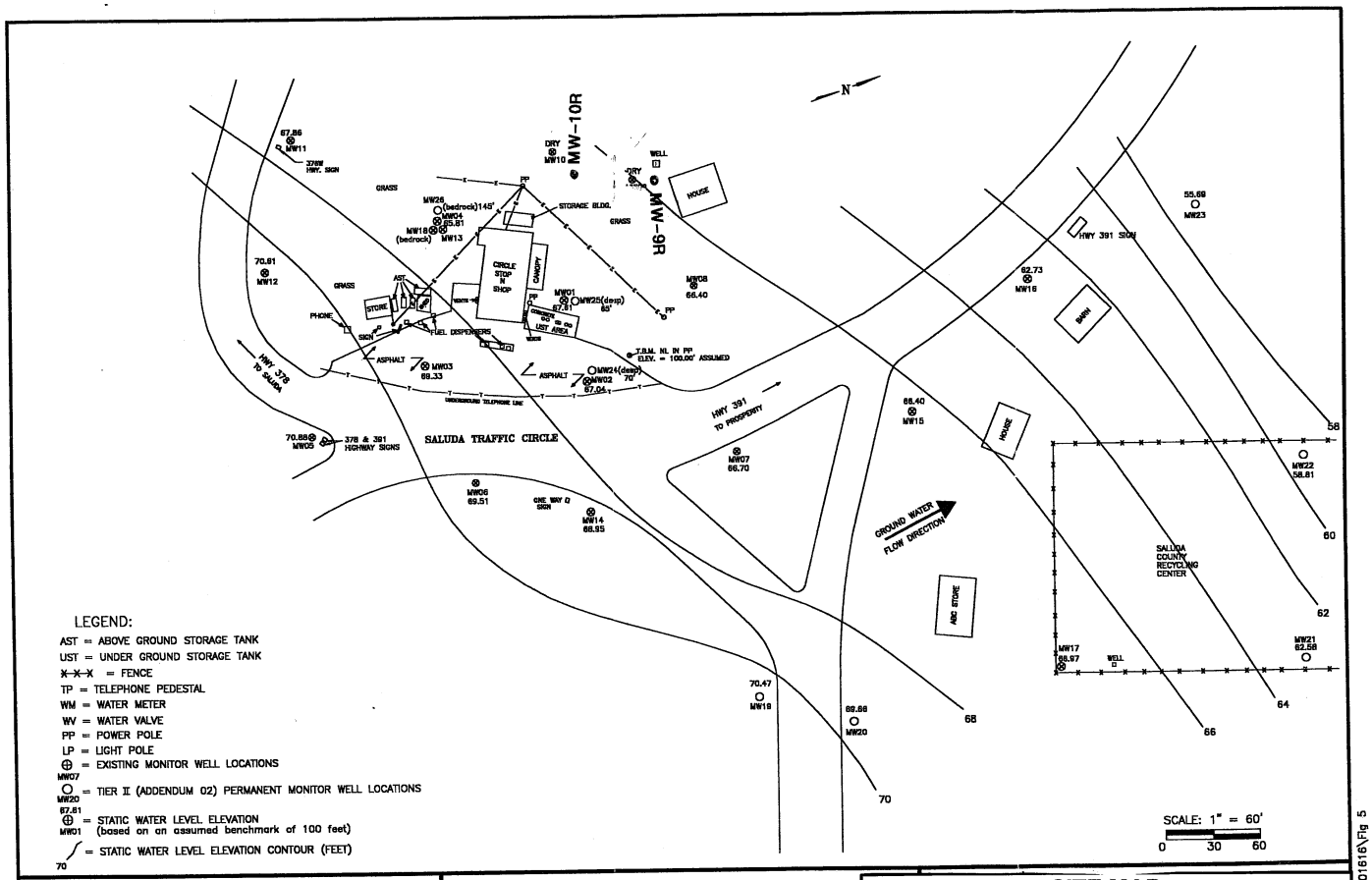
19. WELL DRILLER: CERT. NO.: 836
Address: 4913 Albemarle Road, Suite 101, Charlotte, NC 28205
Telephone No.: 704-563-1663

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

Signed: [signature] Date: 12-11-02
Authorized Representative

DHEC 1903 (07/2001)

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



LEGEND:

AST = ABOVE GROUND STORAGE TANK
UST = UNDER GROUND STORAGE TANK
X-X-X = FENCE
TP = TELEPHONE PEDESTAL
WM = WATER METER
WV = WATER VALVE
PP = POWER POLE
LP = LIGHT POLE
⊕ = EXISTING MONITOR WELL LOCATIONS
MW07 / MW20 = TIER II (ADDENDUM 02) PERMANENT MONITOR WELL LOCATIONS
67.81 / MW01 ⊕ = STATIC WATER LEVEL ELEVATION (based on an assumed benchmark of 100 feet)
70 = STATIC WATER LEVEL ELEVATION CONTOUR (FEET)

CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

SITE MAP

GEOLOGICAL RESOURCES INC.

Site ID # 05981
12/20/02
Figure 1

F:\KSG\CAD\2001\01616\Fig 5

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

December 27, 2002

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

RE: Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on December 19, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Sherri Stabel
Sherri.Stabel@pacelabs.com
Project Manager

RECEIVED
DEC 3 1 2002
UNDERGROUND STORAGE TANK PROGRAM

Enclosures

UST PROGRAM DOCKETING # 31 Tech

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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922706932 | Project Sample Number: 9239658-001 | Date Collected: 12/18/02 16:22
Client Sample ID: MW-24 | Matrix: Water | Date Received: 12/19/02 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/20/02	HEH			
Sulfate	4.7	mg/l	1.0	1.0	12/20/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/19/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	19.	ug/l	5.0	1.0	12/27/02 00:52	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/27/02 00:52	RWS	100-41-4		
Methyl-tert-butyl ether	17.	ug/l	5.0	1.0	12/27/02 00:52	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/27/02 00:52	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/27/02 00:52	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/27/02 00:52	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/27/02 00:52	RWS	95-47-6		
Toluene-d8 (S)	85	%		1.0	12/27/02 00:52	RWS	2037-26-5	2	
4-Bromofluorobenzene (S)	87	%		1.0	12/27/02 00:52	RWS	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	12/27/02 00:52	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	94	%		1.0	12/27/02 00:52	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS
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Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922706940 | Project Sample Number: 9239658-002 | Date Collected: 12/18/02 17:16
Client Sample ID: MW-8 | Matrix: Water | Date Received: 12/19/02 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.15	mg/l	0.10	1.0	12/20/02	HEH			
Sulfate	1.9	mg/l	1.0	1.0	12/20/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/19/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	12/25/02 08:00	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	12/25/02 08:00	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/25/02 08:00	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	12/25/02 08:00	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	12/25/02 08:00	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	12/25/02 08:00	RWS			
o-Xylene	ND	ug/l	5.0	1.0	12/25/02 08:00	RWS	95-47-6		
Toluene-d8 (S)	94	%		1.0	12/25/02 08:00	RWS	2037-26-5		
4-Bromofluorobenzene (S)	95	%		1.0	12/25/02 08:00	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	12/25/02 08:00	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	104	%		1.0	12/25/02 08:00	RWS	17060-07-0		

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SC 99006

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ACCREDITED IN ACCORDANCE WITH nelac

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

Lab Sample No: 922706957 | Project Sample Number: 9239658-003 | Date Collected: 12/18/02 16:57
Client Sample ID: MW-2 | Matrix: Water | Date Received: 12/19/02 10:00

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	12/20/02	HEH			
Sulfate	1.8	mg/l	1.0	1.0	12/20/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	12/19/02	AST		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	13000	ug/l	500	100	12/27/02 01:08	RWS	71-43-2		
Ethylbenzene	3000	ug/l	500	100	12/27/02 01:08	RWS	100-41-4		
Methyl-tert-butyl ether	1100	ug/l	500	100	12/27/02 01:08	RWS	1634-04-4		
Naphthalene	ND	ug/l	500	100	12/27/02 01:08	RWS	91-20-3		
Toluene	27000	ug/l	500	100	12/27/02 01:08	RWS	108-88-3	3	
m&p-Xylene	9400	ug/l	1000	100	12/27/02 01:08	RWS			
o-Xylene	4300	ug/l	500	100	12/27/02 01:08	RWS	95-47-6		
Toluene-d8 (S)	97	%		1.0	12/27/02 01:08	RWS	2037-26-5		
4-Bromofluorobenzene (S)	89	%		1.0	12/27/02 01:08	RWS	460-00-4		
Dibromofluoromethane (S)	95	%		1.0	12/27/02 01:08	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	90	%		1.0	12/27/02 01:08	RWS	17060-07-0		

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NC Drinking Water 37706
SC 99006

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www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	Analysis conducted in excess of EPA recommended holding time.
[2]	The surrogate and/or spike recovery was outside acceptance limits.
[3]	Compound concentration exceeds the calibration range of the instrument (CLP E-Flag).

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

QC Batch: 68066 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922706932 922706940 922706957

METHOD BLANK: 922720032
Associated Lab Samples: 922706932 922706940 922706957

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	98		
4-Bromofluorobenzene (S)	%	98		
Dibromofluoromethane (S)	%	89		
1,2-Dichloroethane-d4 (S)	%	84		

LABORATORY CONTROL SAMPLE: 922720040

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	39.86	80	
Ethylbenzene	ug/l	50.00	41.53	83	
Methyl-tert-butyl ether	ug/l	50.00	39.08	78	
Naphthalene	ug/l	50.00	37.76	76	
Toluene	ug/l	50.00	39.16	78	
m&p-Xylene	ug/l	100.00	83.44	83	
o-Xylene	ug/l	50.00	42.06	84	
Toluene-d8 (S)				99	
4-Bromofluorobenzene (S)				100	
Dibromofluoromethane (S)				95	
1,2-Dichloroethane-d4 (S)				92	

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

REPORT OF LABORATORY ANALYSIS
This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922720057 922720065

Parameter	Units	922706940 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	0.9048	50.00	44.79	45.21	88	89	1	
Toluene	ug/l	2.671	50.00	42.25	43.53	79	82	3	
Toluene-d8 (S)						95	100		
4-Bromofluorobenzene (S)						91	91		
Dibromofluoromethane (S)						113	112		
1,2-Dichloroethane-d4 (S)						110	107		

SAMPLE DUPLICATE: 922721782

Parameter	Units	922712195 Result	DUP Result	RPD	Footnotes
Benzene	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
Methyl-tert-butyl ether	ug/l	ND	ND	NC	
Naphthalene	ug/l	ND	ND	NC	
Toluene	ug/l	ND	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	
o-Xylene	ug/l	ND	ND	NC	
Toluene-d8 (S)	%	92	96		
4-Bromofluorobenzene (S)	%	81	86		
Dibromofluoromethane (S)	%	108	106		
1,2-Dichloroethane-d4 (S)	%	100	100		

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NC Drinking Water 37706
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Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

QC Batch: 67827 Analysis Method: SM 3500-Fe D#4
QC Batch Method: SM 3500-Fe D#4 Analysis Description: Iron, Ferrous
Associated Lab Samples: 922706932 922706940 922706957

METHOD BLANK: 922709084
Associated Lab Samples: 922706932 922706940 922706957

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Iron, Ferrous	mg/l	ND	0.50	

SAMPLE DUPLICATE: 922709092

Parameter	Units	922706858 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	1

SAMPLE DUPLICATE: 922709100

Parameter	Units	922706957 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	1

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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QUALITY CONTROL DATA

Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

QC Batch: 67825 Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 Analysis Description: Ion Chromatography
Associated Lab Samples: 922706932 922706940 922706957

METHOD BLANK: 922709035
Associated Lab Samples: 922706932 922706940 922706957

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Nitrate	mg/l	ND	0.10	
Sulfate	mg/l	ND	1.0	

LABORATORY CONTROL SAMPLE: 922709043

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Nitrate	mg/l	10.00	9.920	99	
Sulfate	mg/l	100.00	99.06	99	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922710694 922710702

Parameter	Units	922708771 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Nitrate	mg/l	0	10.00	9.760	9.440	98	94	3	
Sulfate	mg/l	56.56	100.00	162.0	158.1	105	102	2	

SAMPLE DUPLICATE: 922716832

Parameter	Units	922708797 Result	DUP Result	RPD	Footnotes
Nitrate	mg/l	ND	ND	NC	
Sulfate	mg/l	12.00	12.00	1	

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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Lab Project Number: 9239658
Client Project ID: Circle Stop N Shop 05981

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	Analysis conducted in excess of EPA recommended holding time.

Laboratory Certification IDs
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NC Drinking Water 37706
SC 99006

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FL NELAP E87627

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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.

676529

Page: 1 of 1

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull Street
Columbia SC 29201
Phone: 803-896-6240 Fax: 803-896-6245

Required Client Information: **Section B**

Report To: Debra Thomas
Copy To:
Invoice To: Pat Holland
P.O.: 404342
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 9739658
Profile #:
Requested Analysis:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	BTEX Naph MTBE 8260B	Nitrate	Sulfate	Ferrous Iron	Remarks / Lab ID
1	MW-24	WT	12/18/02	1622	5	2			3					X	X	X	X	922706932
2	MW-8	↓	↓	1716	5	2			3					X	X	X	X	922706945
3	MW-2	↓	↓	1657	5	2			3					X	X	X	X	922706957
4																		
5																		
6																		
7																		
8																		
9																		
10																		
11																		
12																		

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
				Greg Christione	12/19/02	1000

SAMPLE CONDITION

Temp in °C	1.3
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

GKI CA# 17795
PACE CA# 17794

Additional Comments:

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Ken Pimienta
SIGNATURE of SAMPLER: Ken Pimienta
DATE Signed: (MM / DD / YY) 12/18/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Form COC01 Rev 0402

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

Geological Resources, Inc.

RECEIVED
OCT 15 2002
Underground Storage Tank Program

October 11, 2002

Mr. Robert Faller
Environmental Health Manager
Bureau of Underground Storage Tank Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, SC 29201-1708

Re: Circle Stop N Shop
Site ID# 05981; Inv # 1812-1
CP # 17308:P; PO # 404342

Dear Mr. Faller:

Please find enclosed the **original report** for the above referenced site.

The original invoice has been submitted to Ms. Pat Holland of the Finance Section as specified in the contract.

Sincerely,

Shawn Judd

Shawn L. Judd
Project Coordinator

UST PROGRAM
DOCKETING # 32 Tech

4913 Albemarle Road Suite 101 Charlotte, NC 28205
Phone: (704) 563-1663 / (888) 870-4133 Fax: (704) 563-1662
www.geologicalresourcesinc.com

FIELD ACTIVITY WORKSHEET ORDER

Date of Request: September 24, 2002

Type of Request:
(Please indicate your request with a check mark)

Emergency	(<2 Working Days)	☐
Specific	(1-5 Working Days)	X
Routine	(10 Working Days)	☐

1812

Please specify the type of work to be completed:

sample all wells (25-monitoring wells, 2- supply wells for BTEX, Naph, MTBE); sample MWs for Nitrate, Sulfates, and ferrous iron. Gauge and record product level in MW-7, sample for BTEX, Naph, MTBE, Nitrates, Sulfates, and Ferrous Iron if no product.

Facility Name: **Circle Stop N Shop**

Permit Number: **05981**

Project Manager: J. Abernathy

County: Saluda

(Field Staff Only)

Date Field Activity Completed: _____

Completed by Field Staff: _____

Date Field Notes Entered into EFIS: _____

Field Staff Comments:

_____

_____

_____

REMEMBER TO ESTABLISH COST PROPOSALS

PACE CA#: **17307:P** GRI CA#: **17308:P**

PALMETTO ENV GROUP CA#: _____

Fill out back of this form. Photocopy, attach a completed CA cover for each CA. Thank you very much!

UST Permit # 05981

Facility Name Circle Stop N Shop

PACE CA#: 17307:P
PO # 416276

GROUNDWATER ANALYSES

TASK CODE	WATER/ METHOD	QUANTITY	RATE	TOTAL
11A	BTEX+NAPH+ MTBE (8260)	28	$30.00	$840.00
11A	BTEX+NAPH+ MTBE (8021)		$30.00	$0.00
VB26	EDB (8011)		$40.00	$0.00
11C	PAHs (8270)		$65.00	$0.00
11F	8 RCRA METALS		$65.00	$0.00
11D	LEAD (6010)		$7.50	$0.00
11G	TPH (9070)		$35.00	$0.00
VB 11	TOC (9060)		$33.00	$0.00
11H	pH (150.1)		$5.00	$0.00
11J	NITRATES (9056/9210)	26	$10.00	$260.00
11K	SULFATES (9056/9038)	26	$10.00	$260.00
11M	METHANE		$72.50	$0.00
VB 12	Total dissolved iron (200.7)		$10.00	$0.00
11L	Fe+2 (SM3500FeD)	26	$10.00	$260.00
VB 13	Fe+3 (200.7)		$10.00	$0.00
VB 24	Oxygenates		$200.00	$0.00

SOIL ANALYSES

TASK CODE	SOIL/ METHOD	QUANTITY	RATE	TOTAL
11O	BTEX (8260-5035)		$40.00	$0.00
11O	BTEX (8021-5035)		$40.00	$0.00
11P	PAHs (8270)		$65.00	$0.00
11Q	8 RCRA METALS		$65.00	$0.00
VB 15	LEAD (6010)		$8.00	$0.00
11S	TPH (diesel)		$35.00	$0.00
11T	TPH (gas)		$30.00	$0.00
11R	TPH (9071)		$55.00	$0.00
11V	TOC (9060)		$33.00	$0.00
	Expedite Cost	1.00		$0.00

PACE TOTAL: $1,620.00

Palmetto Env. Group CA#
PO #337210

TASK CODE	TASK	QUANTITY	RATE	TOTAL
VB 17	New GAC & Installation		$1,744.00	$0.00
VB 18	Installation w/o GAC		$1,004.00	$0.00
VB 19	Carbon, gravel, & filter replacement		$395.00	$0.00
VB 20	Disassemble & Clean		$400.00	$0.00
VB 21	Mobilization		$75.00	$0.00
VB 22	Locks		$20.00	$0.00
VB 23	Housing Unit		$350.00	$0.00
VB 29	Inline Particulate Filter		$125.00	$0.00
VB 7	Additional Piping		$2.00	$0.00

Palmetto TOTAL $0.00

GRI CA# 17308:P
PO # 404342

TASK CODE	TASK	QUANTITY	RATE	TOTAL
10	PURGE & SAMPLE	26	$19.95	$518.70
VB 30	GAUGE Only	1	$7.25	$7.25
VB 16	TAP SAMPLE	2	$4.00	$8.00
17A2	DISPOSAL/ WATER	25	$0.55	$13.75
4B	MOB	1	$49.75	$49.75

GRI TOTAL: $597.45

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit #05981

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, Louise Northey Clark, 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 Circle Stop and Shop Phone # (803) 532 9974

Street Address of Facility 3287 Columbia Hwy

Town, City, District, Suburb Leesville, S.C.

Name of nearest intersecting street, road, highway, alley US 378 & S.C. 391 (Traffic Circle) Is this facility within the city limits? (yes or no) No

Does a public water or sewer utility service this facility? (yes or no) Public Water - yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines Septic tank lines - F. R. Clark, phone number (803) 5326038

Were underground storage tanks previously removed from the ground at this facility? (yes or no)_____ 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 Gail Smith Phone number (803) 532 4780

Is the property currently leased or rented to someone? (yes or no) yes. If yes, please provide their name Steve & Joan Booze 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): LOUISE NORTHEY CLARK

Phone Number (home) (803) 532 6038 (work)_____

Current Mailing Address: 2920 PROSPERITY HWY. LEESVILLE, S.C. 29070

Signature of Property Owner: Louise Northey Clark

Witness: Jimmie M. Northey

Date: 4-29-02 Month _____ Day _____ Year

RECEIVED

MAY 0 1 2002

Underground Storage Tank Program

PERMISSION FORM

UNDERGROUND STORAGE TANK OWNER

UST Permit #05981

If you are the owner of the former or existing underground storage tanks or are designated as their authorized representative, but do not own the property, please complete this form.

I, Joan Boozer certify that I am the legal owner of the underground storage tank(s) located at the facility identified below or serve as the authorized representative for the UST owner. I grant permission to the South Carolina Department of Health and Environmental Control (SCDHEC) to secure on my behalf services of a contractor to conduct assessment and corrective action activities, as required. The contractor will be designated as my contractor 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 be responsible for obtaining right-of-entry from the property owner and notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Division of Underground Storage Tank Management in writing.

Name of Facility Circle Stop & Shop Phone # 803-532-9974

Street Address of Facility 3287 Columbia Hwy

Town, City, District, Suburb Leesville, SC 29070 - Saluda County

Name of nearest intersecting street, road, highway, alley Hwys 378 & 391

Is this facility within the city limits? (yes or no) NO

Does a public water or sewer utility service this facility? (yes or no) yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) yes 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 Gail Smith Phone number 803-532-4780

Is the property currently leased or rented to someone? (yes or no) yes. If yes, please provide their name Buddy & Louise Clark and phone number 803-532-6038 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. (Don't know where former tank was.)

NAME of UST owner (Please Print): JOAN BOOZER

Phone Number (home) 532-3264 (work) 532-9974

Signature of UST Owner: Joan Boozer

Witness: Steve L. Boozer

Date: 4-25-02 Month _____ Day _____ Year

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-1
Well Diameter (D): 0.17 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 Ground Water (DGW) 33.61 feet
Total Well Depth (TWD) 49.13 feet
Length of the water column (LWC = TWD-DGW) 15.52 feet

1 casing volume (CV = LWC X C) = 15.52 x .163 = 2.53 gals
3 casing volume 3 X CV = 7.59 gals (standard purge volume)
bailed dry
Total volume of Water Purged Before Sampling 6.00 gals
Total volume of Water Purged for Post Sampling .50 gals
6.50 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25						0.50	
Time (military)	19:35						1938	1940
pH (s.u.)	5.5						5.4	
Specific Cond. (umhos/cm)	0.04						0.04	
Water Temperature (degrees C)	22						21	
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy						cloudy	
Dissolved Oxygen (mg/l)	2.1						1.9	
PID readings, if required								

Remarks: bailed essentially dry - took initial and post sample reading

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): ~~4/30/02~~ 8/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 26 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-2
Well Diameter (D): 2" - 0.17 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 Ground Water (DGW) 35.00 feet
Total Well Depth (TWD) 40.60 feet
Length of the water column (LWC = TWD-DGW) 5.6 feet

1 casing volume (CV = LWC X C) = 5.6 X .163 = 0.91 gals
3 casing volume 3 X CV = 2.74 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.75 gals
Total volume of Water Purged for Post Sampling 1.50 gals
4.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.25					1.50	
Time (military)	13:55	14:01					14:07	14:05
pH (s.u.)	5.6	4.9					4.8	
Specific Cond. (umhos/cm)	0.03	0.02					0.03	
Water Temperature (degrees C)	22	22					22	
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy					cloudy	
Dissolved Oxygen (mg/l)	1.5	1.7					1.8	
PID readings, if required								

Remarks: essentially dry after 1.25 gallons purged

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 28 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-3
Well Diameter (D): 2" -0.17 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 Ground Water (DGW) 32.61 feet
Total Well Depth (TWD) 40.02 feet
Length of the water column (LWC = TWD-DGW) 7.41 feet

1 casing volume (CV = LWC X C) = 7.41 x.163 = 1.21 gals
3 casing volume 3 X CV = 3.62 gals (standard purge volume)

Total volume of Water Purged Before Sampling 3.75 gals
Total volume of Water Purged for Post Sampling 2.75 gals
6.50 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.50	2.75					
Time (military)	13:22	13:25	13:28					13:30
pH (s.u.)	7.1	6.5	6.3					
Specific Cond. (umhos/cm)	0.02	0.02	0.02					
Water Temperature (degrees C)	22	22	22					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	1.8	1.8	1.7					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: P. Cloudy 76
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-4
Well Diameter (D): 2" — 0.17 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 Ground Water (DGW) 35.56 feet
Total Well Depth (TWD) 40.23 feet
Length of the water column (LWC = TWD-DGW) 4.67 feet

1 casing volume (CV = LWC X C) = 4.67 X .163 = 0.76 gals
3 casing volume 3 X CV = 2.30 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.50 gals
Total volume of Water Purged for Post Sampling 1.25 gals
3.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.00					1.25	
Time (military)	10:02	10:07					10:15	10:12
pH (s.u.)	5.3	4.9					4.9	
Specific Cond. (umhos/cm)	0.23	0.23					0.23	
Water Temperature (degrees C)	19	19					19	
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy					cloudy	
Dissolved Oxygen (mg/l)	3.2	1.1					1.9	
PID readings, if required								

Remarks: essentially dry after 1 volume
gasoline odor

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/03
Field Personnel: Bunt Brown
General Weather Conditions: P. Cloudy 75°
Ambient Air Temperature: 24 / C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-5
Well Diameter (D): 2" 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 Ground Water (DGW) 32.85 feet
Total Well Depth (TWD) 44.70 feet
Length of the water column (LWC = TWD-DGW) 11.85 feet

1 casing volume (CV = LWC X C) = 11.85 X .163 = 1.93 gals
3 casing volume 3 X CV = 5.80 gals (standard purge volume)

Total volume of Water Purged Before Sampling 6.00 gals
Total volume of Water Purged for Post Sampling 4.25 gals
10.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	2.25	4.25					
Time (military)	0934	0941	0945					0947
pH (s.u.)	5.6	5.8	5.8					
Specific Cond. (umhos/cm)	0.09	0.08	0.08					
Water Temperature (degrees C)	21	21	21					
Turbidity (subjective: clear, slightly cloudy, cloudy)	sl.cloudy	sl.cloudy	cloudy					
Dissolved Oxygen (mg/l)	1.3	1.8	1.9					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: P. Cloudy
Ambient Air Temperature: 23 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-6
Well Diameter (D): 2" - 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 Ground Water (DGW) 30.38 feet
Total Well Depth (TWD) 39.92 feet
Length of the water column (LWC = TWD-DGW) 9.54 feet

1 casing volume (CV = LWC X C) = 9.54 x .163 = 1.55 gals
3 casing volume 3 X CV = 4.67 gals (standard purge volume)

Total volume of Water Purged Before Sampling 4.75 gals
Total volume of Water Purged for Post Sampling 3.25 gals
8.00 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.75	3.25					
Time (military)	1814	1816	1818					1820
pH (s.u.)	4.8	4.6	4.7					
Specific Cond. (umhos/cm)	0.02	0.02	0.02					
Water Temperature (degrees C)	21°	20°	20					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	4.0	4.2	4.3					
PID readings, if required								

Remarks:

32.03
- 32.50

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/4/03
Field Personnel: Burt Brown
General Weather Conditions: P. Cloudy
Ambient Air Temperature: 25 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-7
Well Diameter (D): 2" 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: 0.47 feet
Depth to Ground Water (DGW) 32.50 feet
Total Well Depth (TWD) 34.20 feet
Length of the water column (LWC = TWD-DGW) 1.7 feet

1 casing volume (CV = LWC X C) = 1.7 X .163 = 0.28 gals
3 casing volume 3 X CV = 0.83 gals (standard purge volume)

Total volume of Water Purged Before Sampling — gals
Total volume of Water Purged for Post Sampling — gals
Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks: no sample collected - Free product

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: P. Cloudy
Ambient Air Temperature: 22 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-8
Well Diameter (D): 2" - 0.17 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 Ground Water (DGW) 34.48 feet
Total Well Depth (TWD) 39.68 feet
Length of the water column (LWC = TWD-DGW) 5.2 feet

1 casing volume (CV = LWC X C) = 5.2 X .163 = 0.85 gals
3 casing volume 3 X CV = 2.54 gals (standard purge volume)

Total volume of Water Purged Before Sampling 2.75 purged dry gals
Total volume of Water Purged for Post Sampling 50 gals
325 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25						0.50	
Time (military)	19:12						1914	1915
pH (s.u.)	5.4						5.2	
Specific Cond. (umhos/cm)	0.04						0.04	
Water Temperature (degrees C)	19						19	
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy						cloudy	
Dissolved Oxygen (mg/l)	2.41						2.3	
PID readings, if required								

Remarks: essentially dry after 2.75 gallons developed - to initial and Post sample readings

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-9
Well Diameter (D): 2" - 0.17 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 Ground Water (DGW) — dry feet
Total Well Depth (TWD) 32.93 feet
Length of the water column (LWC = TWD-DGW) ____ feet

1 casing volume (CV = LWC X C) = — X = ____ gals
3 casing volume 3 X CV = ____ gals (standard purge volume)

Total volume of Water Purged Before Sampling — gals
Total volume of Water Purged for Post Sampling — gals
____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks: no sample collected - well was dry

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-10
Well Diameter (D): 2" 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 Ground Water (DGW) 48.09 feet
Total Well Depth (TWD) 48.15 feet
Length of the water column (LWC = TWD-DGW) 0.06 feet

1 casing volume (CV = LWC X C) = 0.06 X .163 = .009 gals
3 casing volume 3 X CV = gals (standard purge volume)

Total volume of Water Purged Before Sampling NA gals
Total volume of Water Purged for Post Sampling NA gals
Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks: no sample collected - essentially dry

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny - 74
Ambient Air Temperature: 23 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-11
Well Diameter (D): 2" - 0.17 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 Ground Water (DGW) 34.22 feet
Total Well Depth (TWD) 40.05 feet
Length of the water column (LWC = TWD-DGW) 5.83 feet

1 casing volume (CV = LWC X C) = 5.83 x .163 = .95 gals
3 casing volume 3 X CV = 2.85 gals (standard purge volume)

Total volume of Water Purged Before Sampling 3.00 gals
Total volume of Water Purged for Post Sampling 2.25 gals
5.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.25	2.25					
Time (military)	08:52	0900	0904					09:08
pH (s.u.)	5.0	4.8	4.8					
Specific Cond. (umhos/cm)	.04	.04	.04					
Water Temperature (degrees C)	20	20	20					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	6.1	6.7	6.6					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny 70°
Ambient Air Temperature: 22 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-72
Well Diameter (D): 2" 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 Ground Water (DGW) 32.31 feet
Total Well Depth (TWD) 39.95 feet
Length of the water column (LWC = TWD-DGW) 7.64 feet

1 casing volume (CV = LWC X C) = 7.64 x .163 = 1.25 gals
3 casing volume 3 X CV = 3.74 gals (standard purge volume)

Total volume of Water Purged Before Sampling 3.75 gals
Total volume of Water Purged for Post Sampling 2.75 gals
6.50 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	.25	1.50	2.75					
Time (military)	08:26	08:31	08:35					08:38
pH (s.u.)	5.4	5.4	5.5					
Specific Cond. (umhos/cm)	.09	.06	.05					
Water Temperature (degrees C)	21	21	21					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	3.2	3.2	3.2					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny 80°
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-13
Well Diameter (D): 2" 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 Ground Water (DGW) 36.03 feet
Total Well Depth (TWD) 60.11 feet
Length of the water column (LWC = TWD-DGW) 24.08 feet

1 casing volume (CV = LWC X C) = 24.08 X .163 = 3.93 gals
3 casing volume 3 X CV = 11.78 gals (standard purge volume)

Total volume of Water Purged Before Sampling 10.75 gals
Total volume of Water Purged for Post Sampling 2.25 gals
13.00 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	2.25					~~2.50~~	
Time (military)	10:52	11:03						1109
pH (s.u.)	6.8	7.7						
Specific Cond. (umhos/cm)	0.18	0.34						
Water Temperature (degrees C)	20	19						
Turbidity (subjective: clear, slightly cloudy, cloudy)	clear	sl. cloudy						
Dissolved Oxygen (mg/l)	4.8	5.3						
PID readings, if required								

Remarks: essentially dry after purging 2.25 gallons
gasoline odor / — essentially dry after purging 10.75 gals to develope
took initial & post sampling readings

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-14
Well Diameter (D): 2" – 0.17 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 Ground Water (DGW) 29.76 feet
Total Well Depth (TWD) 39.00 feet
Length of the water column (LWC = TWD-DGW) 9.24 feet

1 casing volume (CV = LWC X C) = 9.24 x .163 = 1.50 gals
3 casing volume 3 X CV = 4.52 gals (standard purge volume)

Total volume of Water Purged Before Sampling 4.75 gals
Total volume of Water Purged for Post Sampling 2.25 gals
7.00 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.75	2.25					
Time (military)	1833	18:37	18:39					1840
pH (s.u.)	4.7	4.7	4.6					
Specific Cond. (umhos/cm)	0.02	0.02	0.02					
Water Temperature (degrees C)	20	20	20					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	2.2	2.8	3.0					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Bart Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 22 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-15
Well Diameter (D): 2" 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 Ground Water (DGW) 30.31 feet
Total Well Depth (TWD) 35.45 feet
Length of the water column (LWC = TWD-DGW) 5.14 feet

1 casing volume (CV = LWC X C) = 5.14 x .163 = .84 gals
3 casing volume 3 X CV = 2.51 gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.75 gals
Total volume of Water Purged for Post Sampling .50 gals
2.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25						0.50	
Time (military)	1755						1800	1758
pH (s.u.)	4.7						4.6	
Specific Cond. (umhos/cm)	0.7						0.7	
Water Temperature (degrees C)	19						19	
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy						cloudy	
Dissolved Oxygen (mg/l)	3.51						3.3	
PID readings, if required								

Remarks: Purged dry after 1.75 gallons developing

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 22 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-16
Well Diameter (D): 2" 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 Ground Water (DGW) 31.92 feet
Total Well Depth (TWD) 34.93 feet
Length of the water column (LWC = TWD-DGW) 3.01 feet

1 casing volume (CV = LWC X C) = 3.01 x .163 = 0.49 gals
3 casing volume 3 X CV = 1.50 gals (standard purge volume)

Total volume of Water Purged Before Sampling 1.50 gals
Total volume of Water Purged for Post Sampling 1.25 gals
2.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.75	1.25					
Time (military)	1752	1754	1757					1758
pH (s.u.)	4.7	4.6	4.6					
Specific Cond. (umhos/cm)	0.02	0.02	0.02					
Water Temperature (degrees C)	21	21	21					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	0.1	0.2	0.2					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-12
Well Diameter (D): 2" 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 Ground Water (DGW) 26.68 feet
Total Well Depth (TWD) 38.05 feet
Length of the water column (LWC = TWD-DGW) 11.37 feet

1 casing volume (CV = LWC X C) = 11.37 x .163 = 1.85 gals
3 casing volume 3 X CV = 5.56 gals (standard purge volume)

Total volume of Water Purged Before Sampling 5.75 gals
Total volume of Water Purged for Post Sampling 4.25 gals
9.0 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	2.25	4.25					
Time (military)	1518	1523	15:27					1529
pH (s.u.)	5.4	4.9	4.8					
Specific Cond. (umhos/cm)	0.04	0.05	0.04					
Water Temperature (degrees C)	20	20	20					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	5.6	4.7	4.3					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Cloudy 80°
Ambient Air Temperature: 27 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-18
Well Diameter (D): 2" 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 Ground Water (DGW) 36.88 feet
Total Well Depth (TWD) 101.96 feet
Length of the water column (LWC = TWD-DGW) 65.08 feet

1 casing volume (CV = LWC X C) = 65.08 x .163 = 10.61 gals
3 casing volume 3 X CV = 31.83 gals (standard purge volume)

Total volume of Water Purged Before Sampling 14.50 gals
Total volume of Water Purged for Post Sampling 3.00 gals
17.50 Total Purged

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

	Initial	1st Vol. *	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	2.75					3.00	
Time (military)	1207	12:11					12:17	12:15
pH (s.u.)	7.8	7.6					7.4	
Specific Cond. (umhos/cm)	0.11	0.11					0.11	
Water Temperature (degrees C)	20	20					19	
Turbidity (subjective: clear, slightly cloudy, cloudy)	clear	clear					clear	
Dissolved Oxygen (mg/l)	1.3	2.0					2.5	
PID readings, if required								

Remarks: purged essentially dry after 14.50 gallons developed
*purged essentially dry after 2.75 gallons purged

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/6/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 23 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-19
Well Diameter (D): 2" 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 Ground Water (DGW) 26.67 feet
Total Well Depth (TWD) 37.00 feet
Length of the water column (LWC = TWD-DGW) 10.33 feet

1 casing volume (CV = LWC X C) = 10.33 x .163 = 1.68 gals
3 casing volume 3 X CV = 5.05 gals (standard purge volume)

Total volume of Water Purged Before Sampling 5.00 gals
Total volume of Water Purged for Post Sampling 3.75 gals
8.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	2.00	3.75					
Time (military)	1851	1853	1855					1855
pH (s.u.)	5.0	5.0	5.0					
Specific Cond. (umhos/cm)	0.02	0.02	0.02					
Water Temperature (degrees C)	20	20	20					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	3.41	3.5	3.4					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/4/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 23 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-20
Well Diameter (D): 2" 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 Ground Water (DGW) 27.79 feet
Total Well Depth (TWD) 39.71 feet
Length of the water column (LWC = TWD-DGW) 11.92 feet

1 casing volume (CV = LWC X C) = 11.92 x .163 = 1.94 gals
3 casing volume 3 X CV = 5.83 gals (standard purge volume)

Total volume of Water Purged Before Sampling 6.00 gals
Total volume of Water Purged for Post Sampling 4.25 gals
10.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	2.25	4.25					
Time (military)	1710	1712	1714					1717
pH (s.u.)	4.8	4.6	4.6					
Specific Cond. (umhos/cm)	0.09	0.09	0.09					
Water Temperature (degrees C)	22	21	21					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	0.4	0.4	0.3					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-21
Well Diameter (D): 2" 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 Ground Water (DGW) 24.24 feet
Total Well Depth (TWD) 41.15 feet
Length of the water column (LWC = TWD-DGW) 16.91 feet

1 casing volume (CV = LWC X C) = 16.91 x.163 = 2.76 gals
3 casing volume 3 X CV = 8.27 gals (standard purge volume)

Total volume of Water Purged Before Sampling 8.50 gals
Total volume of Water Purged for Post Sampling 6.00 gals
14.50 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	3.00	6.00					
Time (military)	1556	1602	1608					1614
pH (s.u.)	5.4	5.4	5.4					
Specific Cond. (umhos/cm)	0.02	0.02	0.02					
Water Temperature (degrees C)	20	19	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	3.3	3.8	4.1					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-22
Well Diameter (D): 2" 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 Ground Water (DGW) 30.75 feet
Total Well Depth (TWD) 46.10 feet
Length of the water column (LWC = TWD-DGW) 15.35 feet

1 casing volume (CV = LWC X C) = 15.35 X = 2.50 gals
3 casing volume 3 X CV = 7.50 gals (standard purge volume)

Total volume of Water Purged Before Sampling 7.50 gals
Total volume of Water Purged for Post Sampling 5.25 gals
12.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	2.75	5.25					
Time (military)	1635	1638	1640					1645
pH (s.u.)	5.2	5.1	5.0					
Specific Cond. (umhos/cm)	0.04	0.04	0.04					
Water Temperature (degrees C)	19	19	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	cloudy	cloudy	cloudy					
Dissolved Oxygen (mg/l)	3.2	3.8	3.8					
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-2R
Well Diameter (D): 2" 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 Ground Water (DGW) 32.45 feet
Total Well Depth (TWD) 69.98 feet
Length of the water column (LWC = TWD-DGW) 37.53 feet

1 casing volume (CV = LWC X C) = 37.53 X .163 = 6.12 gals
3 casing volume 3 X CV = 18.35 gals (standard purge volume)

Total volume of Water Purged Before Sampling 7.25 gals
Total volume of Water Purged for Post Sampling 2.50 gals
10.35 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	1.25	2.25				2.50	
Time (military)	14:34	14:38	14:42				1448	14:46
pH (s.u.)	5.9	6.0	6.0				6.0	
Specific Cond. (umhos/cm)	0.07	0.07	0.07				0.07	
Water Temperature (degrees C)	22	22	21				21	
Turbidity (subjective: clear, slightly cloudy, cloudy)	clear	clear	clear				clear	
Dissolved Oxygen (mg/l)	1.4	2.3	3.0				2.9	
PID readings, if required								

Remarks: Purged ess. dry after puging 2.25 gallons for development essentially dry – taking readings after 1 gallon for each volume

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 9/30/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny -
Ambient Air Temperature: 22 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW25
Well Diameter (D): 2" - 0.17 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 Ground Water (DGW) 34.38 feet
Total Well Depth (TWD) 64.97 feet
Length of the water column (LWC = TWD-DGW) 30.59 feet

1 casing volume (CV = LWC X C) = 30.58 x .163 = 4.99 gals
3 casing volume 3 X CV = 14.96 gals (standard purge volume)

Total volume of Water Purged Before Sampling 9.75 dry gals
Total volume of Water Purged for Post Sampling .50 gals
10.25 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25						0.50	
Time (military)	1933						1945	1950
pH (s.u.)	5.7						5.9	
Specific Cond. (umhos/cm)	.06						0.06	
Water Temperature (degrees C)	20						20	
Turbidity (subjective: clear, slightly cloudy, cloudy)	sl. cloudy						sl. cloudy	
Dissolved Oxygen (mg/l)	3.2						3.3	
PID readings, if required								

Remarks: bailed essentially dry after 9.75 gallons purged, took initial & post readings.

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Bud Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 24 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-26
Well Diameter (D): 2" 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 Ground Water (DGW) 137.66 feet
Total Well Depth (TWD) 144.83 feet
Length of the water column (LWC = TWD-DGW) 7.17 feet

1 casing volume (CV = LWC X C) = 7.17 x = 1.17 gals
3 casing volume 3 X CV = 3.50 gals (standard purge volume)

Total volume of Water Purged Before Sampling 3.50 gals
Total volume of Water Purged for Post Sampling 1.25 gals
4.75 Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)	0.25	0.75	1.25 *					
Time (military)	12:47	12:51	12:53					12:54
pH (s.u.)	7.3	7.3	7.3					
Specific Cond. (umhos/cm)	0.38	0.39	0.39					
Water Temperature (degrees C)	19	19	19					
Turbidity (subjective: clear, slightly cloudy, cloudy)	2.3	2.3	2.4					
Dissolved Oxygen (mg/l)	clear	clear	sl. cloudy					
PID readings, if required								

Remarks: *essentially dry after 1.25 gallons purged

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 26 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # MW-23
Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____ X _____ = _____ gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks: did not sample - could not find flush mount well in overgrown field

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): 10/1/02
Field Personnel: Burt Brown
General Weather Conditions: Sunny
Ambient Air Temperature: 26 C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.		serial no.	
pH=4.0		Standard	
pH=7.0		Standard	
pH=10.0		Standard	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop
Site ID # 05981 Monitoring Well # WSW-7
Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____ X _____ = _____ gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks: No power to pump - could not access well head - did not sample

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	_____	serial no.	_____
pH=4.0	_____	Standard	_____
pH=7.0	_____	Standard	_____
pH=10.0	_____	Standard	_____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop

Site ID # 05981 Monitoring Well # _____

Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____ X _____ = _____ gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

Field Data Information Sheet for Ground-Water Sampling
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management

Date (mm/dd/yy): _____

Field Personnel: _____

General Weather Conditions: _____

Ambient Air Temperature: _____ C

Quality Assurance

pH Meter		Conductivity Meter	
serial no.	_____	serial no.	_____
pH=4.0	_____	Standard	_____
pH=7.0	_____	Standard	_____
pH=10.0	_____	Standard	_____

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Circle Stop N Shop

Site ID # 05981 Monitoring Well # _____

Well Diameter (D): _____ 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 Ground Water (DGW) _____ feet
Total Well Depth (TWD) _____ feet
Length of the water column (LWC = TWD-DGW) _____ feet

1 casing volume (CV = LWC X C) = _____ X _____ = _____ gals
3 casing volume 3 X CV = _____ gals (standard purge volume)

Total volume of Water Purged Before Sampling _____ gals
Total volume of Water Purged for Post Sampling _____ gals
_____ Total Purged

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

	Initial	1st Vol.	2nd Vol.	3rd Vol.	4th Vol.	5th Vol.	Post Sampling	Sample
Cumulative Volume Purged (gallons)								
Time (military)								
pH (s.u.)								
Specific Cond. (umhos/cm)								
Water Temperature (degrees C)								
Turbidity (subjective: clear, slightly cloudy, cloudy)								
Dissolved Oxygen (mg/l)								
PID readings, if required								

Remarks:

Pace® Analytical

The Right Chemistry, The Right Solution®

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 — 17325 512775

Required Client Information: **Section A**

Company: SC DHEC
Address: 2600 Bull Street, Columbia SC 29201
Phone: 803 896 4240 Fax: 803 896 4245

Required Client Information: **Section B**

Report To: Calvin Thomas
Invoice To: Pat Holland
P.O.: 404342
Project Name: Circle Stop N Shop
Project Number: 05481

Client Information (Check quote/contract):
Requested Due Date: Normal
*TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: PAH, Lead, Methane, Methane, Methane

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	PAH	Lead	Methane	Methane	Methane	Remarks / Lab ID
1	MW-1	WT	10/1/02	1140	5	X			X			X	X				
2	MW-2	WT	10/1/02	1425	5	X			X			X	X				
3	MW-3	WT	10/1/02	13:30	5	X			X			X	X				
4	MW-4	WT	10/1/02	10:12	5	X			X			X	X	X			gasoline odor
5	MW-5	WT	10/1/02	11:[illegible]	5	X			X			X	X	X			0847 sample time
6	MW-6	WT	10/1/02	1820	5	X			X			X	X	X			
7	MW-7		no	sample						Fire		Fire	out				
8	MW-8	WT	10/1/02	1915	5				X				X	X			
9	MW-9		no	sample						dry							
10	MW-10		no	sample						dry							
11	MW-11	WT	10/1/02	9:05 A	5	X			X			X	X	X			
12	MW-12	WT	10/1/02	8:38	5	X			X			X	X	X			

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:				Burt Brown / GRI	10/1/02	8:55	FedEx	10/1/02	9:05
Received on ICE:	Y / N								
Sealed Cooler:	Y / N								
Samples Intact:	Y / N								

Additional Comments:

PACE # 17307.P

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Burt Brown
SIGNATURE of SAMPLER: Burt Brown
DATE Signed: (MM / DD / YY) 10/01/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical Services, Inc. Form COC01.XLS 12/99

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

Pace® Analytical

The Right Chemistry, The Right Solution®

CHAIN-OF-CUSTODY / Analytical Request Document

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

Page: 2 of 3

512776

To Be Completed by Pace Analytical and Client

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull Street, Columbia SC 29201
Phone: 803-896-6240 Fax: 803-896-6245

Required Client Information: **Section B**

Report To: Debra Thomas
Invoice To: Pat Holland
P.O.: 40432
Project Name: Little Store Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: normal *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

Section C To Be Completed by Pace Analytical and Client

Quote Reference:
Project Manager:
Project #:
Profile #:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: RCRA Strip Metals, Nitrate/Sulfate, Percent Moisture

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh: mm a/p)	# Containers	Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Remarks / Lab ID
1	MW-13	WT	10/1/02	1534	5	X			X			
2	MW-14	WT	10/1/02	1840	5	X			X			
3	MW-15	WT	10/1/02	1738	5	X			X			
4	MW-16	WT	10/1/02	1755	5	X			X			
5	MW-17	WT	10/1/02	1529	5	X			X			
6	MW-18	WT	10/1/02	1215	5	X			X			
7	MW-19	WT	10/1/02	1855	5	X			X			
8	MW-20	WT	10/1/02	1717	5	X			X			
9	MW-21	WT	10/1/02	1614	5	X			X			
10	MW-22	WT	10/1/02	1645	5	X			X			
11	MW-23	AO	Source		1							Lab to fill
12	MW-24	WT	10/1/02	1446P	5	X			X			

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:				Burt Brown / GRI	10/1/02	2:55	FedEx	10/1/02	2:55
Received on ICE:	Y / N								
Sealed Cooler:	Y / N								
Samples Intact:	Y / N								

Additional Comments:

PACE C.N.# 17307.P

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Burt Brown
SIGNATURE of SAMPLER: Burt Brown
DATE Signed: (MM / DD / YY) 10/01/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical Services, Inc. Form COC01.XLS 12/99

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

Page: 3 of 3

512777

To Be Completed by Pace Analytical and Client

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201
Phone: 803-896-6240 Fax: 803-896-6295

Required Client Information: **Section B**

Report To: Cathy Thomas
Invoice To: Burt Holland
P.O.: 901342
Project Name: Circle Stop N Shop
Project Number: 05481

Client Information (Check quote/contract):
Requested Due Date: Normal *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:
Requested Analysis:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Remarks / Lab ID
1	MW-25	WT	10/1/02	1950	5	X			X			
2	MW-26	WT	10/1/02	1954	5	X			X			
3	WSW-1		no sample									Pump not working, collect sample
4	WSW-2	WT	10/1/02	1955	3				X			
5												
6												
7												
8												
9												
10												
11												
12												

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:				Burt Brown / GRI	10/1/02	8:55	FedEx	10/1/02	8:55
Received on ICE:	Y / N								
Sealed Cooler:	Y / N								
Samples Intact:	Y / N								

Additional Comments:

PACE CH# 17307P

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Burt Brown
SIGNATURE of SAMPLER: Burt Brown
DATE Signed: (MM / DD / YY) 10/01/02

SEE REVERSE SIDE FOR INSTRUCTIONS

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Instructions for completing Chain of Custody (COC)

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HAZ~MAT

TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237
(704) 332-5600
FAX (704) 375-7183

NON-HAZARDOUS SPECIAL WASTE

Manifest No. _____

P.O. No. _____

Job No. _____

Section I. GENERATOR (Generator completes all of Section I)

GENERATOR LOCATION

NAME _____

ORIGINATING ADDRESS _____

MAILING ADDRESS _____

CITY _____ ST ATE _____ ZIP _____

PHONE NO. _____

CONTACT NAME _____

WORK CONTRACTED BY
Bill To (If different from information at left)

NAME _____

ADDRESS _____

CITY _____ ST ATE _____ ZIP _____

PHONE NO. _____

CONTACT NAME _____

DES. OF WASTE: _____ No. | Type | Units | Quantity

Section II. INVOICE INFORMATION

	DESCRIPTION	QUANTITY GALLONS	QUANTITY DRUMS	LINE TOTAL	
1.	WATER, OIL & COOLANT PUMPED FROM TANKS OR DRUMS				
2.	OFF SPEC LIGHT OIL, WATER & GAS PUMPED FROM TANKS OR DRUMS				
3.	55 GALLON DRUMS REMOVED - SOLID				
4.	55 GALLON DRUMS REMOVED - LIQUID	172.25			
5.					
6.					
7.					
8.					
9.	ARRIVAL TIME:				
10.	DEPARTURE TIME:				

GENERATOR'S CERTIFICATION: I hereby certify that the above named material is not a hazardous waste as defined by 40 CFR Part 261 or any applicable state law, has been properly described, classified and packaged, and is in proper condition for transportation according to applicable regulations; AND, if the waste is a treatment residue of a previously restricted hazardous waste subject to the Land Disposal Restrictions, I certify and warrant that the waste has been treated in accordance with the requirements of 40 CFR Part 268 and is no longer a hazardous waste as defined by 40 CFR Part 261.

Generator Authorized Agent Name _____ Signature _____ Shipment Date _____

Section III. TRANSPORTER

TRANSPORTER (Generator complete a-d: Transporter I complete e-g; Transporter II complete h-n)

HAZ~MAT
TRANSPORTATION AND DISPOSAL
P. O. BOX 37392 • CHARLOTTE, N.C. 28237

a. Driver Name / Title _____

b. Phone No. _____ c. Truck No. _____

Hazardous Waste Transporter Permits
EPA NCR 000003186
EPA NCD048461370

d. _____ Driver Signature _____ Shipment Date

TRANSPORTER II

e. Name _____

f. Address _____

g. Driver Name / Title _____

h. Phone No. _____ I. Truck No. _____

j. Transporter II Permit Nos. _____

_____ Driver Signature _____ Shipment Date

Section IV. FACILITY INFORMATION AND CERTIFICATE OF DISPOSAL

Site Name: Haz-Mat Transportation & Disposal, Inc.
Physical Address: 210 Dalton Avenue
Charlotte, N.C. 28237

a. Phone No. 704-332-5600
b. Mailing Address: P.O. Box 37392
Charlotte, N.C. 28237

e. Discrepancy Indication Space _____

This is to certify that all non-hazardous material removed from above location has been received and will be disposed of in accordance with applicable local, state and federal regulations in the following manner: (1) Petroleum products are blended into a beneficial reusable fuel for use in large industrial burners. (2) Waste waters are to be treated with polymers, pH adjusters, and a flocculant, then flows through a dissolved air flotation system for pretreatment separation, then into the CMUD sanitation sewer system under permit IUP#5012. (3) Sludges from treatment systems are hauled to E.P.A. approved facilities for proper disposal. Manifest and certificate of disposal are on file. (4) Our treatment system operates on a first in, first out basis and product should be processed within seven days.

SIGNATURE OF FACILITY AGENT	DATE	MONTH	DAY	YEAR

Pace Analytical™
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

October 10, 2002

RECEIVED
OCT 11 2002
Underground Storage
Tank Program

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

RE: Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on October 2, 2002. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Sherri Howard
Sherri.Howard@pacelabs.com
Project Manager

Enclosures

UST PROGRAM
DOCKETING # 33 Tech

Laboratory Certification IDs	
NC Wastewater	12
NC Drinking Water	37706
SC	99006

REPORT OF LABORATORY ANALYSIS

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Laboratory Certification IDs	
LA Wastewater	04034
VA Drinking Water	213
FL NELAP	E87627

ACCREDITED IN ACCORDANCE WITH nelac

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www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551023 | Project Sample Number: 9237166-001 | Date Collected: 10/01/02 19:40
Client Sample ID: MW-1 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	1.5	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	2300	ug/l	1000	200	10/03/02 15:24	RWS	71-43-2		
Ethylbenzene	3300	ug/l	1000	200	10/03/02 15:24	RWS	100-41-4		
Methyl-tert-butyl ether	2100	ug/l	1000	200	10/03/02 15:24	RWS	1634-04-4		
Naphthalene	710	ug/l	5.0	1.0	10/03/02 15:24	RWS	91-20-3	2	
Toluene	29000	ug/l	1000	200	10/03/02 15:24	RWS	108-88-3		
m&p-Xylene	13000	ug/l	2000	200	10/03/02 15:24	RWS			
o-Xylene	5900	ug/l	1000	200	10/03/02 15:24	RWS	95-47-6		
Toluene-d8 (S)	57	%		1.0	10/03/02 15:24	RWS	2037-26-5	3	
4-Bromofluorobenzene (S)	148	%		1.0	10/03/02 15:24	RWS	460-00-4	4	
Dibromofluoromethane (S)	101	%		1.0	10/03/02 15:24	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	10/03/02 15:24	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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VA Drinking Water 213
FL NELAP E87627

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9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551031 | Project Sample Number: 9237166-002 | Date Collected: 10/01/02 14:05
Client Sample ID: MW-2 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	1.8	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	10000	ug/l	2500	500	10/03/02 15:40	RWS	71-43-2		
Ethylbenzene	2600	ug/l	5.0	1.0	10/03/02 15:40	RWS	100-41-4	2	
Methyl-tert-butyl ether	1300	ug/l	5.0	1.0	10/03/02 15:40	RWS	1634-04-4	2	
Naphthalene	520	ug/l	5.0	1.0	10/03/02 15:40	RWS	91-20-3	2	
Toluene	26000	ug/l	2500	500	10/03/02 15:40	RWS	108-88-3		
m&p-Xylene	5200	ug/l	5000	500	10/03/02 15:40	RWS			
o-Xylene	4200	ug/l	5.0	1.0	10/03/02 15:40	RWS	95-47-6	2	
Toluene-d8 (S)	65	%		1.0	10/03/02 15:40	RWS	2037-26-5	3	
4-Bromofluorobenzene (S)	142	%		1.0	10/03/02 15:40	RWS	460-00-4	4	
Dibromofluoromethane (S)	96	%		1.0	10/03/02 15:40	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	134	%		1.0	10/03/02 15:40	RWS	17060-07-0	4	

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551049 | Project Sample Number: 9237166-003 | Date Collected: 10/01/02 13:30
Client Sample ID: MW-3 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	85.	ug/l	5.0	1.0	10/04/02 19:49	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 19:49	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 19:49	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 19:49	RWS	91-20-3		
Toluene	93.	ug/l	5.0	1.0	10/04/02 19:49	RWS	108-88-3		
m&p-Xylene	71.	ug/l	10.	1.0	10/04/02 19:49	RWS			
o-Xylene	31.	ug/l	5.0	1.0	10/04/02 19:49	RWS	95-47-6		
Toluene-d8 (S)	100	%		1.0	10/04/02 19:49	RWS	2037-26-5		
4-Bromofluorobenzene (S)	92	%		1.0	10/04/02 19:49	RWS	460-00-4		
Dibromofluoromethane (S)	106	%		1.0	10/04/02 19:49	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	119	%		1.0	10/04/02 19:49	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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Laboratory Certification IDs
LA Wastewater 04034
VA Drinking Water 213
FL NELAP E87627

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551056 | Project Sample Number: 9237166-004 | Date Collected: 10/01/02 10:12
Client Sample ID: MW-4 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	1.8	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	1.2	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	5500	ug/l	2500	500	10/03/02 16:11	RWS	71-43-2		
Ethylbenzene	3900	ug/l	2500	500	10/03/02 16:11	RWS	100-41-4		
Methyl-tert-butyl ether	6400	ug/l	2500	500	10/03/02 16:11	RWS	1634-04-4		
Naphthalene	590	ug/l	5.0	1.0	10/03/02 16:11	RWS	91-20-3	2	
Toluene	47000	ug/l	2500	500	10/03/02 16:11	RWS	108-88-3		
m&p-Xylene	12000	ug/l	5000	500	10/03/02 16:11	RWS			
o-Xylene	5900	ug/l	2500	500	10/03/02 16:11	RWS	95-47-6		
Toluene-d8 (S)	54	%		1.0	10/03/02 16:11	RWS	2037-26-5	3	
4-Bromofluorobenzene (S)	139	%		1.0	10/03/02 16:11	RWS	460-00-4	4	
Dibromofluoromethane (S)	95	%		1.0	10/03/02 16:11	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	10/03/02 16:11	RWS	17060-07-0		

Laboratory Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551064 | Project Sample Number: 9237166-005 | Date Collected: 10/01/02 09:47
Client Sample ID: MW-5 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	2.6	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 20:20	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 20:20	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 20:20	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 20:20	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 20:20	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 20:20	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 20:20	RWS	95-47-6		
Toluene-d8 (S)	97	%		1.0	10/04/02 20:20	RWS	2037-26-5		
4-Bromofluorobenzene (S)	85	%		1.0	10/04/02 20:20	RWS	460-00-4		
Dibromofluoromethane (S)	103	%		1.0	10/04/02 20:20	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	113	%		1.0	10/04/02 20:20	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551072 | Project Sample Number: 9237166-006 | Date Collected: 10/01/02 18:20
Client Sample ID: MW-6 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.23	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	1.9	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 20:36	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 20:36	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 20:36	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 20:36	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 20:36	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 20:36	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 20:36	RWS	95-47-6		
Toluene-d8 (S)	102	%		1.0	10/04/02 20:36	RWS	2037-26-5		
4-Bromofluorobenzene (S)	91	%		1.0	10/04/02 20:36	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	10/04/02 20:36	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	119	%		1.0	10/04/02 20:36	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551080 | Project Sample Number: 9237166-007 | Date Collected: 10/01/02 19:15
Client Sample ID: MW-8 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.19	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	2.0	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 20:52	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 20:52	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 20:52	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 20:52	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 20:52	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 20:52	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 20:52	RWS	95-47-6		
Toluene-d8 (S)	99	%		1.0	10/04/02 20:52	RWS	2037-26-5		
4-Bromofluorobenzene (S)	91	%		1.0	10/04/02 20:52	RWS	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	10/04/02 20:52	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	112	%		1.0	10/04/02 20:52	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551098 | Project Sample Number: 9237166-008 | Date Collected: 10/01/02 09:08
Client Sample ID: MW-11 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	1.0	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	1.3	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 21:08	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 21:08	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 21:08	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 21:08	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 21:08	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 21:08	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 21:08	RWS	95-47-6		
Toluene-d8 (S)	99	%		1.0	10/04/02 21:08	RWS	2037-26-5		
4-Bromofluorobenzene (S)	88	%		1.0	10/04/02 21:08	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	10/04/02 21:08	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	119	%		1.0	10/04/02 21:08	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551106 | Project Sample Number: 9237166-009 | Date Collected: 10/01/02 08:38
Client Sample ID: MW-12 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.32	mg/l	0.10	1.0	10/02/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	10/02/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 21:23	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 21:23	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 21:23	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 21:23	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 21:23	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 21:23	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 21:23	RWS	95-47-6		
Toluene-d8 (S)	93	%		1.0	10/04/02 21:23	RWS	2037-26-5		
4-Bromofluorobenzene (S)	90	%		1.0	10/04/02 21:23	RWS	460-00-4		
Dibromofluoromethane (S)	113	%		1.0	10/04/02 21:23	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	125	%		1.0	10/04/02 21:23	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551114 | Project Sample Number: 9237166-010 | Date Collected: 10/01/02 11:09
Client Sample ID: MW-13 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	7.0	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	7400	ug/l	2500	500	10/03/02 17:44	RWS	71-43-2		
Ethylbenzene	2500	ug/l	2500	500	10/03/02 17:44	RWS	100-41-4		
Methyl-tert-butyl ether	69000	ug/l	2500	500	10/03/02 17:44	RWS	1634-04-4		
Naphthalene	290	ug/l	5.0	1.0	10/03/02 17:44	RWS	91-20-3	2	
Toluene	14000	ug/l	2500	500	10/03/02 17:44	RWS	108-88-3		
m&p-Xylene	4800	ug/l	10.	1.0	10/03/02 17:44	RWS		2	
o-Xylene	2900	ug/l	5.0	1.0	10/03/02 17:44	RWS	95-47-6	2	
Toluene-d8 (S)	72	%		1.0	10/03/02 17:44	RWS	2037-26-5	3	
4-Bromofluorobenzene (S)	135	%		1.0	10/03/02 17:44	RWS	460-00-4	4	
Dibromofluoromethane (S)	98	%		1.0	10/03/02 17:44	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	113	%		1.0	10/03/02 17:44	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551122 | Project Sample Number: 9237166-011 | Date Collected: 10/01/02 18:40
Client Sample ID: MW-14 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.7	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/07/02 19:04	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/07/02 19:04	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/07/02 19:04	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/07/02 19:04	RWS	91-20-3		
Toluene	6.3	ug/l	5.0	1.0	10/07/02 19:04	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/07/02 19:04	RWS			
o-Xylene	7.5	ug/l	5.0	1.0	10/07/02 19:04	RWS	95-47-6		
Toluene-d8 (S)	95	%		1.0	10/07/02 19:04	RWS	2037-26-5		
4-Bromofluorobenzene (S)	91	%		1.0	10/07/02 19:04	RWS	460-00-4		
Dibromofluoromethane (S)	106	%		1.0	10/07/02 19:04	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	104	%		1.0	10/07/02 19:04	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551130 | Project Sample Number: 9237166-012 | Date Collected: 10/01/02 17:38
Client Sample ID: MW-15 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.31	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 22:26	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 22:26	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 22:26	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 22:26	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 22:26	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 22:26	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 22:26	RWS	95-47-6		
Toluene-d8 (S)	99	%		1.0	10/04/02 22:26	RWS	2037-26-5		
4-Bromofluorobenzene (S)	92	%		1.0	10/04/02 22:26	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	10/04/02 22:26	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	125	%		1.0	10/04/02 22:26	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551148 | Project Sample Number: 9237166-013 | Date Collected: 10/01/02 17:58
Client Sample ID: MW-16 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	2.9	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.8	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 22:42	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 22:42	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 22:42	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 22:42	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 22:42	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 22:42	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 22:42	RWS	95-47-6		
Toluene-d8 (S)	100	%		1.0	10/04/02 22:42	RWS	2037-26-5		
4-Bromofluorobenzene (S)	92	%		1.0	10/04/02 22:42	RWS	460-00-4		
Dibromofluoromethane (S)	110	%		1.0	10/04/02 22:42	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	122	%		1.0	10/04/02 22:42	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551155 | Project Sample Number: 9237166-014 | Date Collected: 10/01/02 15:29
Client Sample ID: MW-17 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.98	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.6	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/04/02 22:58	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/04/02 22:58	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/04/02 22:58	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/04/02 22:58	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/04/02 22:58	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/04/02 22:58	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/04/02 22:58	RWS	95-47-6		
Toluene-d8 (S)	98	%		1.0	10/04/02 22:58	RWS	2037-26-5		
4-Bromofluorobenzene (S)	100	%		1.0	10/04/02 22:58	RWS	460-00-4		
Dibromofluoromethane (S)	109	%		1.0	10/04/02 22:58	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	123	%		1.0	10/04/02 22:58	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551205 | Project Sample Number: 9237166-015 | Date Collected: 10/01/02 12:15
Client Sample ID: MW-18 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.5	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	500	100	10/03/02 20:37	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 20:37	RWS	100-41-4		
Methyl-tert-butyl ether	2300	ug/l	500	100	10/03/02 20:37	RWS	1634-04-4		
Naphthalene	24.	ug/l	5.0	1.0	10/03/02 20:37	RWS	91-20-3		
Toluene	6.9	ug/l	5.0	1.0	10/03/02 20:37	RWS	108-88-3		
m&p-Xylene	100	ug/l	10.	1.0	10/03/02 20:37	RWS			
o-Xylene	39.	ug/l	5.0	1.0	10/03/02 20:37	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	10/03/02 20:37	RWS	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	10/03/02 20:37	RWS	460-00-4		
Dibromofluoromethane (S)	101	%		1.0	10/03/02 20:37	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	112	%		1.0	10/03/02 20:37	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551213 | Project Sample Number: 9237166-016 | Date Collected: 10/01/02 18:55
Client Sample ID: MW-19 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.28	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	ND	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/03/02 20:52	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 20:52	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/03/02 20:52	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/03/02 20:52	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/03/02 20:52	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/03/02 20:52	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/03/02 20:52	RWS	95-47-6		
Toluene-d8 (S)	88	%		1.0	10/03/02 20:52	RWS	2037-26-5		
4-Bromofluorobenzene (S)	90	%		1.0	10/03/02 20:52	RWS	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	10/03/02 20:52	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	10/03/02 20:52	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551221 | Project Sample Number: 9237166-017 | Date Collected: 10/01/02 17:17
Client Sample ID: MW-20 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.43	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.3	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/03/02 21:08	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 21:08	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/03/02 21:08	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/03/02 21:08	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/03/02 21:08	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/03/02 21:08	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/03/02 21:08	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	10/03/02 21:08	RWS	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	10/03/02 21:08	RWS	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	10/03/02 21:08	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	109	%		1.0	10/03/02 21:08	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551239 | Project Sample Number: 9237166-018 | Date Collected: 10/01/02 16:14
Client Sample ID: MW-21 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.58	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.4	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/07/02 19:35	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/07/02 19:35	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/07/02 19:35	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/07/02 19:35	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/07/02 19:35	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/07/02 19:35	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/07/02 19:35	RWS	95-47-6		
Toluene-d8 (S)	87	%		1.0	10/07/02 19:35	RWS	2037-26-5		
4-Bromofluorobenzene (S)	93	%		1.0	10/07/02 19:35	RWS	460-00-4		
Dibromofluoromethane (S)	101	%		1.0	10/07/02 19:35	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		1.0	10/07/02 19:35	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551247 | Project Sample Number: 9237166-019 | Date Collected: 10/01/02 16:45
Client Sample ID: MW-22 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	0.62	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	2.0	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/03/02 21:39	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 21:39	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	10/03/02 21:39	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/03/02 21:39	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/03/02 21:39	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/03/02 21:39	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/03/02 21:39	RWS	95-47-6		
Toluene-d8 (S)	88	%		1.0	10/03/02 21:39	RWS	2037-26-5		
4-Bromofluorobenzene (S)	91	%		1.0	10/03/02 21:39	RWS	460-00-4		
Dibromofluoromethane (S)	102	%		1.0	10/03/02 21:39	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	105	%		1.0	10/03/02 21:39	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551254 | Project Sample Number: 9237166-020 | Date Collected: 10/01/02 14:46
Client Sample ID: MW-24 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.8	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/03/02 21:55	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 21:55	RWS	100-41-4		
Methyl-tert-butyl ether	32.	ug/l	5.0	1.0	10/03/02 21:55	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/03/02 21:55	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/03/02 21:55	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/03/02 21:55	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/03/02 21:55	RWS	95-47-6		
Toluene-d8 (S)	88	%		1.0	10/03/02 21:55	RWS	2037-26-5		
4-Bromofluorobenzene (S)	92	%		1.0	10/03/02 21:55	RWS	460-00-4		
Dibromofluoromethane (S)	101	%		1.0	10/03/02 21:55	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	108	%		1.0	10/03/02 21:55	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551262 | Project Sample Number: 9237166-021 | Date Collected: 10/01/02 19:50
Client Sample ID: MW-25 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	1.8	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/03/02 22:11	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 22:11	RWS	100-41-4		
Methyl-tert-butyl ether	9.2	ug/l	5.0	1.0	10/03/02 22:11	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/03/02 22:11	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/03/02 22:11	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/03/02 22:11	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/03/02 22:11	RWS	95-47-6		
Toluene-d8 (S)	92	%		1.0	10/03/02 22:11	RWS	2037-26-5		
4-Bromofluorobenzene (S)	90	%		1.0	10/03/02 22:11	RWS	460-00-4		
Dibromofluoromethane (S)	100	%		1.0	10/03/02 22:11	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	103	%		1.0	10/03/02 22:11	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551270 | Project Sample Number: 9237166-022 | Date Collected: 10/01/02 12:54
Client Sample ID: MW-26 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
Wet Chemistry									
Ion Chromatography	Method: EPA 300.0								
Nitrate	ND	mg/l	0.10	1.0	10/03/02	HEH			
Sulfate	55.	mg/l	1.0	1.0	10/03/02	HEH			
Iron, Ferrous	Method: SM 3500-Fe D#4								
Iron, Ferrous	ND	mg/l	0.50	1.0	10/08/02	HEH		1	
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/03/02 22:26	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 22:26	RWS	100-41-4		
Methyl-tert-butyl ether	110	ug/l	5.0	1.0	10/03/02 22:26	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/03/02 22:26	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/03/02 22:26	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/03/02 22:26	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/03/02 22:26	RWS	95-47-6		
Toluene-d8 (S)	91	%		1.0	10/03/02 22:26	RWS	2037-26-5		
4-Bromofluorobenzene (S)	95	%		1.0	10/03/02 22:26	RWS	460-00-4		
Dibromofluoromethane (S)	107	%		1.0	10/03/02 22:26	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	114	%		1.0	10/03/02 22:26	RWS	17060-07-0		

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Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

Lab Sample No: 922551288 | Project Sample Number: 9237166-023 | Date Collected: 10/01/02 16:55
Client Sample ID: WSW-2 | Matrix: Water | Date Received: 10/02/02 10:30

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	ND	ug/l	5.0	1.0	10/03/02 22:42	RWS	71-43-2		
Ethylbenzene	ND	ug/l	5.0	1.0	10/03/02 22:42	RWS	100-41-4		
Methyl-tert-butyl ether	5.9	ug/l	5.0	1.0	10/03/02 22:42	RWS	1634-04-4		
Naphthalene	ND	ug/l	5.0	1.0	10/03/02 22:42	RWS	91-20-3		
Toluene	ND	ug/l	5.0	1.0	10/03/02 22:42	RWS	108-88-3		
m&p-Xylene	ND	ug/l	10.	1.0	10/03/02 22:42	RWS			
o-Xylene	ND	ug/l	5.0	1.0	10/03/02 22:42	RWS	95-47-6		
Toluene-d8 (S)	91	%		1.0	10/03/02 22:42	RWS	2037-26-5		
4-Bromofluorobenzene (S)	87	%		1.0	10/03/02 22:42	RWS	460-00-4		
Dibromofluoromethane (S)	105	%		1.0	10/03/02 22:42	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	105	%		1.0	10/03/02 22:42	RWS	17060-07-0		

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NC Wastewater 12
NC Drinking Water 37706
SC 99006

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VA Drinking Water 213
FL NELAP E87627

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www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	Analysis conducted in excess of EPA recommended holding time.
[2]	Compound concentration exceeds the calibration range of the instrument (CLP E-Flag).
[3]	Low surrogate recovery was confirmed as a matrix effect by a second analysis.
[4]	High surrogate recovery was confirmed as a matrix effect by a second analysis.

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Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

QC Batch: 64074 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922551023 922551031 922551049 922551056 922551064 922551072 922551080 922551098 922551106 922551114 922551122

METHOD BLANK: 922553763
Associated Lab Samples: 922551023 922551031 922551049 922551056 922551064 922551072 922551080 922551098 922551106 922551114 922551122

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	91		
4-Bromofluorobenzene (S)	%	94		
Dibromofluoromethane (S)	%	99		
1,2-Dichloroethane-d4 (S)	%	94		

LABORATORY CONTROL SAMPLE: 922553771

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	45.17	90	
Ethylbenzene	ug/l	50.00	45.50	91	
Methyl-tert-butyl ether	ug/l	50.00	44.68	89	
Naphthalene	ug/l	50.00	34.68	69	
Toluene	ug/l	50.00	43.04	86	
m&p-Xylene	ug/l	100.00	81.92	82	
o-Xylene	ug/l	50.00	41.13	82	
Toluene-d8 (S)				92	
4-Bromofluorobenzene (S)				84	
Dibromofluoromethane (S)				106	
1,2-Dichloroethane-d4 (S)				104	

Laboratory Certification IDs
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Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922553789 922553797

Parameter	Units	922551023 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Benzene	ug/l	2296	50.00	1609	1633	0	0	1	1,1
Toluene	ug/l	29340	50.00	4512	4508	0	0	0	1,1
Toluene-d8 (S)						62	65		2,2
4-Bromofluorobenzene (S)						137	142		3,3
Dibromofluoromethane (S)						101	98		
1,2-Dichloroethane-d4 (S)						115	115		

SAMPLE DUPLICATE: 922553805

Parameter	Units	922551122 Result	DUP Result	RPD	Footnotes
Benzene	ug/l	ND	ND	NC	
Ethylbenzene	ug/l	ND	ND	NC	
Methyl-tert-butyl ether	ug/l	ND	ND	NC	
Naphthalene	ug/l	ND	ND	NC	
Toluene	ug/l	6.300	ND	NC	
m&p-Xylene	ug/l	ND	ND	NC	
o-Xylene	ug/l	7.500	ND	NC	
Toluene-d8 (S)	%	95	98		
4-Bromofluorobenzene (S)	%	91	90		
Dibromofluoromethane (S)	%	106	115		
1,2-Dichloroethane-d4 (S)	%	104	127		

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Phone: 704.875.9092
Fax: 704.875.9091

QUALITY CONTROL DATA

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

QC Batch: 64075 — Analysis Method: EPA 8260
QC Batch Method: EPA 8260 — Analysis Description: GC/MS VOCs by 8260
Associated Lab Samples: 922551130 922551148 922551155 922551205 922551213 922551221 922551239 922551247 922551254 922551262 922551270 922551288

METHOD BLANK: 922553813
Associated Lab Samples: 922551130 922551148 922551155 922551205 922551213 922551221 922551239 922551247 922551254 922551262 922551270 922551288

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Benzene	ug/l	ND	5.0	
Ethylbenzene	ug/l	ND	5.0	
Methyl-tert-butyl ether	ug/l	ND	5.0	
Naphthalene	ug/l	ND	5.0	
Toluene	ug/l	ND	5.0	
m&p-Xylene	ug/l	ND	10.	
o-Xylene	ug/l	ND	5.0	
Toluene-d8 (S)	%	101		
4-Bromofluorobenzene (S)	%	100		
Dibromofluoromethane (S)	%	101		
1,2-Dichloroethane-d4 (S)	%	97		

LABORATORY CONTROL SAMPLE: 922553821

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Benzene	ug/l	50.00	42.18	84	
Ethylbenzene	ug/l	50.00	42.33	85	
Methyl-tert-butyl ether	ug/l	50.00	36.16	72	
Naphthalene	ug/l	50.00	34.82	70	
Toluene	ug/l	50.00	44.85	90	
m&p-Xylene	ug/l	100.00	93.55	94	
o-Xylene	ug/l	50.00	46.07	92	
Toluene-d8 (S)				98	
4-Bromofluorobenzene (S)				96	
Dibromofluoromethane (S)				97	
1,2-Dichloroethane-d4 (S)				99	

Laboratory Certification IDs
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QUALITY CONTROL DATA

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

QC Batch: 64288 — Analysis Method: SM 3500-Fe D#4
QC Batch Method: SM 3500-Fe D#4 — Analysis Description: Iron, Ferrous
Associated Lab Samples: 922551023, 922551031, 922551049, 922551056, 922551064, 922551072, 922551080, 922551098, 922551106, 922551114, 922551122, 922551130, 922551148, 922551155, 922551205, 922551213, 922551221, 922551239, 922551247, 922551254

METHOD BLANK: 922561642
Associated Lab Samples: 922551023, 922551031, 922551049, 922551056, 922551064, 922551072, 922551080, 922551098, 922551106, 922551114, 922551122, 922551130, 922551148, 922551155, 922551205, 922551213, 922551221, 922551239, 922551247, 922551254

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Iron, Ferrous	mg/l	ND	0.50	

SAMPLE DUPLICATE: 922561659

Parameter	Units	922551023 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	4

SAMPLE DUPLICATE: 922561667

Parameter	Units	922551122 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	4

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QUALITY CONTROL DATA

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

QC Batch: 64289 Analysis Method: SM 3500-Fe D#4
QC Batch Method: SM 3500-Fe D#4 Analysis Description: Iron, Ferrous
Associated Lab Samples: 922551262 922551270

METHOD BLANK: 922561675
Associated Lab Samples: 922551262 922551270

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Iron, Ferrous	mg/l	ND	0.50	

SAMPLE DUPLICATE: 922561683

Parameter	Units	922551262 Result	DUP Result	RPD	Footnotes
Iron, Ferrous	mg/l	ND	ND	NC	4

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QUALITY CONTROL DATA

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

QC Batch: 64035 — Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 — Analysis Description: Ion Chromatography
Associated Lab Samples: 922551023 922551031 922551049 922551056 922551064 922551072 922551080 922551098 922551106 922551114 922551122 922551130 922551148 922551155 922551205 922551213 922551221

METHOD BLANK: 922552401
Associated Lab Samples: 922551023 922551031 922551049 922551056 922551064 922551072 922551080 922551098 922551106 922551114 922551122 922551130 922551148 922551155 922551205 922551213 922551221

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Nitrate	mg/l	ND	0.10	
Sulfate	mg/l	ND	1.0	

LABORATORY CONTROL SAMPLE: 922552419

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Nitrate	mg/l	10.00	9.980	100	
Sulfate	mg/l	100.00	101.2	101	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922552427 922552435

Parameter	Units	922551205 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Nitrate	mg/l	0	10.00	10.08	10.02	101	100	1	
Sulfate	mg/l	1.490	100.00	103.1	103.3	102	102	0	

SAMPLE DUPLICATE: 922552443

Parameter	Units	922551221 Result	DUP Result	RPD	Footnotes
Nitrate	mg/l	0.4300	0.4300	0	
Sulfate	mg/l	1.300	1.400	1	

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QUALITY CONTROL DATA

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

QC Batch: 64036 — Analysis Method: EPA 300.0
QC Batch Method: EPA 300.0 — Analysis Description: Ion Chromatography
Associated Lab Samples: 922551239 922551247 922551254 922551262 922551270

METHOD BLANK: 922552450
Associated Lab Samples: 922551239 922551247 922551254 922551262 922551270

Parameter	Units	Blank Result	Reporting Limit	Footnotes
Nitrate	mg/l	ND	0.10	
Sulfate	mg/l	ND	1.0	

LABORATORY CONTROL SAMPLE: 922552468

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	Footnotes
Nitrate	mg/l	10.00	9.980	100	
Sulfate	mg/l	100.00	101.2	101	

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 922552476 922552484

Parameter	Units	922551262 Result	Spike Conc.	MS Result	MSD Result	MS % Rec	MSD % Rec	RPD	Footnotes
Nitrate	mg/l	0	10.00	10.06	10.12	101	101	1	
Sulfate	mg/l	1.760	100.00	104.1	104.6	102	103	1	

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Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9237166
Client Project ID: Circle Stop 05981/17307:P

QUALITY CONTROL DATA PARAMETER FOOTNOTES

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

LCS(D)	Laboratory Control Sample (Duplicate)
MS(D)	Matrix Spike (Duplicate)
DUP	Sample Duplicate
ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
RPD	Relative Percent Difference
(S)	Surrogate
[1]	The spike recovery was outside acceptance limits for the MS and/or MSD due to an analyte concentration in the sample at four times greater than the spike concentration. The QC batch was accepted based upon LCS and/or LCSD recoveries within acceptance limits.
[2]	Low surrogate recovery was confirmed as a matrix effect by a second analysis.
[3]	High surrogate recovery was confirmed as a matrix effect by a second analysis.
[4]	Analysis conducted in excess of EPA recommended holding time.

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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.

512775

Page: 1 of 3

Required Client Information: **Section A**

Company: SC DHEC
Address: 2600 Bull Street
Columbia SC 29201
Phone: 803-896-6240 Fax: 803-896-6245

Required Client Information: **Section B**

Report To: Debra Thoma
Invoice To: Pat Holland
P.O.: 404342
Project Name: Circle Stop N Shop
Project Number: 05981 / 17307:P

Client Information (Check quote/contract):
Requested Due Date: normal *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 92371166
Profile #: 17001

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh: mm a/p	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	8260 BTEX MTBE	Nitrate/Sulfate	Resource Iron	Remarks / Lab ID
1	MW-1	WT	10/1/02	1940	5	X			X			X	X	X	92255 1023
2	MW-2	WT	10/1/02	1405	5	X			X			X	X	X	92255 1031
3	MW-3	WT	10/1/02	13:30	5	X			X			X	X	X	92255 1099
4	MW-4	WT	10/1/02	10:124	5	X			X			X	X	X	92255 1056 gasoline odor
5	MW-5	WT	10/1/02	09:47	5	X			X			X	X	X	92255 1064 0947 sample time
6	MW-6	WT	10/1/02	1820	5	X			X			X	X	X	92255 1072
7	MW-7		no sample						Free product						
8	MW-8	WT	10/1/02	1915	5	X			X			X	X	X	92255 1090
9	MW-9		no sample						dry						
10	MW-10		no sample						dry						
11	MW-11	WT	10/1/02	9:08 A	5	X			X			X	X	X	92255 1098
12	MW-12	WT	10/1/02	8:38A	5	X			X			X	X	X	92255 1106

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	1.9			Burt Brown / GRI	10/1/02	9:55	FedEx	10/1/02	9:55
Received on ICE:	(Y) / N						[illegible]	10/2	1030
Sealed Cooler:	(Y) / N								
Samples Intact:	(Y) / N								

Additional Comments:
PACE # 17307:P

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Burt Brown
SIGNATURE of SAMPLER: Burt Brown
DATE Signed: (MM / DD / YY) 10/01/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical Services, Inc. Form COC01.XLS 12/99

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.
2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.
3. A separate COC must be filled out for each day of sample collection.
4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.
5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.
6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.
7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred; sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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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.

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Page: 2 of 3

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull Street, Columbia SC 29201
Phone: 803-896-6240 Fax: 803-896-6245

Required Client Information: **Section B**

Report To: Debra Thoma
Invoice To: Pat Holland
P.O.: 40432
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: normal *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #: 91-7160
Profile #:

Section D **Required** Client Information:

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID (One character per box. (A–Z, 0–9 / .–) Sample IDs MUST BE UNIQUE)	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh:mm a/p	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Requested Analysis: 8260 GC/MS Nitrate/Sulfate Ferrous Iron	Remarks / Lab ID
1	MW-13	WT	10/1/02	11:09A	5	X			X			X X X	91L551114
2	MW-14	WT	10/1/02	1840	5	X			X			X X X	
3	MW-15	WT	10/1/02	1738	5	X			X			X X X	91L551130
4	MW-16	WT	10/1/02	1738	5	X			X			X X X	91L551193
5	MW-17	WT	10/1/02	1529	5	X			X			X X X	91L551155
6	MW-18	WT	10/1/02	1215	5	X			X			X X X	91L551205
7	MW-19	WT	10/1/02	1855	5	X			X			X X X	91L551213
8	MW-20	WT	10/1/02	1717	5	X			X			X X X	91L551221
9	MW-21	WT	10/1/02	1614	5	X			X			X X X	91L551235
10	MW-22	WT	10/1/02	1645	5	X			X			X X X	91L551297
11	MW-23		NO Sample could not find well										
12	MW-24	WT	10/1/02	1446P	5	X			X			X X X	91L551254

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	1.9			Burt Brown / GRI	10/1/02	8:55	FedEx	10/1/02	8:55
Received on ICE:	(Y) / N						[illegible]	10/2	1030
Sealed Cooler:	(Y) / N								
Samples Intact:	(Y) / N								

Additional Comments:

PACE CA# 17307.8

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Burt Brown
SIGNATURE of SAMPLER: Burt Brown
DATE Signed: (MM / DD / YY) 10/01/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical Services, Inc. Form COC01.XLS 12/99

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

4. Sampler should print their name in the space provided and sign their name followed by the date of the sampling event.

5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

6. Analysis Requested: Complete analysis on the lines provided and place a check in the column for the samples requiring the analysis. It may be necessary to use the space provided for additional comments or include attachments for extended lists of parameters.

7. Submission of samples to laboratory: Indicate Item Number of those samples being transferred, sign relinquished by, and include your affiliation.

*** IMPORTANT NOTE:**

Standard Turnaround Time is 2 weeks. If this does not satisfy your requirements, arrangements must be made prior to samples being submitted to the laboratory. Contact your project manager.

Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

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CHAIN-OF-CUSTODY / Analytical Request Document

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512777

Page: 3 of 3

Required Client Information: **Section A**

Company: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201
Phone: 803-896-6240 Fax: 803-896-6245

Required Client Information: **Section B**

Report To: Debra Thomas
Invoice To: Pat Holland
P.O.: 904342
Project Name: Circle Stop N Shop
Project Number: 05981

Client Information (Check quote/contract):
Requested Due Date: Normal *TAT:

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

To Be Completed by Pace Analytical and Client **Section C**

Quote Reference:
Project Manager:
Project #:
Profile #:

Section D **Required** Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / .–)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED mm / dd / yy	TIME COLLECTED hh:mm a/p	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Requested Analysis: 8260-BTEX, Naph, MTBE	Nitrate/Sulfate	Ferrous Iron	Remarks / Lab ID
1	MW-25	WT	10/1/02	1950	5	X			X			X	X	X	921551262
2	MW-26	WT	10/1/02	1254	5	X			X			X	X	X	921551270
3	WSW-1		no sample collected												pump not working, radiator sample
4	WSW-2	WT	10/1/02	1655	3				X			X			921551298
5															
6															
7															
8															
9															
10															
11															
12															

Sample Condition		Sample Notes	Item No.	Relinquished By / Company	Date	Time	Accepted By / Company	Date	Time
Temp in °C:	1.9			Kurt Brown / GRI	10/1/02	8:55	FedEx	10/2	8:55
Received on ICE:	(Y) / N							10/2	1430
Sealed Cooler:	(Y) / N								
Samples Intact:	(Y) / N								

Additional Comments:

PACE CA# 1730.P

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Burt Brown
SIGNATURE of SAMPLER: Burt Brown
DATE Signed: (MM / DD / YY) 10/01/02

SEE REVERSE SIDE FOR INSTRUCTIONS

Pace Analytical Services, Inc. Form COC01.XLS 12/99

Instructions for completing Chain of Custody (COC)

1. Complete all Client Information at top of sheet: name, address, phone, contact (person to whom report will be sent and contact can be made if questions arise), billing information if different from client, PO#, Project Name and/or Project Number as it will appear on the report.

2. Quote Reference, Project Manager, Project No. and Profile No. will be completed by Pace.

3. A separate COC must be filled out for each day of sample collection.

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5. Complete Sample Description as it will appear on the laboratory report; include time of sampling, sample matrix, no. of containers and preservative used.

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Special Project Requirements such as Low Level Detection Limits or level of QC reported must be indicated on the chain of custody. (Use Additional Comments Section.)

Invoice Paid 3/26/02

KLEEN SITES GEOSERVICES, INC.

ENVIRONMENTAL CONSULTANTS

RECEIVED

MAR 25 2002

UNDERGROUND STORAGE TANK PROGRAM

March 25, 2002

Mr. Travis Williams, Hydrogeologist
South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
UST Program
2600 Bull Street
Columbia, South Carolina 29201

Re: Submittal of Tier II Assessment Report (Addendum 02)
Circle Stop N Shop
Saluda County, SC
UST Permit # 05981, CP# 15277

Dear Mr. Williams:

I have enclosed one copy of the Tier II Assessment Report (Addendum 02) for the Circle Stop N Shop site located in Saluda County, South Carolina. KSG Invoice #4993 for implementation of the assessment has been submitted directly to Ms. Pat Holland for payment. Please contact me at (803) 791-1996 ext. 12 if you have any questions concerning the enclosed report or if you need any additional information.

Sincerely,

Kleen Sites Geoservices, Inc.

Bill Dunnagan

Bill Dunnagan, P.G.
Principal Geologist

Enclosure

UST PROGRAM DOCKETING # #34 Tech

• 171 Lott Court, West Columbia, South Carolina 29169 •
(803) 791-1996 (803) 791-4269 (Fax)
ksg1@alltel.net

Tier II Assessment Report
(Addendum 02)

Circle Stop N Shop
U.S. Hwy. 378
Saluda Traffic Circle
Saluda County, SC
Site ID No. 05981

March 12, 2002

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Kleen Sites Geoservices, Inc.
UST Site Rehabilitation Contractor #8
171 Lott Court
West Columbia, South Carolina 29169

Signature Page

This document entitled "Tier II Assessment Report – Addendum 02", has been prepared for the South Carolina Department of Health and Environmental Control to describe supplemental Tier II Assessment activities conducted at the Circle Stop N Shop facility located in Saluda County, South Carolina. This environmental assessment has been performed under the direct supervision of William B. Dunnagan, Jr. in accordance with accepted quality control practices.

RECEIVED
MAR 25 2002
UNDERGROUND STORAGE TANK PROGRAM

KLEEN SITES GEOSERVICES, INC.

William B. Dunnagan, Jr., P.G.
South Carolina Registration # 937
Project Geologist

Professional Seal

William Dunnagan 3/12/02

Tier II Assessment Report
Addendum 02
Circle Stop N Shop
Saluda County, South Carolina

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SECTION 1.0

INTRODUCTION

Circle Stop N Shop is located on the Saluda Traffic Circle at the intersection of U.S. Hwy. 378 and S.C. Hwy. 391 in Saluda County, South Carolina. The subject facility is a convenience store that currently sells gasoline, diesel fuel and kerosene to the public. One 3,000 gallon leaded gasoline underground storage tank (UST) and one 3,000 gallon unleaded gasoline UST were installed onsite in 1978. These tanks were excavated and removed from the ground in December 1998. One 8,000 gallon unleaded gasoline UST was installed in December 1998 and is currently in use. A site location map and a site topographic map are provided in Figures 1 and 2, respectively. Figure 3 provides a site layout map.

A soil contamination assessment was performed by personnel from Nu-Way Environmental, Inc. in December 1991 to check for the presence of soil contamination around the existing UST system. As a result of this initial environmental investigation, a release of petroleum product into the environment at the subject property was reported to the SCDHEC on December 27, 1991.

In an effort to determine whether the surficial aquifer had been adversely impacted by the UST system release, the SCDHEC requested that an Initial Ground Water Assessment (IGWA) be conducted at the Circle Stop N Shop facility. Personnel from Kleen Sites Geoservices, Inc. (KSG) conducted the IGWA and prepared a report dated April 19, 2000. The results of this investigation confirmed that ground water contamination was present

In response to the IGWA Report, the SCDHEC requested that a Tier I Assessment be performed to generate additional soil and ground water analytical data on the site. KSG personnel conducted the Tier I Assessment in August and September of 2000. Elevated petroleum hydrocarbon levels were identified in soil and ground water samples that were collected during this assessment. A Tier I Assessment Report dated September 22, 2000 was submitted to the SCDHEC for review and comment.

Following a review of the Tier I Assessment Report, the SCDHEC requested a Tier II Assessment at the subject facility in a letter dated November 6, 2000. KSG personnel completed the Tier II Assessment at the subject property in order to define the vertical and horizontal extent of the ground water contamination plume. The assessment was also conducted to evaluate the risk, if any, posed by the contamination to human health and the environment. A Tier II analysis designed to establish ground water cleanup criteria for the site was part of the assessment process. A Tier II Assessment Report dated April 6, 2001 was submitted to SCDHEC personnel.

Data generated during the Tier II Assessment did not define the lateral extent of ground water contamination in the downgradient (i.e. northeasterly) direction. Deep Well MW13 also contained petroleum hydrocarbon constituents in excess of the calculated SSTL concentrations. The SCDHEC requested by letter dated June 6, 2001 that additional well installation be conducted at the Circle Stop N Shop site. KSG personnel completed the additional assessment activities in September and October of 2001. A Tier II Assessment Report (Addendum 01) dated October 26, 2001 was submitted to the SCDHEC.

Data generated during Addendum 01 activities documented that the vertical extent of dissolved phase ground water contamination was at least 100 feet below ground surface beneath the subject property. Additional assessment activities were conducted in February of 2002 to expand the existing monitor well network. Data compiled during this phase of site activities was compiled into the Tier II Assessment Report (Addendum 02) as presented herein.

SECTION 2.0

REGIONAL & SITE SPECIFIC GEOLOGY

The Circle Stop N shop site is located in the Piedmont Physiographic Province of South Carolina. Soils within the Piedmont Physiographic Province are generally the product of intense chemical weathering over geologic time. The resultant soil, commonly referred to as saprolite, often retains relict textures from the parent rock and can be useful during geologic mapping. Weathering of the saprolite becomes less pronounced with increasing depth producing a gradual transition from upper soil horizons into competent bedrock.

Due to the relatively thin horizon of saprolite that covers bedrock lithologies of the Piedmont Physiographic Province, a well-defined stratigraphy does not exist for soils in this area. The uppermost water-bearing zone commonly occurs within this saprolitic horizon, often perched upon the lower confining bedrock. Due to the clay-rich nature of the saprolitic soils, the shallow depth to ground water and the narrow width of water saturated soils, the uppermost aquifer is not commonly utilized to supply drinking water needs.

Split spoon samples collected during previous assessments revealed the presence of brown to tan, fine-grained silt from surface to a depth of approximately 42 feet below ground surface. A gradual transition to less weathered saprolitic soils was noted below 42 feet. Coarse-grained quartz and feldspar granules become increasingly abundant in saprolitic soils with increasing depth from ground surface. Bedrock was encountered at 122 feet below ground surface at deep well MW26. A less competent zone was encountered during drilling from 140 to 148 feet below ground surface. Well MW26 was screened within this fractured horizon.

Static water levels within shallow ground water monitor wells varied across the site from 22.03 to 36.36 feet below ground surface. Two wells, MW09 and MW10 were dry and static water level data was not available.

SECTION 3.0

SITE ACTIVITIES

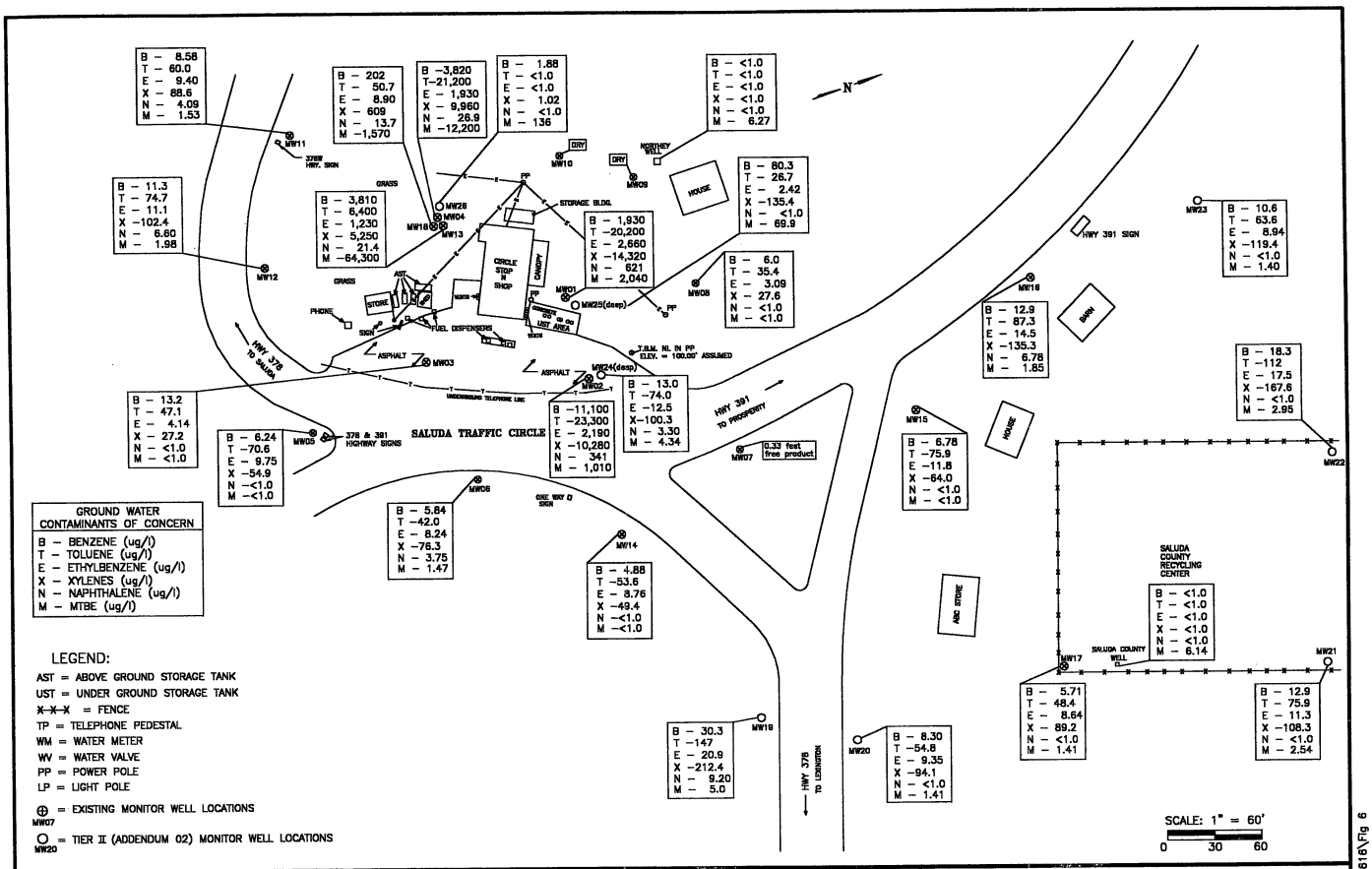
KSG personnel conducted Tier II Addendum 02 activities to achieve two main objectives: (1) to define the lateral extent of dissolved phase ground water contamination and (2) to define the vertical extent of dissolved phase contamination beneath the subject property. Field activities required to generate site-specific information for the Circle Stop N Shop site are described in detail within this section.

3.1 Field Screening

Seven temporary wells were utilized at the subject facility to check ground water quality at selected locations (see Figure 4). The temporary wells were positioned down gradient of the Circle Stop N Shop property. A truck-mounted drilling rig was used to set temporary wells at depths ranging from 40 to 48 feet below ground surface during the field screening process.

Ground water samples were collected at each field screening location. Once ground water collection activities were completed at each field screening location, the hollow stem augers were removed from the ground and each borehole was properly abandoned by filling with a lean grout mixture to ground surface.

Ground water samples collected from field screening locations GP16, GP17, GP18, GP21 and GP22 were packed in crushed ice immediately following collection. A Chain of Custody was completed prior to offsite sample removal. The samples were transported to Access Analytical, Inc. and analyzed for benzene, toluene, ethyl benzene and total xylenes (BTEX) and naphthalene using EPA Method 8260B. Water samples that were collected from field screening locations GP19 and GP20 were transported to Shealy Environmental and analyzed for BTEX and naphthalene on an overnight turnaround basis. Table 1 provides information concerning each field screening location. Analytical data sheets for each ground water sample are provided in Appendix A.



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 6:
GROUND WATER COC MAP

KLEEN SITES GEOSERVICES

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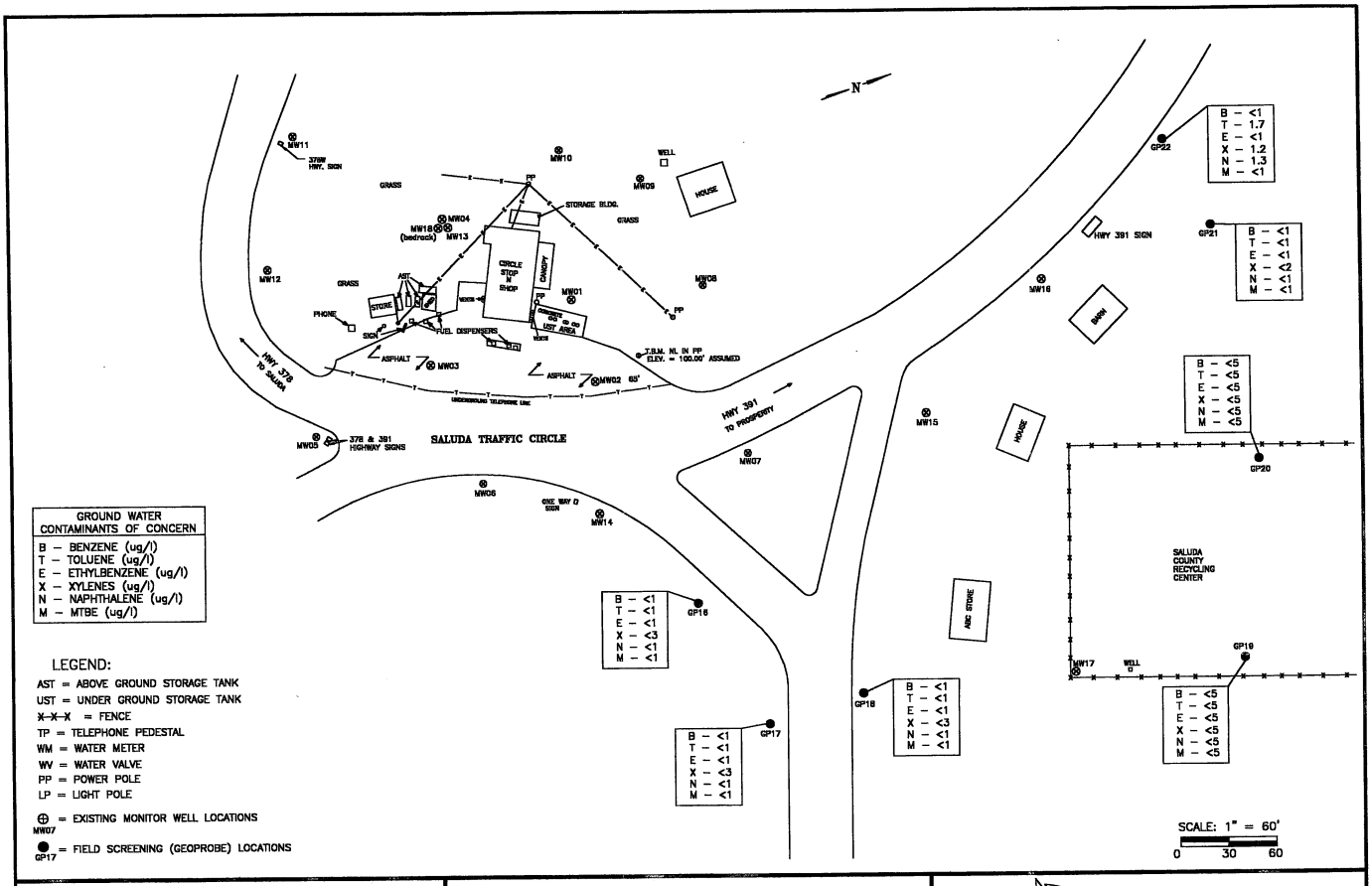


GROUND WATER CONTAMINANTS OF CONCERN
B – BENZENE (ug/l)
T – TOLUENE (ug/l)
E – ETHYLBENZENE (ug/l)
X – XYLENES (ug/l)
N – NAPHTHALENE (ug/l)
M – MTBE (ug/l)

LEGEND:

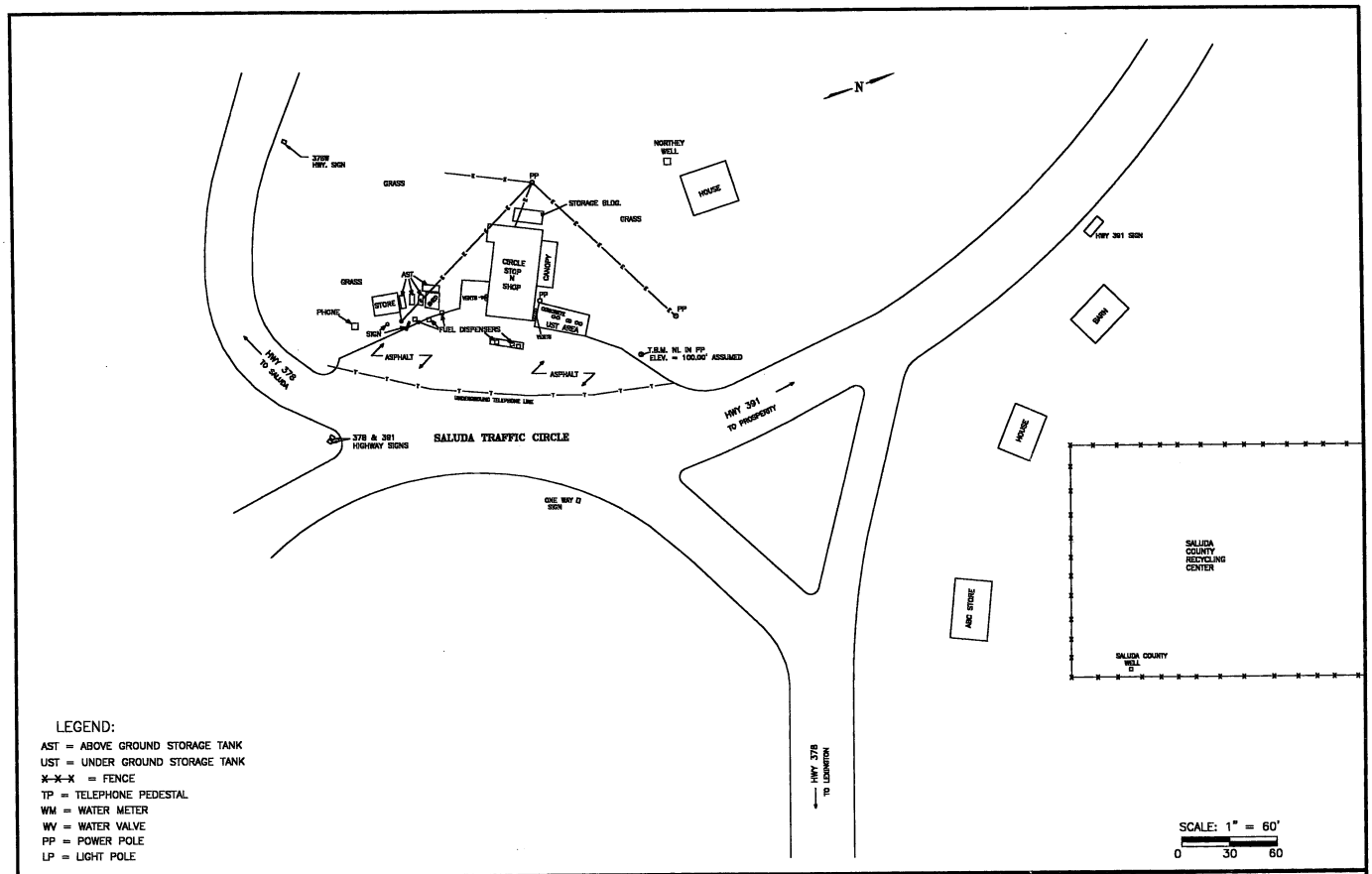
AST = ABOVE GROUND STORAGE TANK
UST = UNDER GROUND STORAGE TANK
X-X-X = FENCE
TP = TELEPHONE PEDESTAL
WM = WATER METER
WV = WATER VALVE
PP = POWER POLE
LP = LIGHT POLE
⊕ MW07 = EXISTING MONITOR WELL LOCATIONS
● GP17 = FIELD SCREENING (GEOPROBE) LOCATIONS

CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 4:
FIELD SCREENING DATA

KLEEN SITES GEOSERVICES

F:\KSG\CAD\2001\01616\Fig 4



LEGEND:

AST = ABOVE GROUND STORAGE TANK
UST = UNDER GROUND STORAGE TANK
X-X-X = FENCE
TP = TELEPHONE PEDESTAL
WM = WATER METER
WV = WATER VALVE
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LP = LIGHT POLE

CIRCLE STOP N SHOP HIGHWAY 378/391 SALUDA COUNTY SOUTH CAROLINA	FIGURE 3: SITE MAP	KLEEN SITES GEOSERVICES

F:\KSG\CAD\2001\01616\Fig 3

TABLE 1
FIELD SCREENING DATA

Field Screening Number	Total Depth (feet)	Type of Sample Collected	Sample Location
GP16	40	Ground Water	Traffic Circle
GP17	40	Ground Water	Traffic Circle
GP18	21	None – rock encountered	North side of US 378
GP18	40	Ground Water	North side of US 378
GP19	45	Ground Water	NE side Recycling Center
GP20	48	Ground Water	NW side Recycling Center
GP21	23	None – rock encountered	NE side of SR 391
GP21	40	Ground Water	NE side of SR 391
GP22	40	Ground Water	NE side of SR 391

3.2 Soil Assessment

All drilling activities were performed using a truck-mounted drilling rig equipped with hollow-stem augers. Personnel from SAEDACCO located in Charlotte, North Carolina performed all split spoon sampling and monitor well installations. All assessment activities were performed under the supervision of a KSG staff geologist.

Split-spoon samples were collected at five foot intervals at each ground water monitor well location from surface until the water table was encountered. Each split-spoon sample was screened with a portable VOC monitor. All shallow wells were drilled to a total depth of 40 - 48 feet below ground surface. Telescoping wells MW24 and MW25 were drilled to depths of 65 and 70 feet, respectively. Deep, telescoping well MW26 was drilled until a water-bearing fracture was encountered at a depth of 140-148 feet. Soil Boring Lithology Logs and Well Construction Summaries are presented in Appendix B. Due to the extensive amount of soil analytical data generated during previous assessments, additional soil analyses were not performed during this investigation.

3.3 Static Water Level Measurement

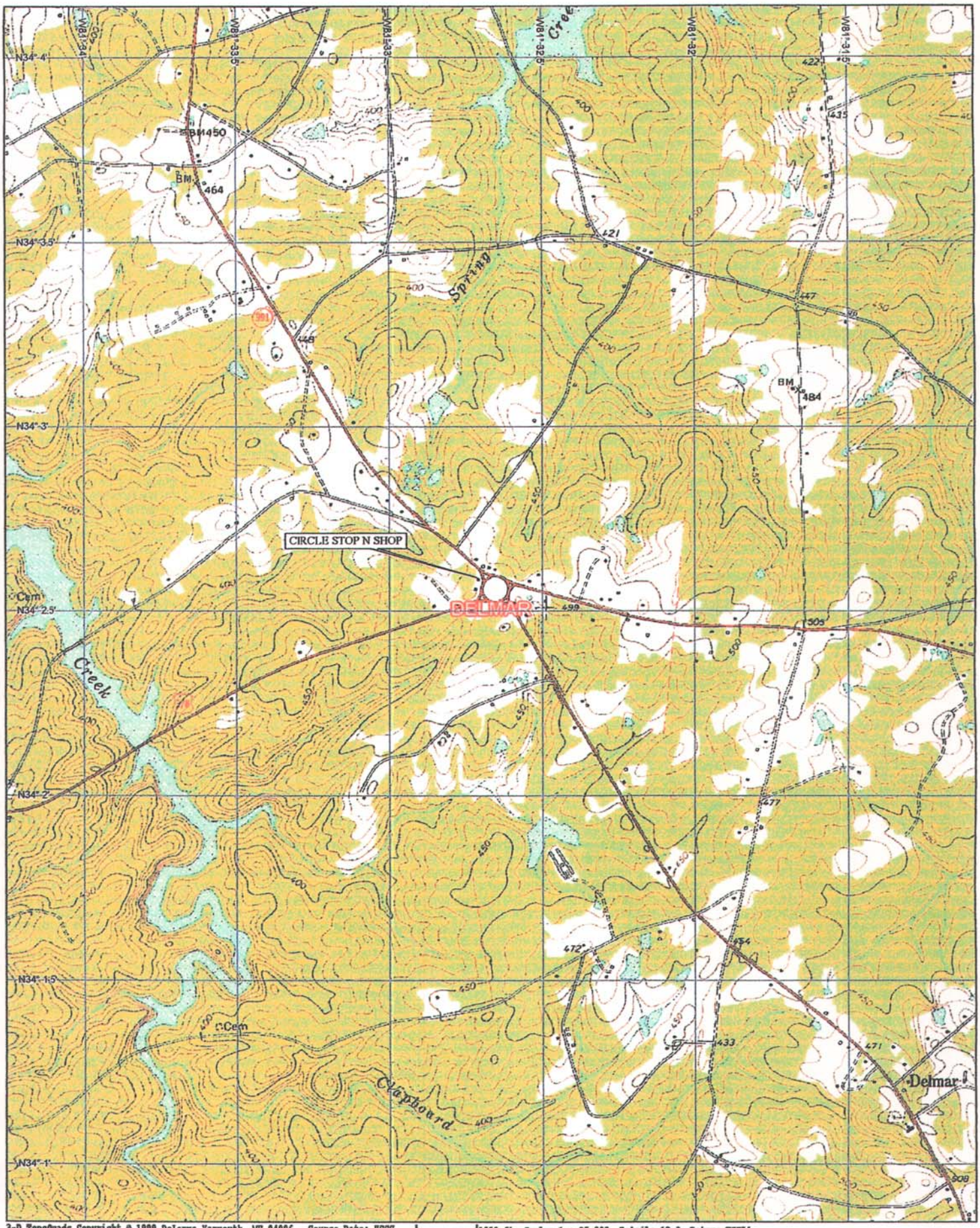
Prior to well development or sample collection, static water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. All measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Static water levels are summarized in Table 2. Free product was observed in monitoring well MW07 at a thickness of 0.33 feet during Tier II Addendum 02 activities. Wells MW09 and MW10 were dry during the static water level measurement event.

3.4 Ground Water Sampling

Ground water samples were collected from the above listed monitoring wells on February 22, 25, 26, 27 and 28, 2002. Prior to monitor well sampling, Wells MW01 – MW18 were purged three well volumes and Wells MW19 – MW26 were purged 10 well volumes to ensure that a representative sample of the aquifer was collected (see Well Purge Logs - Appendix B). All wells were purged with a PVC bailer and sampled with a disposable Teflon bailer. Dissolved oxygen readings were taken at each well location. Following well purging activities, a ground water sample was collected from each well and placed into appropriate containers. Due to the presence of 0.33 feet of free product, Well MW07 was not purged or sampled during this investigation. Wells MW09 and MW10 were dry during the sampling event.

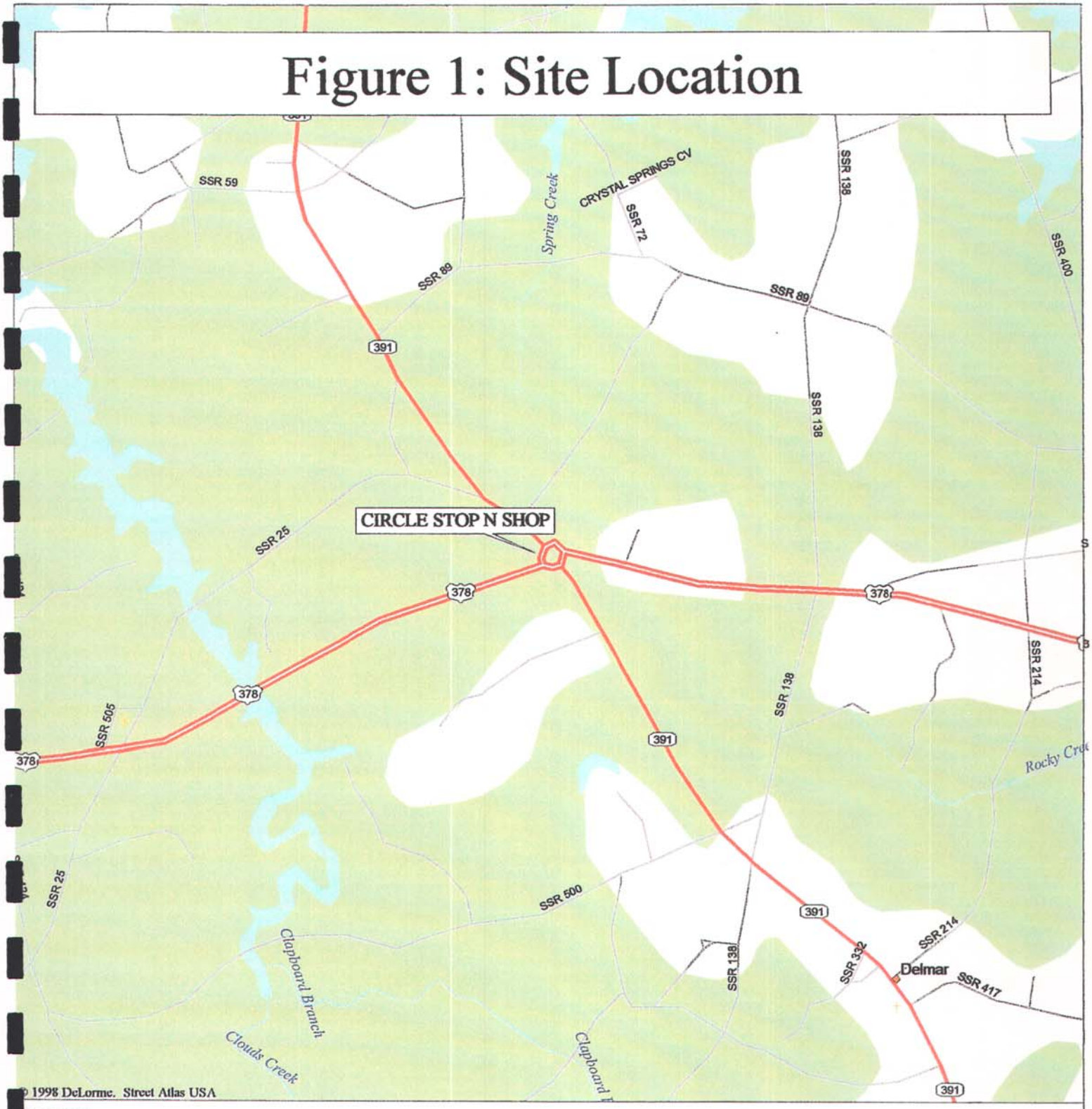
All samples were packed in crushed ice and transported to Access Analytical, Inc., for chemical analysis. Each monitor well sample was analyzed for BTEX, MTBE and naphthalene using EPA Method 8260B, nitrates (EPA Method 300), sulfates (EPA Method 300) and ferrous iron (EPA Method 3500 Fe-D). Methane was analyzed for in each well using Method RSK-175. Water samples that were collected from the Northey Well and the Saluda County Recycling Center Well were analyzed for BTEX, MTBE and naphthalene (EPA Method 8260B), EDB (EPA Method 8011) and lead (EPA Method 239.2). A summary of the ground water analytical data is provided in Table 3.

FIGURE 2: TOPOGRAPHIC MAP OF SITE



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84

Figure 1: Site Location



Mag 14.00
Sun Oct 14 21:57 2001
Scale 1:31,250 (at center)
2000 Feet
1000 Meters

Local Road
State Route
US Highway
Locale
Cemetery
Water
Woodland
River/Canal
Intermittent River

TABLE 2
STATIC WATER LEVEL ELEVATIONS

Well ID #	Static Water Level†	Free Product Thickness	Top of Casing Elevation‡	Ground Water Elevation‡
MW01	31.98	ND	99.59	67.61
MW02	30.64	ND	97.68	67.04
MW03	30.20	ND	99.53	69.33
MW04	34.47	ND	100.28	65.81
MW05	30.00	ND	100.88	70.88
MW06	27.92	ND	97.43	69.51
MW07	30.81	0.33'	97.26	* 66.70
MW08	32.30	ND	98.70	66.40
MW09	DRY	-	99.68	-
MW10	DRY	-	100.22	-
MW11	32.61	ND	100.47	67.86
MW12	30.01	ND	100.62	70.61
**MW13	34.64	ND	100.22	65.58
MW14	27.35	ND	96.30	68.95
MW15	28.19	ND	94.59	66.40
MW16	29.28	ND	92.01	62.73
MW17	24.68	ND	91.65	66.97
**MW18	35.15	ND	100.05	64.90
MW19	23.85	ND	94.32	70.47
MW20	25.22	ND	94.88	69.66
MW21	22.03	ND	84.61	62.58
MW22	25.90	ND	84.71	58.81
MW23	36.36	ND	92.05	55.69
**MW24	30.71	ND	97.74	67.03
**MW25	32.57	ND	99.63	67.06
**MW26	140.51	ND	100.22	- 40.29

Notes: † = Depth below top of casing, in feet
ND = Not Detected
‡ = Elevation assuming an onsite benchmark of 100 feet
** = Deep Well
* = Adjusted for the presence of free product

3.5 Ground Water Analytical Data

The following table summarizes ground water analytical results.

TABLE 3
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW01	MW01	MW01	**MW01**	MW02	MW02	MW02	**MW02**
Benzene (µg/l)	3,600	1,880	1,920	**1,930**	7,500	12,100	8,590	**11,100**
Ethylbenzene (µg/l)	3,600	1,200	1,840	**2,660**	1,600	2,530	1,950	**2,190**
MTBE (µg/l)	3,400	3,430	2,770	**2,040**	720	2,980	1,330	**1,010**
Naphthalene (µg/l)	460	356	1,110	**621**	320	1,120	84.1	**341**
Toluene (µg/l)	32,000	13,800	17,000	**20,200**	14,000	29,600	16,700	**23,300**
Total Xylenes (µg/l)	17,000	6,820	8,510	**14,320**	7,200	99,260	6,978	**10,280**
Lead (mg/l)	< 0.003	NA	NA	**NA**	< 0.003	NA	NA	**NA**
Ferrous Iron (mg/l)	0.56	1.0	0.8	**0.6**	0.091	< 0.03	< 0.03	**< 0.03**
Nitrates (mg/l)	< 0.02	< 0.05	< 0.05	**< 0.05**	< 0.02	< 0.05	< 0.05	**< 0.05**
Sulfates (mg/l)	22	2.15	2.01	**2.36**	2.6	2.36	3.19	**2.55**
Methane (µg/l)	< 26	2.1	3.5	**< 10**	< 26	1.4	0.8	**< 10**
Dissolved Oxygen (mg/l)	3.0	2.0	1.8	**2.4**	3.7	1.4	2.6	**2.1**
Sample Date	8/07/00	3/15/01	9/28/01	**2/27/02**	8/07/00	3/15/01	9/28/01	**2/27/02**

NA = Not Analyzed

TABLE 3 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW03	MW03	MW03	**MW03**	MW04	MW04	MW04	**MW04**
Benzene (µg/l)	25	6.65	52.6	**13.2**	6,100	1,580	3,850	**3,820**
Ethylbenzene (µg/l)	9	4.16	6.66	**4.14**	2,800	1,980	2,680	**1,930**
MTBE (µg/l)	< 5.0	1.29	< 1.0	**< 1.0**	24,000	1,440	10,000	**12,200**
Naphthalene (µg/l)	< 5.0	< 1.0	< 1.0	**< 1.0**	< 100	839	325	**26.9**
Toluene (µg/l)	110	40.8	42.2	**47.1**	36,000	17,800	29,800	**21,200**
Total Xylenes (µg/l)	81	25.92	90.6	**27.2**	13,000	11,200	15,620	**9,960**
Lead (mg/l)	0.023	NA	NA	**NA**	< 0.003	NA	NA	**NA**
Ferrous Iron (mg/l)	0.31	0.4	< 0.03	**0.8**	0.24	< 0.03	< 0.03	**1.20**
Nitrates (mg/l)	0.02	0.19	< 0.05	**< 0.05**	0.093	< 0.05	< 0.05	**< 0.05**
Sulfates (mg/l)	< 1	2.26	2.18	**2.14**	4.7	13.51	2.43	**2.31**
Methane (µg/l)	< 26	NA	0.5	**< 10**	< 26	46.4	43.4	**< 10**
Dissolved Oxygen (mg/l)	4.1	4.5	3.1	**2.8**	4.5	1.8	1.9	**1.4**
Sample Date	8/07/00	3/15/01	9/28/01	**2/26/02**	8/07/00	3/27/01	10/02/01	**2/22/02**

NA = Not Analyzed

TABLE 3 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW05	MW05	**MW05**	MW06	MW06	**MW06**	MW07	MW07	**MW07**
Benzene (µg/l)	< 1.0	< 1.0	**6.24**	< 1.0	6.19	**5.84**	11,460	4,490	**FP**
Ethylbenzene (µg/l)	< 1.0	< 1.0	**9.75**	< 1.0	9.90	**8.24**	157	1,090	**FP**
MTBE (µg/l)	< 1.0	< 1.0	**< 1.0**	< 1.0	< 1.0	**1.47**	< 1.0	< 1.0	**FP**
Naphthalene (µg/l)	< 1.0	< 1.0	**< 1.0**	< 1.0	12.8	**3.75**	53.9	116	**FP**
Toluene (µg/l)	< 1.0	< 1.0	**70.6**	< 1.0	68.8	**42.0**	351	2,350	**FP**
Total Xylenes (µg/l)	< 1.0	< 1.0	**54.9**	< 1.0	52.2	**76.3**	749	1,880	**FP**
Lead (mg/l)	NA	NA	**NA**	NA	NA	**NA**	NA	NA	**FP**
Ferrous Iron (mg/l)	< 0.03	< 0.03	**< 0.03**	< 0.03	< 0.03	**< 0.03**	< 0.03	1.4	**FP**
Nitrates (mg/l)	0.34	0.29	**0.35**	0.27	0.16	**0.21**	0.23	0.16	**FP**
Sulfates (mg/l)	3.06	1.89	**1.89**	12.06	2.85	**2.75**	16.43	2.16	**FP**
Methane (µg/l)	NA	< 0.2	**< 10**	NA	< 0.2	**< 10**	NA	35.9	**FP**
Dissolved Oxygen (mg/l)	1.8	3.2	**4.0**	5.5	2.8	**3.1**	3.3	2.4	**-**
Sample Date	3/27/01	9/28/01	**2/26/02**	3/15/01	10/01/01	**2/26/02**	3/15/01	10/01/01	**-**

FP = Free Product
NA = Not Analyzed

TABLE 3 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW08	MW08	**MW08**	MW09	MW09	**MW09**	MW10	MW10	**MW10**
Benzene (µg/l)	< 1.0	49.3	**6.00**	< 1.0	< 1.0	**Dry**	1.82	4.17	**Dry**
Ethylbenzene (µg/l)	< 1.0	44.3	**3.09**	< 1.0	< 1.0	-	< 1.0	< 1.0	-
MTBE (µg/l)	< 1.0	< 1.0	**< 1.0**	1.38	< 1.0	-	40.2	27.3	-
Naphthalene (µg/l)	< 1.0	10.6	**< 1.0**	< 1.0	< 1.0	-	13.12	< 1.0	-
Toluene (µg/l)	< 1.0	353	**35.4**	< 1.0	< 1.0	-	11.8	5.47	-
Total Xylenes (µg/l)	< 1.0	217.9	**27.6**	< 1.0	< 1.0	-	22.61	11.96	-
Lead (mg/l)	NA	NA	**NA**	NA	NA	-	NA	NA	-
Ferrous Iron (mg/l)	< 0.03	< 0.03	**< 0.03**	NA	NA	-	< 0.03	< 0.03	-
Nitrates (mg/l)	0.19	< 0.05	**< 0.05**	NA	NA	-	0.57	< 0.05	-
Sulfates (mg/l)	5.40	2.56	**2.90**	NA	NA	-	30.96	3.29	-
Methane (µg/l)	NA	2.2	**< 10**	NA	NA	-	NA	414.9	-
Dissolved Oxygen (mg/l)	5.5	1.3	**2.8**	4.8	2.3	-	4.6	2.2	-
Sample Date	3/16/01	9/28/01	**2/27/02**	3/27/01	9/28/01	-	3/28/01	9/28/01	-

NA = Not Analyzed

TABLE 3 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW11	MW11	**MW11**	MW12	MW12	**MW12**	MW13	MW13	**MW13**
Benzene (µg/l)	< 1.0	< 1.0	**8.58**	< 1.0	< 1.0	**11.3**	2,750	4,040	**3,810**
Ethylbenzene (µg/l)	< 1.0	< 1.0	**9.40**	< 1.0	< 1.0	**11.1**	444	978	**1,230**
MTBE (µg/l)	< 1.0	< 1.0	**1.53**	< 1.0	< 1.0	**1.98**	68,200	110,000	**64,300**
Naphthalene (µg/l)	< 1.0	< 1.0	**4.09**	< 1.0	< 1.0	**6.60**	742	216	**21.4**
Toluene (µg/l)	< 1.0	< 1.0	**60.0**	< 1.0	< 1.0	**74.7**	5,680	9,850	**6,400**
Total Xylenes (µg/l)	< 1.0	< 1.0	**88.6**	< 1.0	< 1.0	**102.4**	2,772	5,490	**5,250**
Lead (mg/l)	NA	NA	**NA**	NA	NA	**NA**	NA	NA	**NA**
Ferrous Iron (mg/l)	< 0.03	< 0.03	**< 0.03**	< 0.03	< 0.03	**< 0.03**	< 0.03	< 0.03	**< 0.03**
Nitrates (mg/l)	0.99	0.80	**0.87**	0.26	0.24	**0.28**	< 0.05	0.17	**< 0.05**
Sulfates (mg/l)	5.02	2.08	**1.97**	4.02	2.26	**2.27**	2.92	10.3	**5.01**
Methane (µg/l)	NA	< 0.2	**11.9**	NA	< 0.2	**< 10**	NA	4.2	**< 10**
Dissolved Oxygen (mg/l)	5.8	3.4	**2.9**	6.6	3.1	**3.0**	1.9	1.8	**1.7**
Sample Date	3/15/01	9/28/01	**2/26/02**	3/15/01	9/28/01	**2/26/02**	3/27/01	10/02/01	**2/22/02**

NA = Not Analyzed

TABLE 3 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW14	**MW14**	MW15	**MW15**	MW16	**MW16**	MW17	**MW17**
Benzene (µg/l)	6.71	**4.88**	28.3	**6.78**	25.9	**12.9**	8.24	**5.71**
Ethylbenzene (µg/l)	8.86	**8.76**	24.5	**11.8**	33.5	**14.5**	15.5	**8.64**
MTBE (µg/l)	< 1.0	**< 1.0**	< 1.0	**<1.0**	< 1.0	**1.85**	< 1.0	**1.41**
Naphthalene (µg/l)	< 1.0	**< 1.0**	< 1.0	**< 1.0**	< 1.0	**6.78**	< 1.0	**< 1.0**
Toluene (µg/l)	55.5	**53.6**	70.1	**75.9**	84.8	**87.3**	29.9	**48.4**
Total Xylenes (µg/l)	40.0	**49.4**	63.2	**64.0**	62.66	**135.3**	47.8	**89.2**
Lead (mg/l)	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**
Ferrous Iron (mg/l)	< 0.03	**< 0.03**	< 0.03	**< 0.03**	< 0.03	**< 0.03**	< 0.03	**< 0.03**
Nitrates (mg/l)	0.17	**0.17**	0.24	**0.23**	2.71	**2.64**	0.80	**0.64**
Sulfates (mg/l)	2.86	**2.31**	3.77	**2.36**	7.02	**2.99**	3.24	**2.86**
Methane (µg/l)	< 0.2	**< 10**	< 0.2	**< 10.0**	< 0.2	**< 10**	< 0.2	**< 10**
Dissolved Oxygen (mg/l)	3.2	**3.8**	2.1	**2.5**	2.6	**2.9**	2.5	**1.7**
Sample Date	10/01/01	**2/26/02**	10/01/01	**2/26/02**	10/01/01	**2/26/02**	10/01/01	**2/25/02**

NA = Not Analyzed

TABLE 3 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW18	MW18	MW19	MW20	MW21	MW22	MW23
Benzene (µg/l)	209	202	30.3	8.30	12.9	18.3	10.6
Ethylbenzene (µg/l)	24.8	8.90	20.9	9.35	11.3	17.5	8.94
MTBE (µg/l)	2,680	1,570	5.0	2.36	2.54	2.95	1.40
Naphthalene (µg/l)	33.1	13.7	9.20	< 1.0	< 1.0	< 1.0	< 1.0
Toluene (µg/l)	127	50.7	147	54.8	75.9	112	63.6
Total Xylenes (µg/l)	343	609	212.4	94.1	108.3	167.6	119.4
Lead (mg/l)	NA	NA	NA	NA	NA	NA	NA
Ferrous Iron (mg/l)	< 0.03	< 0.03	< 0.03	0.2	< 0.03	< 0.03	< 0.03
Nitrates (mg/l)	< 0.05	< 0.05	0.30	1.15	0.49	0.32	5.72
Sulfates (mg/l)	3.85	2.49	15.6	8.11	3.00	5.61	4.56
Methane (µg/l)	0.3	< 10	< 10	< 10	< 10	< 10	< 10
Dissolved Oxygen (mg/l)	2.4	2.1	2.5	2.9	4.2	4.6	5.9
Sample Date	10/02/01	2/28/02	2/25/02	2/25/02	2/25/02	2/25/02	2/25/02

NA = Not Analyzed

TABLE 3 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW24	MW25	MW26	Northey Well	Northey Well	Saluda Cty. Well	Saluda Cty. Well
Benzene (µg/l)	13.0	80.3	1.88	< 1.0	< 1.0	< 1.0	< 1.0
Ethylbenzene (µg/l)	12.5	2.42	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
MTBE (µg/l)	4.34	69.9	136	< 1.0	6.27	8.86	6.14
Naphthalene (µg/l)	3.30	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Toluene (µg/l)	74.0	26.7	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0
Total Xylenes (µg/l)	100.3	135.4	1.02	< 1.0	< 1.0	< 1.0	< 1.0
EDB (µg/l)	NA	NA	NA	NA	< 0.02	NA	< 0.02
Lead (mg/l)	NA	NA	NA	NA	0.014	NA	< 0.005
Ferrous Iron (mg/l)	< 0.03	< 0.03	< 0.03	NA	NA	NA	NA
Nitrates (mg/l)	< 0.05	< 0.05	0.18	NA	NA	NA	NA
Sulfates (mg/l)	5.88	3.40	73.7	NA	NA	NA	NA
Methane (µg/l)	< 10	< 10	< 10	NA	NA	NA	NA
Dissolved Oxygen (mg/l)	2.1	2.2	3.5	NA	NA	NA	NA
Sample Date	2/27/02	2/27/02	2/28/02	10/05/01	2/28/02	10/05/01	3/01/02

NA = Not Analyzed

3.6 Aquifer Characterization

Aquifer characterization was conducted during the Tier I Assessment. Two rising head tests were performed on Wells MW03 and MW04. Characterization of the shallow aquifer during the previous assessment yielded the following:

Hydraulic Conductivity: 0.009 – 0.49 ft / day
Hydraulic Gradient: 0.02 ft / ft
Porosity: 40%
Estimated Seepage Velocity: 0.16 – 8.9 ft / yr.

Three additional slug tests were conducted as part of the initial Tier II Assessment. Two slug tests were performed on shallow wells MW06 and MW11. A slug test was also performed on deep well MW13. Data generated during the shallow well slug tests yielded an average hydraulic conductivity of 7.37×10^{-2} ft / day. Field data generated a hydraulic conductivity of 2.22×10^{-2} ft / day on deep well MW13. Additional aquifer characterization was not performed during the Tier II Addendum 01 and 02 field events.

3.7 Receptor Survey

A receptor survey was conducted at the subject facility as part of the Tier I and Tier II Assessments to identify any potential exposure pathways for soil and/or ground water contamination at the Circle Stop N Shop site. Exposure points are considered the location that a receptor can come into contact, either now or in the future, with soil and/or ground water contaminants. Typical exposure points may be drinking water wells, ponds, streams, underground basements, or underground utilities.

3.7.1 Water Wells

Reconnaissance of the area immediately surrounding Circle Stop N Shop revealed the presence of a residential drinking water well approximately 120 feet northwest of the UST pit. The well and property are owned by the Northey family. At the present time, the well is not in use as the house is supplied by the Saluda County water system. According to local officials, there are no restrictions concerning the installation of drinking water wells or irrigation wells in the Saluda Traffic Circle area. A water sample was collected and submitted for analysis of BTEX, naphthalene, MTBE, EDB and lead during Tier II Addendum 02 activities.

A second water well is located at the Saluda County Recycling Center (see Figure 3). This well is located in a downgradient location approximately 420 feet from the Circle Stop N Shop property. Saluda County officials were unsure of the well depth and stated that the well is used as the water source for their onsite office building. According to county officials, bottled water is used onsite for drinking water purposes. This well also provides potable water for the Country Peddler convenience store located adjacent to the Saluda County Recycling Center. A sample was collected from the Saluda County well and submitted for analysis of BTEX, naphthalene, MTBE, EDB and lead.

3.7.2 Underground Utilities

A utility check by Palmetto Utilities Protection Services was requested for the subject property prior to the assessment field effort. Utilities were marked to identify any potential underground exposure points (i.e., storm drain, sanitary sewer line, etc.). Contaminated ground water could potentially seep into these utilities if the static water level existed at an elevation greater than or equal to the corresponding underground utility.

A water main and sanitary sewer line are located along U.S. Hwy. 378 in front of the convenience store property. Water and sewer service lines extend from the road into the convenience store building. A buried telephone line also runs in close proximity to the UST pit and into the convenience store. Depth to ground water in the immediate vicinity of these underground utilities is 25 - 30 feet below ground surface. Therefore, it is unlikely that the underground utilities present beneath the subject site could serve as a preferential pathway for contaminant transport during high water table periods.

3.7.3 Surface Water

Field activities implemented during the Tier I and Tier II Assessment identified an unnamed tributary approximately 1000 feet northeast of the Circle Stop N Shop site. Field reconnaissance during previous field events revealed that the unnamed tributary was dry and could not be sampled.

3.8 Site Survey

A site survey was performed during the Tier I Assessment to establish an accurate site map portraying the locations of the former UST area, onsite building and adjacent structures. The comprehensive site survey was performed by Mr. Jay S. Joshi, Registered Land Surveyor. The elevation of each monitor well top of casing (TOC) was established using an assumed onsite benchmark elevation of 100 feet.

The survey plat established by Mr. Joshi was utilized as a base map during the Tier II Addendum 02 field event. Personnel from KSG conducted a subsequent survey to establish the location of Wells MW19 – MW26. TOC elevations for each new well were established using the same assumed onsite benchmark.

SECTION 4.0

RESULTS, CONCLUSIONS AND RECOMMENDATIONS

4.1 Results & Conclusions

Subsurface soils consist of light brown, fine-grained, clayey silt from surface to approximately 35 feet below ground surface. Subsurface soils gradually transition into partially weathered rock from 35 feet to 122 feet below ground surface. Bedrock was encountered while drilling Well MW26 at 122 feet below ground surface. Rock drilling was necessary to screen Well MW26 across a fracture zone at a depth of 145 feet. It should be noted that the depth to bedrock across the site is highly variable.

Soil sampling efforts during previous assessment activities identified elevated levels of petroleum hydrocarbons in soils around the UST pit from near surface down to the water table at approximately 30 feet. Additional soil sampling and analysis was not performed during the Tier II Addendum 02 investigation.

Static water levels within shallow wells varied across the site from 22.03 to 36.36 feet below ground surface. Two wells, MW09 and MW10, were dry and could not be sampled. Slow recharge in Wells MW09 and MW10 has been observed during previous sampling events. As shown on Figure 5, static water level readings indicate a general ground water flow direction to the north. However, variations in the permeability of subsurface soils may be directing ground water contaminants into preferential pathways that correspond to a northeasterly flow direction. The use of the water well at Saluda County's Recycling Center may also be locally depressing the water table and influencing contaminant migration direction.

The dissolved phase ground water contamination plume measures approximately 600 feet x 720 feet. Wells MW05, MW11 and MW12 define the upgradient extent of the dissolved phase plume. Wells MW19, MW20, MW21, MW22 and MW23 define the extent of dissolved phase plume migration to the north and northeast. Free product was observed within the monitoring network for the first time during this investigation. Free product was measured at a thickness of 0.33 feet in Well MW07. A diagram showing the dissolved phase hydrocarbon concentrations within the surficial aquifer is presented in Figure 6.

Drilling activities at deep Well MW26 identified competent bedrock at a depth of 122 feet below ground surface. Rock drilling continued until a water-bearing fracture was encountered at 140 - 148 feet below ground surface. The total depth for deep Well MW26 was 145 feet. Laboratory analysis of the ground water sample that was collected from Well MW26 revealed only MTBE at a concentration exceeding State and Federal drinking water standards.

Dissolved oxygen levels were measured on ground water samples from each monitor well location. A review of the data presented in Table 3 indicates a lowering of dissolved oxygen levels within the area of ground water contamination. This data suggests that aerobic microbial degradation of petroleum compounds at the site is occurring at the present time. However, the degradation process is being hindered by the levels of dissolved oxygen that are available.

Previous receptor surveys have been performed as part of the assessment process. A drinking water well that is not being used at the present time is located approximately 110 feet from the UST pit. Laboratory analysis of the Northey Well (DW01) revealed the presence of MTBE at a concentration of 6.27 ug/l. A second water well (DW02) was identified at the Saluda County Recycling Center. This well provides water to an onsite office building on the Saluda County property but the water is reportedly not used for drinking purposes. However, the well also provides potable water for the Country Peddler convenience store located adjacent to the Saluda County property. MTBE was identified in Saluda County water well sample at a concentration of 6.14 ug/l. This concentration is below the State Risk Based Screening Level of 40 ug/l that has been established for MTBE.

4.2 Recommendations

The existing ground water monitor well network reveals the presence of a large dissolved phase ground water contaminant plume extending out away from the Circle Stop N Shop property in both a northerly and northeasterly direction. Continued expansion of the dissolved phase plume has resulted in the presence of low concentrations of petroleum hydrocarbons within many of the perimeter monitor well locations. Additional shallow ground water monitor well installation may be necessary in the future as the plume continues to migrate to the north and northeast.

The installation of deep Well MW26 reveals that dissolved phase ground water contaminants are present within bedrock fractures beneath the site. The addition of deep Wells MW24 and MW25 reveal that the unusually thick dissolved phase plume is present beneath much of the Circle Stop N Shop property. Additional bedrock wells would be necessary to determine the extent of contaminant migration within the bedrock fracture network away from the site. However, determining the location and depth of additional bedrock wells would be difficult due to the inhomogeneous nature of fracture flow hydrology.

KSG recommends quarterly sampling of the existing monitor well network and the potable water well located at the Saluda County Recycling Center. Future migration of dissolved phase hydrocarbons may eventually impact this well to the degree that it can no longer be used as a potable water source. KSG also recommends the preparation of a Corrective Action Plan in order to determine the most cost effective and technically sound method of site remediation.

GEOPROBE SAMPLING DEPTHS

GeoProbe Number	Sampling Depth
GP16	40 feet
GP17	40 feet
GP18 (1st attempt hit rock)	21 feet
GP18 (2nd attempt)	40 feet
GP19	45 feet
GP20	48 feet
GP21 (1st attempt hit rock)	23 feet
GP21 (2nd attempt)	40 feet
GP22	49 feet
Total GeoProbe Depth	337 feet

SHEALY ENVIRONMENTAL SERVICES, INC.
106 Vantage Point Drive
Cayce, South Carolina 29033
Telephone No. (803) 791-9700 Fax No. (803) 791-9111

SHEALY **Chain of Custody Record**

Number 06334

Client: KSC	Project Manager: BILL DUNNAGIN	Telephone No. / Fax No. / E-mail: 791-1996	Quote No.
Address: 171 LOTT CT	Sampler's Signature: x Scott Frost	Waybill No.	Page ____ of ____
City: W. COLUMBIA; State: SC; Zip Code: 29169	Printed Name: SCOTT FROST	Analysis (Attach list if more space is needed.)	
Project Name: CIRCLE STOP AND SHOP			
Project No.	P.O. No.		Lot No. DA3/016

Sample ID / Description (Containers for each sample may be combined on one line.)	Date	Time	G=Grab C=Composite	Matrix: Aqueous	Solid	Non-Aqueous	Unpres.	H2SO4	HNO3	HCl	NaOH	5035 Kit		BTEX, Naph, MTBE									Remarks / Cooler I.D.
GP 19	1/31	12:30	G	✓						3				✓									
GP 20	1/31	14:00	G	✓						3				✓									

Possible Hazard Identification: ☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown

Sample Disposal: ☐ Return to Client ☐ Disposal by Lab

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Turn Around Time Required (Prior lab approval required for expedited TAT.): ☐ Standard ☑ Rush (Specify) ASAP

QC Requirements (Specify)

1. Relinquished by: Scott Frost	Date: 1/31/02	Time: 15:10	1. Received by	Date	Time
2. Relinquished by	Date	Time	2. Received by	Date	Time
3. Relinquished by	Date	Time	3. Laboratory received by: PMC Chambers	Date: 1/31/02	Time: 1510

Comments: ASAP

LAB USE ONLY
Received on ice (Circle) Yes No Ice Pack
Receipt Temp. 5.0 °C

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

Shealy Form No. 1001

AN 02/02-340; 11128

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: CIRCLE STOP & SHOP

Project Manager: BILL DUNNABIN Phone: 791-1996

Project Number:

Collected By: SCOTT FROST

Laboratory: ACCESS

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX, NAPH, MTBE								Special Instructions
GP 21		2/07	1220		L	✓								By 2/13

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Scott Frost	Cheryl Bass	2/7/02	1300
Cheryl Bass	[illegible]	2/8/02	10:00

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

Rush # DJ 535

Due Wed 2/13

Access Analytical Chain of Custody Record

Laboratory ID: _____

Project Submission #: _____ RUSH # (if applicable): _____ PO #: _____

Company Name: KSG

Address: 171 LOTT CT

City: W. Cola State: SC Zip: 29169

Project Name: Circle Stop N Stop

Report To: Bill Dunnagan

REQUESTED LAB ANALYSIS:

Sample Label	Date Collected	Time Collected	Matr	# of Cont	PARAMETER: BTEX, Naph, MTBE							NOTES / COMMENTS
01 6P16	2/1	930	L	2	/							
02 6P17	2/1	920	L	2	/							
03 6P18	1/31	1730	L	2	/							
04 6P22	2/1	1100	L	2	/							

ACCESS ANALYTICAL, INC.

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243

Turnaround Time:

___Std. (5-7 Bus. days)
___RUSH*
*Date Required:_____
(For rush work, results faxed by end of business day on date required)

Samples Recd. on Ice?
___Yes
___No

Project Location:
___SC
___NC
___Other_____(specify)

Relinquished By:	Date:	Time:	Received By:
[illegible]	2/1/02	16:30	Cheryl Barr
Cheryl Barr	2/1/02	16:35	D. Markley

Original Copy - Returned w/Report
Yellow Copy - Access Analytical Copy
Pink Copy - Client Copy

Pg_____of_____

Access Analytical, Inc.

See reverse for Terms and Conditions

(AN) 03/02-0015; 17696-17700

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: CIRCLE STOP AND SHOP
Project Manager: BILL DUNNAGIN Phone: 791-1996
Project Number: 01616
Collected By: SCOTT FROST
Laboratory: ACCESS

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX, NAPH, MTBE	FERROUS IRON	METHANE *	NITRATE/SULFATE					Special Instructions
MW25		2/27	1335		L	✓	✓	✓	✓		17696			* Methane analyzed only
MW 01		2/27	1135		L	✓	✓	✓	✓		17697			
MW 02		2/27	1405		L	✓	✓	✓	✓		17698			
MW 08		2/27	1050		L	✓	✓	✓	✓		17699			
MW 24		2/27	1625		L	✓	✓	✓	✓		17700			

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagin	Cheryl Barr	2/28/02	14:30
Cheryl Barr	Fedex	2/28/02	1700
Fedex	[illegible]	3/1/02	10:00

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

Access Analytical - Chain of Custody Record

Laboratory ID: STL-M

Project Submission #: 02|2-1237 RUSH # 17051-17058 (JB) PO #:

Company Name: RSC

Address: 171 LOIT CT

City: W. COLUMBIA State: SC Zip: 29169

Project Name: CIRCLE STOP & SHOP

Report To: BILL DUNNAGIN

Sampled By (print): SCOTT FROST

Preservative: (*see codes below)

REQUESTED LAB ANALYSIS:

ACCESS ANALYTICAL, INC.

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243
www.accessanalyticalinc.com

Sample Label	Date Collected	Time Collected	Matrix	# of Cont.	METHANE	BTEX, NAPH, MTBE	FERROUS IRON	NITRATE/SULFATE				NOTES / COMMENTS
MW 11	2/26	10:10	L		✓	✓	✓	✓				17051
MW 16	2/26	14:15	L		✓	✓	✓	✓				17052
MW 06	2/26	11:25	L		✓	✓	✓	✓				17053
MW 12	2/26	9:40	L		✓	✓	✓	✓				17054
MW 03	2/26	14:45	L		✓	✓	✓	✓				17055
MW 15	2/26	13:50	L		✓	✓	✓	✓				17056
MW 05	2/26	10:50	L		✓	✓	✓	✓				17057
MW 14	2/26	12:10	L		✓	✓	✓	✓				17058
M ~~FW 19~~												

Turnaround Time:

___Std. (5-7 Bus. days)
___RUSH*
*Date Required:_____
(For rush work, results faxed by end of business day on date required)

Samples Recd. on Ice? ✓ Yes ___No

Project Location: ✓ SC ___NC ___Other_____(specify)

Relinquished By:	Date:	Time:	Received By:
Scott Frost	2/26/02	1600	
	2/26/02	1605	FEDEX
FEDEX			JS SRL 2/27/02 1000

* Preservative Codes (*place corresponding # in block above analysis field*): 0=None, 1=HCL, 2=HNO_3, 3=H_2SO_4, 4=NaOH, 5=$Na_2S_2O_3$, 6=$NaHSO_4$, Other=Specify

Only One Vial Received for all Samples. (JB) 2/27/02

Pg_____of_____

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E-A

Orig #: 15971 - 15972

Access Analytical - Chain of Custody Record

Laboratory ID: STL

Project Submission #: 2/02-1089 RUSH # PO #:

Company Name: KSG

Address: 171 CUM CT

City: W. Columbia State: SC Zip: 29169

Project Name: Circle Stop & Shop

Report To: Bill Dunnagin

Sampled By (print): Scott Frost

Preservative: (*see codes below)

REQUESTED LAB ANALYSIS:

ACCESS ANALYTICAL, INC.

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243
www.accessanalyticalinc.com

Sample Label	Date Collected	Time Collected	Matrix	# of Cont	BTEX, NAPH, MTBE	NITRATE/SULFATE	FERROUS IRON					NOTES / COMMENTS
MW 04	2/22	13:00	L		✓	✓	✓	15971				
MW 13	2/22	11:15	L		✓	✓	✓	15972				

Turnaround Time:
✓ Std. (5-7 Bus. days)
___ RUSH*
*Date Required:_____
(For rush work, results faxed by end of business day on date required)

Samples Recd. on Ice?
✓ Yes
___ No

Project Location:
✓ SC
___ NC
___ Other_____ (specify)

Relinquished By:	Date:	Time:	Received By:
Scott Frost	2/22/02	15:38	[illegible]
[illegible]	2/22/02	1540	[illegible]
[illegible]	2/23/02.	10:00	E-A

* Preservative Codes (*place corresponding # in block above analysis field*): 0=None, 1=HCL, 2=HNO_3, 3=H_2SO_4, 4=NaOH, 5=$Na_2S_2O_3$, 6=$NaHSO_4$, Other=Specify

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Sub # [redacted]/[redacted] 12[redacted]
Sub # 17100/17105
RA

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle Stop n Shop
Project Manager: Bill Dunnagan Phone: 803-791-1996
Project Number: 01616
Collected By: SF
Laboratory: Access Analytical

KSG Sample #	Lab Sample # (Sub #)	Date	Time	Description	Sample Matrix	BTEX/NAPH/MTBE	Nitrate	Sulfate	Ferrous Iron	Methane*				Special Instructions
MW17	17100	2/25/02	1435	Monitor Well	L	✓	✓	✓	✓	✓				Note: Please run
* MW19	17101	2/25/02	1225	" "	L	✓	✓	✓	✓	✓				methane from the
MW20	17102	2/25/02	15:25	" "	L	✓	✓	✓	✓	✓				VOC vial
MW21	17103	2/25/02	1330	" "	L	✓	✓	✓	✓	✓				*Only 1 vial for BTEX sample
MW22	17104	2/25/02	1410	" "	L	✓	✓	✓	✓	✓				* Methane subbed out
MW23	17105	2/25/02	1615	" "	L	✓	✓	✓	✓	✓				Received Broken Vial MW23
														RA 2/27/02
														OK to pour out of Ferrous Iron Bottle
														As per Ashley RA 2/27/02

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	Cheryl Barr	2/26/02	15:10
Cheryl Barr	Fedex	2/26/02	1700
Fedex	[illegible]	2/27/02	10:00

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

Access Analytical - Chain of Custody Record

(An) 02/03

Laboratory ID: _____

Project Submission #: ~~02/02~~ - 0012; 17673-17675 RUSH # _____ PO #: _____

Company Name: KSG

Address: 171 LOTT CT.

City: W. COLUMBIA State: SC. Zip: 29169

Project Name: CIRCLE STOP AND SHOP

Report To: KILL DUNNAGIN

Sampled By (print): SCOTT FROST

Preservative: (*see codes below)

REQUESTED LAB ANALYSIS

ACCESS ANALYTICAL, INC.

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243
www.accessanalyticalinc.com

	Sample Label	Date Collected	Time Collected	Matrix	# of Cont	FERROUS IRON	NITRATE / SULFATE	METHANE*	BTEX, NAPH, MTBE	LEAD	EDB BY 8011		NOTES / COMMENTS
7673	MW 26	2/28	12:30	L		✓	✓	✓	✓				* Methane subcd out
7674	MW 18	2/28	11:00	L		✓	✓	✓	✓				
7675	NORTHEY	2/28	11:15	L					✓	✓	✓		

Turnaround Time:

___Std. (5-7 Bus. days)
___RUSH*
*Date Required:_____
(For rush work, results faxed by end of business day on date required)

Samples Recd. on Ice? ✓ Yes ___No

Project Location: ✓ SC ___NC ___Other_____(specify)

Relinquished By:	Date:	Time:	Received By:
Scott Frost	2/28/02	13:10	Cheryl Barr
Cheryl Barr	2/28/02	1700	Fedex
Fedex	3/1/02	10:00	[illegible]

* Preservative Codes (*place corresponding # in block above analysis field*): 0=None, 1=HCL, 2=HNO_3, 3=H_2SO_4, 4=NaOH, 5=$Na_2S_2O_3$, 6=$NaHSO_4$, Other=Specify

Pg_____of_____

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EA

Access Analytical - Chain of Custody Record

Laboratory ID: _____

Project Submission #: 2/03-0087 Ord#: 18128 RUSH # _____ PO #: _____

Company Name: KSG

Address: 171 Lott Ct

City: W. Columbia State: SC Zip: 29169

Project Name: Circle Stop & Shop (Saluda Recycling Center)

Report To: Bill Dunnagin

Sampled By (print): Scott Frost

Preservative: (*see codes below)

ACCESS ANALYTICAL, INC.

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243
www.accessanalyticalinc.com

Sample Label	Date Collected	Time Collected	Matrix	# of Cont	REQUESTED LAB ANALYSIS: BTEX, NAPH, MTBE	Lead	EDB by 8011					NOTES / COMMENTS
Saluda Recycling Center	3-1-02	14:30	L		✓	✓	✓	18128				

Turnaround Time:

___Std. (5-7 Bus. days)
___RUSH*
*Date Required:_____
(For rush work, results faxed by end of business day on date required)

Samples Recd. on Ice?
___Yes
___No

Project Location:
✓ ___SC
___NC
___Other_____(specify)

Relinquished By:	Date:	Time:	Received By:
Scott Frost	3/1/02	15:20	
	3/1/02	1700	FEDEX
FEDEX	3/02/02	10:00	E.A STL

* Preservative Codes (*place corresponding # in block above analysis field*): 0=None, 1=HCL, 2=HNO_3, 3=H_2SO_4, 4=NaOH, 5=$Na_2S_2O_3$, 6=$NaHSO_4$, Other=Specify

Pg 1 of 1

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MW 14

DHEC
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION: Circle Stop N Shop
Name: (last) (first)
Address: HWY 378 HWY 391
City: Saluda State: SC. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Circle Stop N Shop
Street Address: HWY 378 + HWY 391
City: Saluda SC. Zip:
COUNTY: Saluda
Latitude: Longitude:

3. SYSTEM NAME: Circle Stop N Shop **SYSTEM NUMBER:**

4. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-37 Red Silty SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

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

8. WELL DEPTH (completed) Date Started: 2-18-02
37 ft. Date Completed: 2-19-02

9. ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 22 ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 15'
Set Between: 22 ft. and 37 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 21 ft. to 37 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 19 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No 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: Richy L Lemire CERT. NO.: 1423
Address: SREDACKO 10401 John Price Rd Charlotte NC.
Telephone No.: 1-800-849-0353

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

Signed: Richy L Lemire Date: 2-21-02
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW19**
TOTAL DEPTH: **37'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Richie Lemire
JOB NO.:	01616	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	02/18/02	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILTY SAND: Brown, fine-grained, no odor			0 ppm		Cap and pad
-5							
-10		SILT: Brown, partially weathered rock, slight petroleum odor					Grout
-15					54 ppm		
-20							Bentonite
▼							Sand
-25		SANDY SILT: Brown, tan, partially weathered rock, slight petroleum odor			198 ppm		
-30							
-35					576 ppm		Screened interval -22' to -37'

MW 20

DHEC
PROMOTE PROTECT PROSPER

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

1. WELL OWNER INFORMATION: Circle Stop N Shop
Name: (last) (first)
Address: HWY 378 + HWY 391
City: Saluda State: S.C. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Circle Stop N Shop
Street Address: HWY 378 + HWY 391
City: Saluda S.C. Zip:
COUNTY: Saluda
Latitude: Longitude:

3. SYSTEM NAME: Circle Stop N Shop **SYSTEM NUMBER:**

4. CUTTING SAMPLES: ☒ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-40 Red Silty SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

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

8. WELL DEPTH (completed) Date Started: 2-18-02
40 ft. Date Completed: 2-18-02

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 25 ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 010 Length: 15
Set Between: 25 ft. and 40 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 23 ft. to 45 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 21 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No 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: Richy C Lemire CERT. NO.: 1423
Address: SAEDACCO
10401 John Price Rd
Charlotte N.C.
Telephone No.: 1-800-849-0353

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

Signed: Richy Lemire Date: 2-21-02
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW20**
TOTAL DEPTH: **40'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Richie Lemire
JOB NO.:	01616	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	02/18/02	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SANDY SILT: Brown, tan, no odor					Cap and pad
-5							
-10		SILT: Brown, partially weathered rock, no odor			0 ppm		Grout
-15							
-20		SANDY SILT: Brown, partially weathered rock, no odor			5 ppm		Bentonite
-25							Sand
-30					25 ppm		
-35					102 ppm		Screened interval -25' to -40'
-40							

MW 21

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: Circle Stop + Shop (last) (first)
Address: HWY 378 + HWY 391
City: Saluda State: S.C. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Circle Stop + Shop
Street Address: HWY 378 + HWY 391
City: Saluda S.C. Zip:
COUNTY: Saluda
Latitude: Longitude:

3. SYSTEM NAME: Circle Stop + Shop **SYSTEM NUMBER:**

4. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Red Silty SAND		
0 - 41		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

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

8. WELL DEPTH (completed) Date Started: 1-31-02
41 ft. Date Completed: 2-1-02

9. ☐ Mud Rotary ☐ Jetted ☑ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2
Type: ☑ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 21 ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: .010 Length: 20'
Set Between: 21 ft. and 41 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 19 ft. to 41 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 17 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No 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: Richy Llemire CERT. NO.: 1423
Address: (SAEDACCO) 10401 John Price Rd Charlotte N.C.
Telephone No.: 1-800-849-0353

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

Signed: Richy Llemire Date: 2-4-02
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

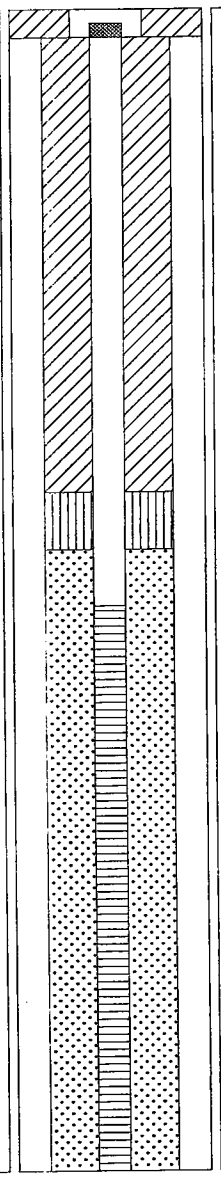
BOREHOLE NO.: **MW21**
TOTAL DEPTH: **41'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Richie Lemire**
JOB NO.:	**01616**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**01/31/02**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES:
SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5							
-10					0 ppm		Grout
-15							Bentonite
-20 ▼					21 ppm		
-25							Sand
-30		SILT: Brown, red, with partially weathered rock, no odor			13 ppm		
-35							Screened interval -21' to -41'
-40					34 ppm		



MW-22

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: Circle Stop + Shop
(last) (first)
Address: Hwy 378 + Hwy 391
City: Saluda State: SC Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Circle Stop + Shop
Street Address: Hwy 378 + Hwy 391
City: Saluda SC. Zip:
COUNTY: Saluda
Latitude: Longitude:

3. SYSTEM NAME: Circle Stop + Shop **SYSTEM NUMBER:**

4. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-46		
Red Silty SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

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

8. WELL DEPTH (completed) Date Started: 1-31-02
46 ft. Date Completed: 2-1-02

9. ☐ Mud Rotary ☐ Jetted ☑ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 26 ft. depth
in. to ft. depth
Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2
Slot/Gauge: 010 Length: 20
Set Between: 26 ft. and 46 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 24 ft. to 46 ft.
Effective size #2 Uniformity Coefficient SAND

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 22 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No 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: Richy Llemire (SAEDACCO) CERT. NO.: 1423
Address: 10401 John Price Road Charlotte N.C.
Telephone No.: 1-800-849-0353

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

Signed: Richy Llemire Date: 2-4-02
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

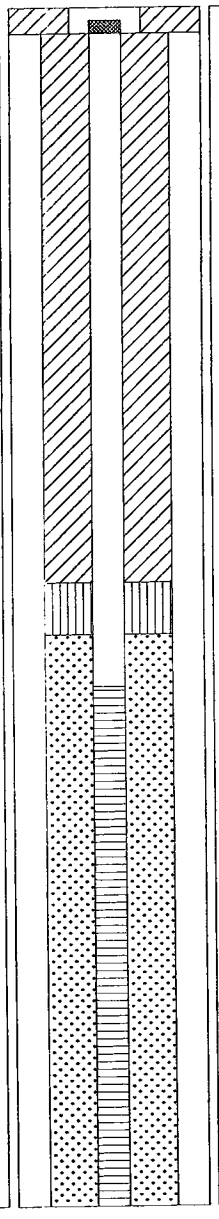
BOREHOLE NO.: **MW22**
TOTAL DEPTH: **46'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Richie Lemire
JOB NO.:	01616	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	01/31/02	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Red, no odor					Cap and pad
-5							
-10					0 ppm		Grout
-15							
-20		SILT: Brown, w/ partially weathered rock, no odor			6 ppm		Bentonite
-25 ▼							Sand
-30					23 ppm		
-35							Screened interval -26' to -46'
-40					17 ppm		
▽ -45							



MW 23

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: Circle Stop N Shop (last) (first)
Address: Hwy 378 + Hwy 391
City: Saluda State: S.C. Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: Circle Stop + Shop
Street Address: Hwy 378 Hwy 391
City: Saluda S.C Zip:
COUNTY: Saluda
Latitude: Longitude:

3. SYSTEM NAME: Circle Stop N Shop **SYSTEM NUMBER:**

4. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
0-45		
Red Silty SAND		
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

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

8. WELL DEPTH (completed) Date Started: 2-18-02
45 ft. Date Completed: 2-18-02

9. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☒ Threaded ☐ Welded
Diam.: 2
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 30 ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 010 Length: 15
Set Between: 30 ft. and 45 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 28 ft. to 45 ft.
Effective size 2 Uniformity Coefficient SAND

16. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 26 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No 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: Richy LLemire CERT. NO.: 1423
Address: SAEDACCO
10401 John Price Rd
Charlotte NC
Telephone No.: 1-800-849-0353

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

Signed: Richy L Lemire Date: 2-21-02
Authorized Representative

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW23**
TOTAL DEPTH: **45'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Richie Lemire**
JOB NO.:	**01616**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**02/18/02**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES:
SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5							
-10					0 ppm		Grout
-15							
-20					4 ppm		
-25							Bentonite
-30		SILT: Brown, red, with partially weathered rock, no odor			7 ppm		Sand
-35 ▼							
-40					13 ppm		Screened interval -30' to -45'
▽							
-45							

DHEC
PROMOTE PROTECT PROSPER

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

MW-24

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: CIRCLE STOP-N-SHOP
Street Address: HIGHWAY 378 @ HIGHWAY 391
City: SALUDA S.C Zip:
COUNTY:
Latitude: Longitude:

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

4. CUTTING SAMPLES: ☑ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED SILTY CLAY	0	20
" "	20	40
SILTY CLAY + PWR	40	65
" "	65	70

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW24**
TOTAL DEPTH: **70'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01616	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	02/18/02, 02/19/02	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: Circle Stop N Shop

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		CLAY AND SILT: Red-brown, petroleum odor					Cap and pad
-5							
-10							
-15							
-20							
-25		SILT: Brown, clayey, petroleum odor					Grouted Annulus
-30							
-35		CLAY AND SILT: Brown-red, strong petroleum odor					
-40		SILT: Brown, clayey, w/partially weathered rock					
-45							6-inch PVC casing (0 to 55')
-50		SILT: Tan, clayey, w/partially weathered rock					
-55							
-60							
-65		SANDY SILT: Brown, w/partially weathered rock, wet @ 68'					Bentonite Sand Screened interval -65' to -70'
-70							

DHEC
PROMOTE PROTECT PROSPER

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

MW-25

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: CIRCLE SIGN - SITE P
Street Address: HIGHWAY 378 @ HIGHWAY 391
City: SALUDA S.C Zip:
COUNTY:
Latitude: Longitude:

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

4. CUTTING SAMPLES: ☑ Yes ☐ No
Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED SILTY CLAY	0	10
" "	10	40
SILTY CLAY PWR	40	60
" "	60	65
" "	65	
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

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

8. WELL DEPTH (completed) Date Started: 2-18-02
65' ft. Date Completed: 2-19-02

9. ☐ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☑ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized
☐ Steel ☐ Other
0.6 in. to 60' ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: SCH 40 PVC Diam.: 2"
Slot/Gauge: .010 Length: 5'
Set Between: 60' ft. and 65' 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 58' ft. to 65' ft.
Effective size 20/30 Uniformity Coefficient yes

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 1' ft. to 56' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No 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: STEVE ROLONIEWICZ CERT. NO.: 1097
Address: 304 HEATHER GLEN LN BELMONT NC 28012
Telephone No.: 704 - 825 - 7755

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

Signed: Authorized Representative Date: 2-20-02

DHEC 1903 (07/2001) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW25**
TOTAL DEPTH: **65'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**01616**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**02/18/02, 02/19/02**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: Circle Stop N Shop

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		CLAY AND SILT: Red-brown, petroleum odor					Cap and pad
-5							
-10							
-15							
-20							
-25		SILT: Brown, clayey, petroleum odor					Grouted Annulus
-30							
▼		CLAY AND SILT: Brown-red, strong petroleum odor					
-35							
-40		SILT: Brown, clayey, w/partially weathered rock					
-45							6-inch PVC casing (0 to 55')
-50		SILT: Tan, clayey, w/partially weathered rock					
-55							
-60							Bentonite Sand
-65							Screened -60' to -65'

DHEC
PROMOTE PROTECT PROSPER

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

MW-26

1. WELL OWNER INFORMATION:
Name: (last) (first)
Address:
City: State: Zip:
Telephone: Work: Home:

2. LOCATION OF WELL:
Name: CIRCLE STOP-N-SHOP
Street Address: HIGHWAY 378 @ HIGHWAY 391
City: SACODA SC Zip:
COUNTY:
Latitude: Longitude:

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

4. CUTTING SAMPLES: ☑ Yes ☐ No
Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
RED SILTY CLAY	0	20
" "	20	40
SILTY CLAY PUR	40	80
" "	80	100
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

5. REMARKS:

6. PERMIT NUMBER:

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

8. WELL DEPTH (completed) Date Started: 2-19-02
145' ft. Date Completed: 2-20-02

9. ☐ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☑ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

10. CASING: ☑ Threaded ☐ Welded
Diam.: 2"
Type: ☑ PVC ☐ Galvanized
☐ Steel ☐ Other
0.6 in. to 140' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below
Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

11. SCREEN
Type: SCH 40 PVC Diam.: 2"
Slot/Gauge: .010 Length: 5'
Set Between: 140' ft. and 145' 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 135' ft. to 150' ft.
Effective size 20/30 Uniformity Coefficient YES

16. WELL GROUTED? ☑ Yes ☐ No
☑ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 1' ft. to 136' ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No 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: STEVE POLONI BUICK CERT. NO.: 1097
Address: 304 HEATHER GLEN CIR BELMONT NC 28012
Telephone No.: 704 825-7755

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

Signed: _____ Date: 2-20-02
Authorized Representative

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW26**
TOTAL DEPTH: **145'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**01616**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**02/19/02, 02/20/02**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES:
Circle Stop N Shop

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		CLAY AND SILT: Red-brown, petroleum odor					Cap and pad
-25		SILT: Brown, clayey, petroleum odor					
-35		CLAY AND SILT: Brown-red, strong petroleum odor					
-40		SILT: Brown, clayey, w/partially weathered rock					
-50		SILT: Tan, clayey, w/partially weathered rock					Grouted Annulus
-100		SANDY SILT: Gray, tan, coourse-grained, w/partially weathered rock					6-inch PVC casing (0 to 100')
-120		BEDROCK: Encountered fracture at -138'					Bentonite Sand Screened

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW01

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	49.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	31.98 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	18.02 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	3.0 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	9.0 Gallons
DATE:	02/27/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1125	3.0	17.2	27	4.25	Strong petroleum odor.
1127	6.0	17.5	30	4.17	
1128	9.0	17.6	31	4.08	
					DO = 2.4

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW02

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	30.64 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	9.36 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.5 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	4.5 Gallons
DATE:	02/27/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1355	1.5	21.1	28	4.78	Strong petroleum odor
1358	3.0	21.0	24	4.74	
1400	4.5	20.1	25	4.63	
					DO= 2.1

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW03

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	30.20 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	9.80 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.6 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	5.4 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1435	1.6	21.3	31	5.04	
1437	3.2	21.6	26	4.63	
1438	4.8	21.6	26	4.54	
					DO = 2.8

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW04

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	34.47 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	5.53 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	0.9 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	3.3 Gallons
DATE:	02/22/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1250	1.0	18.4	297	5.79	Strong petroleum odor.
1255	2.0	16.9	305	5.57	
1259	3.0	16.8	326	5.54	
					DO = 1.4

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW05

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	45.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	30.00 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	15.00 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.5 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	7.5 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1045	2.5	18.9	50	6.15	No odor.
1046	5.0	19.8	49	5.91	
1048	7.5	20.2	48	5.74	
					DO= 4.0

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW06

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	27.92 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	12.08 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.0 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	6.0 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1115	2.0	20.0	25	5.90	No odor.
1117	4.0	20.4	23	5.26	
1119	6.0	20.4	25	5.06	
					DO = 3.1

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW07

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	34.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	Feet
CITY:	Leesville	WATER HEIGHT (Hw):	Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
					FREE PRODUCT- 0.33'

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW08

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	32.30 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	7.70 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.3 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	3.9 Gallons
DATE:	02/27/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1043	1.3	13.4	56	6.01	No odor
1045	2.6	14.5	58	5.69	
1047	3.9	16.1	62	5.55	
					DO = 2.8

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW09

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	Feet
CITY:	Leesville	WATER HEIGHT (Hw):	Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	
DATE:	02/27/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
					Well was dry

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW10

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	45.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	Feet
CITY:	Leesville	WATER HEIGHT (Hw):	Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	Gallons
DATE:	02/27/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
					Well was dry

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW11

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	32.61 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	7.39 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.2 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	3.6 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1000	1.2	18.0	71	6.05	No odor
1002	2.4	19.1	53	5.65	
1004	3.6	18.9	57	5.38	
					DO= 2.9

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW12

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	30.01 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	9.99 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.6 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	4.8 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
930	1.6	19.3	53	6.70	No odor
932	3.2	20.0	58	6.51	
935	4.8	19.9	55	6.21	
					DO= 3.0

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW13

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	62.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	34.64 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	27.36 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	4.5 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	13.5 Gallons
DATE:	02/22/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1005	4.5	17.0	277	9.82	Petroleum odor
1023	9.0	17.5	280	9.76	
	13.5				DRY
					DO= 1.7

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW14

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	27.35 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	12.65 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.1 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	6.3 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1200	2.1	20.3	23	5.25	No odor
1202	4.2	20.4	21	5.17	
1205	6.3	21.0	20	5.08	
					DO= 3.8

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW15

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	35.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	28.19 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	6.81 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.1 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	3.3 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1345	1.1	21.4	33	5.61	No odor.
1346	2.2	21.1	31	5.42	
1348	3.3	21.0	33	5.34	
					DO= 2.5

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW16

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	35.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	29.28 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	5.72 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	0.9 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	2.7 Gallons
DATE:	02/26/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1409	0.9	20.7	83	5.38	No odor.
1411	1.8	19.9	72	4.97	
1413	2.7	19.8	84	4.80	
					DO= 2.9

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW17

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	37.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	24.68 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	12.32 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.0 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	6.0 Gallons
DATE:	02/25/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1425	2.0	19.5	65	5.87	No odor
1427	4.0	19.5	69	5.56	
1430	6.0	18.8	60	5.21	
					DO= 1.7

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW18

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	102.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	35.15 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	66.85 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	11.1 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	33.3 Gallons
DATE:	02/28/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1010	11.1	15.7	136	6.71	Petroleum odor.
1038	22.2	17.1	113	6.37	
1055	33.3	18.0	154	6.52	
					DO= 2.1

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW19

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	37.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	23.85 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	13.15 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.3 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	23.0 Gallons
DATE:	02/25/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1210	2.3	20.9	80	8.58	No odor
1212	4.6	20.6	56	7.04	
1214	6.9	20.5	50	6.75	
1216	9.2	20.6	63	6.47	
1217	11.5	20.3	78	6.20	
1219	13.8	20.3	85	6.09	
1222	16.1	20.1	92	5.86	DRY
	18.4				
	20.7				
	23.0				
					DO= 2.5

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW20

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	25.22 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	14.78 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.4 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	24.0 Gallons
DATE:	02/25/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1510	2.4	21.0	149	5.72	No odor
1512	4.8	21.5	136	4.99	
1514	7.2	21.4	138	4.80	
1517	9.6	21.2	143	4.75	
1519	12.0	21.2	149	4.74	DRY
	14.4				
	16.8				
	19.2				
	21.6				
	24.0				
					DO= 2.9

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW21

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	41.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	22.03 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	18.97 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	3.2 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	32.0 Gallons
DATE:	02/25/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1300	3.2	18.6	34	7.01	No odor
1303	6.4	19.3	33	6.63	
1305	9.6	19.6	31	6.14	
1308	12.8	19.3	28	5.89	
1311	16.0	19.2	26	5.72	
1313	19.2	19.4	28	5.60	
1315	22.4	19.1	33	5.57	
1317	25.6	18.9	30	5.46	
1320	28.8	18.9	31	5.53	
1323	32.0	18.8	32	5.59	
					DO= 4.2

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW22

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	46.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	25.90 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	20.10 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	3.3 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	33.0 Gallons
DATE:	02/25/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1350	3.3	19.8	62	6.25	No odor
1352	6.6	19.3	51	5.58	
1355	9.9	19.2	53	5.31	
1357	13.2	19.4	63	5.12	
1400	16.5	19.1	58	5.08	
1402	19.8	18.9	49	5.01	
	23.1				
	26.4				
	29.7				
	33.0				
					DO= 4.6

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW23

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	45.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	36.36 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	8.64 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.4 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	14.0 Gallons
DATE:	02/25/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1550	1.4	19.1	125	5.58	No odor
1552	2.8	18.6	131	5.36	
1554	4.2	18.4	137	5.12	
1556	5.6	18.2	133	4.93	
1558	7.0	18.1	126	4.80	
1601	8.4	18.1	123	4.81	
1603	9.8	18.0	117	4.77	
1605	11.2	18.0	118	4.84	
1607	12.6	18.0	123	4.80	
1610	14.0	18.0	128	4.83	
					DO= 5.9

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW24

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	70.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	30.71 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	39.29 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	6.6 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	66.0 Gallons
DATE:	02/27/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1425	6.6	20.3	134	5.26	No odor
1429	13.2	21.4	143	5.51	
1433	19.8	21.7	152	5.68	
1437	26.4	19.9	136	5.85	
1442	33.0	19.6	124	5.92	
1451	39.6	19.1	101	5.76	
1513	46.2	18.8	87	5.61	
1535	52.8	19.0	100	5.56	
1557	59.4	19.4	82	5.61	
1620	66.0	18.9	89	5.53	
					DO= 2.1

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW25

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	65.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	32.57 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	32.43 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	5.4 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	54.0 Gallons
DATE:	02/27/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1230	5.4	20.9	89	5.72	No odor
1234	10.8	20.6	96	5.83	
1237	16.2	20.3	93	5.90	
1241	21.6	20.0	85	5.99	
1244	27.0	19.4	78	5.88	
1249	32.4	18.9	75	5.81	
1255	37.8	19.3	70	5.78	
1310	43.2	19.1	74	5.82	
1319	49.6	18.9	76	5.75	
1331	54.0	19.2	74	5.79	
					DO= 2.2

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW26

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	145.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	140.51 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	4.49 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	0.8 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	8.0 Gallons
DATE:	02/28/02	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
					Approximate 40 gallons of water
					were purged from Well MW26.
					Once the initial purge process was
					finished, the well only recharged
					approx. 4.5 feet. Recharge was so
					slow that purge parameters were
					not recorded.
					DO= 3.5

Please print or type
(Form designed for use on elite (12-pitch) typewriter.)

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.: . . . . . .
Manifest Doc. No.: 0 2 0 0 1
2. Page 1 of 1
0203077

3. Generator's Name and Mailing Address
CIRCLE STOP N SHOP
SALUDA TRAFFIC CIRCLE, LEESVILLE, SC 29070
4. Generator's Phone ( )(803) 791-1996

5. Transporter 1 Company Name: Robinson Services
6. US EPA ID Number: . . . . . .
A. Transporter's Phone

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

9. Designated Facility Name and Site Address
EAGLE DISPOSAL, INC.
36 CLEARWATER DRIVE
WALTERBORO, SC 29488
10. US EPA ID Number: N / A 0 0 0 0 0 1 4 5 0
C. Facility's Phone ( ) - (843) 893-2580

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. SOIL NON HAZARDOUS/NON REGULATED #USW-01438	35	DM		P
b. PURGE WATER NON HAZARDOUS/NON REGULATED #USW-01439	2	DM		G
c.				
d.				

D. Additional Descriptions for Materials Listed Above
STATE OF ORIGIN: SC
A. USW-01438 B. USW-01439

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
NEEDS CD SENT TO US WASTE
CONTACT BILL DUNNAGAN 803-791-1996

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
SCOTT FROST KNS REMEDIATING	Scott Frost KNS Rep.	3	22	02

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name	Signature	Month	Day	Year
Willie Robinson	Willie Robinson	3	22	02

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

Printed by J. J. KELLER & ASSOCIATES, INC.
Neenah, WI 54957-0368

GENERATOR'S COPY

12-BLS-C5 Rev. 12/98

TestAmerica
INCORPORATED

October 31, 2001 Page 1

CLIENT: SOUTH CAROLINA DEPT. HEALTH
2600 BULL STREET
COLUMBIA, SC 29201

ATTN: DEBRA THOMA

Order Number: 17924
Project Name: CIRCLE STOP N SHOP
Project Number: 05981
Date Received: 10/27/01

Sample Identification	Lab Number	Collection Date and Time	
WSW	01-F27266	10/26/01	10:30

Approved By: _____

Mark Rusler, Director of Technical Services
Elizabeth A. Rich, Q.A. Officer

Florida Certification Number: E83012 / CQAP990129

Attachments: chain-of-custody/field sheet

UST PROGRAM DOCKETING # #35 Tech

CLIENT: SOUTH CAROLINA DEPT. HEALTH
2600 BULL STREET
COLUMBIA, SC 29201

ATTN: DEBRA THOMA

Order Number: 17924
Project: CIRCLE STOP N SHOP
Sample ID: WSW
Lab Number: 01-F27266
Date Collected: 10/26/01
Time Collected: 10:30
Date Received: 10/27/01

LABORATORY REPORT

Analyte	Result	Q	Units	Report Limit	Dil Factor	Date	Time	Analyst	Method	Batch
VOLATILE ORGANICS										
Benzene	< 1.00	U	ug/l	1.00	1	10/30/01	16:04	CTH	8260B	9424
Ethylbenzene	< 1.00	U	ug/l	1.00	1	10/30/01	16:04	CTH	8260B	9424
Naphthalene	< 5.00	U	ug/l	5.00	1	10/30/01	16:04	CTH	8260B	9424
Toluene	< 1.00	U	ug/l	1.00	1	10/30/01	16:04	CTH	8260B	9424
Xylenes	< 1.00	U	ug/l	1.00	1	10/30/01	16:04	CTH	8260B	9424
Methyl-t-butyl ether	7.73		ug/l	1.00	1	10/30/01	16:04	CTH	8260B	9424

Surrogate	% Recovery	Target Range
8260B: 1,2-Dichloroethane-d4	95	80.0 - 120
8260B: Toluene-d8	103	80.0 - 117
8260B: 4-Bromofluorobenzene	98	74.0 - 121
8260B: Dibromofluoromethane	102	80.0 - 120

CLIENT: SOUTH CAROLINA DEPT. HEALTH
Order No.: 17924
Project: CIRCLE STOP N SHOP

Qualifier Definitions:

B = results based upon colony counts outside the acceptable range
I = the reported value is between the laboratory method detection limit and the laboratory practical quantitation limit
J1 = surrogate recovery limits have been exceeded
J3 = the reported value failed to meet the established quality control criteria for either precision and/or accuracy
J4 = the sample matrix interfered with the ability to make an accurate determination
J5 = the data is questionable because of improper lab or field protocols
K = off-scale low, actual value is less than the value given
L = off-scale high, actual value is known to be greater than the value given
Q = sample held beyond acceptable holding time
U = the compound was analyzed for but not detected
V = the analyte was detected in both the sample and the associated method blank
Y = the laboratory analysis was from an unpreserved or improperly preserved sample
Z = too many colonies present (TNTC)
TIC = analyzed by MS T.I.C.(tentatively identified compound)

*TA = sampled by TestAmerica,Inc. Field Services

the # indicates reported value is outside method defined and/or charted laboratory control limit

CLIENT: SOUTH CAROLINA DEPT. HEALTH
Order No.: 17924
Project: CIRCLE STOP N SHOP

PROJECT QUALITY CONTROL DATA

Laboratory Control Data

Analyte	Units	Known Val.	Analyzed Val	% Recovery	Target Range	Q.C. Batch
Benzene	ug/l	50.0	51.9	104.	70 - 130	9424
Ethylbenzene	ug/l	50.0	50.0	100.	70 - 130	9424
Naphthalene	ug/l	50.0	49.9	99.8	70 - 130	9424
Toluene	ug/l	50.0	53.6	107.	70 - 130	9424
Xylenes	ug/l	150.	149.	99.3	70 - 130	9424
Methyl-t-butyl ether	ug/l	50.0	53.6	107.	70 - 130	9424

Duplicates

Analyte	Units	Orig. Val.	Duplicate	RPD	Limit	Q.C. Batch	Duplicated
Benzene	ug/l	51.9	51.4	0.97	30.0	9424	known
Ethylbenzene	ug/l	50.0	49.4	1.21	30.0	9424	known
Naphthalene	ug/l	49.9	48.2	3.47	30.0	9424	known
Toluene	ug/l	53.6	52.6	1.88	30.0	9424	known
Xylenes	ug/l	149.	147.	1.35	30.0	9424	known
Methyl-t-butyl ether	ug/l	53.6	52.8	1.50	30.0	9424	known

Blank Data

Analyte	Blank Value	Units	Q.C. Batch
Benzene	< 1.00	ug/l	9424
Ethylbenzene	< 1.00	ug/l	9424
Naphthalene	< 5.00	ug/l	9424
Toluene	< 1.00	ug/l	9424
Xylenes	< 1.00	ug/l	9424
Methyl-t-butyl ether	< 1.00	ug/l	9424

FAX CHAIN TO COLUMBIA

(17924) **RUSH!**

TestAmerica INCORPORATED

Division/Laboratory Name: _____

To assist us in using the proper analytical methods, is this work being conducted for regulatory purposes?
Compliance Monitoring _____

Client Name: SCDHEC Client #: 2200

Address: 2600 Bull St.

City/State/Zip Code: Col., S.C. 29201

Project Manager: TM Williams

Telephone Number: 803 898-4350 Fax: 803 898-4330

Sampler Name: (Print Name) B. Fuller

Sampler Signature: [signature]

Project Name: Circle Stop N-Shop

Project #: 05981

Site/Location ID: Saluda Co. State: S.C.

Report To: D. Thoma

Invoice To: P. Holland

Quote #: _____ PO#: 179220

TAT
___ Standard
X Rush (surcharges may apply)
Date Needed: 24 HOUR
Fax Results: Y N
RUSH!

SAMPLE ID	Date Sampled	Time Sampled	G = Grab, C = Composite	Field Filtered	Matrix: SL - Sludge, DW - Drinking Water, GW - Groundwater, S - Soil/Solid, WW - Wastewater, Specify Other	Preservation & # of Containers: HNO_3	HCl	NaOH	H_2SO_4	Methanol	None	Other (Specify)	Analyze For: BTEX Naph, 5 MSE 8260											REMARKS
MW	10/26/01	1030	G		GW		3						X						F22266					* Results needed by 9:30am / 10/30 24 hours

QC Deliverables
___ None
___ Level 2 (Batch QC)
___ Level 3
___ Level 4
Other: _____

Special Instructions:
CR # 15032:P Fed Ex# 826195658143
RUSH! 3X10A

Relinquished By:	Date:	Time:	Received By:	Date:	Time:
B. Fuller	10/26/01	1245	C. Compton	10/26/01	12:45
[signature]	10-27-01	10:30	M. Bowers	10-27-01	10:15
Relinquished By:	Date:	Time:	Received By:	Date:	Time:

LABORATORY COMMENTS:
Init Lab Temp:
Rec Lab Temp: 3°
Custody Seals: Y N N/A
Bottles Supplied by TestAmerica: Y N
Method of Shipment:

KLEEN SITES GEOSERVICES, INC.

ENVIRONMENTAL CONSULTANTS

October 29, 2001

Ms. Kimberly A. Wilson, P.G.
South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Re: Submittal of Tier II Assessment Report (Addendum 01)
Circle Stop N Shop
Saluda County, SC
UST Permit# 05981, CP# 13956

Dear Kimberly:

One copy of the Tier II Assessment Report (Addendum 01) for the above referenced facility is enclosed for your review. An Assessment Component Invoice for this scope of work has been sent directly to Ms. Pat Holland for payment. Please contact me at (803) 791-1996 ext. 12 if you have any questions concerning the enclosed report.

Sincerely,

Kleen Sites Geoservices, Inc.

791-4269

William (Bill) Dunnagan, P.G.
Principal Geologist

Enclosure

RECEIVED
OCT 31 2001
Underground Storage Tank Program

UST PROGRAM DOCKETING # 3 b Tech

• 171 Lott Court, West Columbia, South Carolina 29169 •
(803) 791-1996 (803) 791-4269 (Fax)
ksg1@alltel.net

Tier II Assessment Report
(Addendum 01)

Circle Stop N Shop
U.S. Hwy. 378
Saluda Traffic Circle
Saluda County, SC
Site ID No. 05981

Invoice Paid

RECEIVED
OCT 31 2001
Underground Storage Tank Program

October 26, 2001

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Kleen Sites Geoservices, Inc.
UST Site Rehabilitation Contractor #8
171 Lott Court
West Columbia, South Carolina 29169

Signature Page

This document entitled "Tier II Assessment Report – Addendum 01", has been prepared for the South Carolina Department of Health and Environmental Control to describe supplemental Tier II Assessment activities conducted at the Circle Stop N Shop facility located in Saluda County, South Carolina. This environmental assessment has been performed under the direct supervision of William B. Dunnagan, Jr. in accordance with accepted quality control practices.

KLEEN SITES GEOSERVICES, INC.

William B. Dunnagan, Jr., P.G.
South Carolina Registration #937
Project Geologist

Professional Seal

10/26/01

Tier II Assessment Report
Addendum 01
Circle Stop N Shop
Saluda County, South Carolina

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3.4 Ground Water Sampling 11
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C) Waste Disposal Manifests

SECTION 1.0

INTRODUCTION

Circle Stop N Shop is located on the Saluda Traffic Circle at the intersection of U.S. Hwy. 378 and S.C. Hwy. 391 in Saluda County, South Carolina. The subject facility is a convenience store that currently sells gasoline, diesel fuel and kerosene to the public. One 3,000 gallon leaded gasoline underground storage tank (UST) and one 3,000 gallon unleaded gasoline UST were installed onsite in 1978. These tanks were excavated and removed from the ground in December 1998. One 8,000 gallon unleaded gasoline UST was installed in December 1998 and is currently in use. A site location map and a site topographic map are provided in Figures 1 and 2, respectively. Figure 3 provides a site layout map.

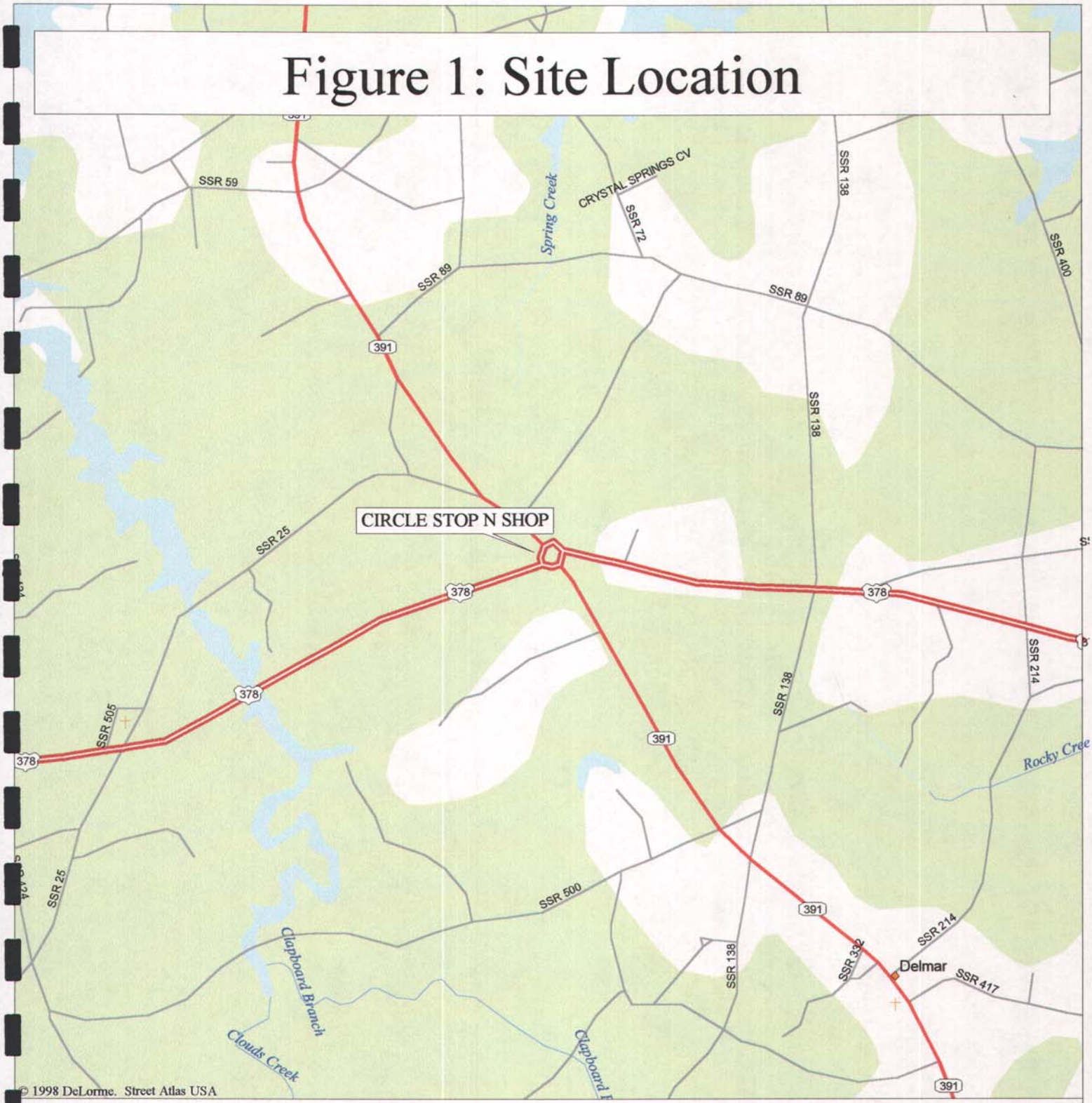
A soil contamination assessment was performed by personnel from Nu-Way Environmental, Inc. in December 1991 to check for the presence of soil contamination around the existing UST system. As a result of this initial environmental investigation, a release of petroleum product into the environment at the subject property was reported to the SCDHEC on December 27, 1991.

In an effort to determine whether the surficial aquifer had been adversely impacted by the UST system release, the SCDHEC requested that an Initial Ground Water Assessment (IGWA) be conducted at the Circle Stop N Shop facility. Personnel from Kleen Sites Geoservices, Inc. (KSG) conducted the IGWA and prepared a report dated April 19, 2000. The results of this investigation confirmed that ground water contamination was present

In response to the IGWA Report, the SCDHEC requested that a Tier I Assessment be performed to generate additional soil and ground water analytical data on the site. KSG personnel conducted the Tier I Assessment in August and September of 2000. Elevated petroleum hydrocarbon levels were identified in soil and ground water samples that were collected during this assessment. A Tier I Assessment Report dated September 22, 2000 was submitted to the SCDHEC for review and comment.

Following a review of the Tier I Assessment Report, the SCDHEC requested a Tier II Assessment at the subject facility in a letter dated November 6, 2000. KSG personnel completed the Tier II Assessment at the subject property in order to define the vertical and horizontal extent of the ground water contamination plume. The assessment was also conducted to evaluate the risk, if any, posed by the contamination to human health and the environment. A Tier II analysis designed to establish ground water cleanup criteria for the site was part of the assessment process. A Tier II Assessment Report dated April 6, 2001 was submitted to SCDHEC personnel.

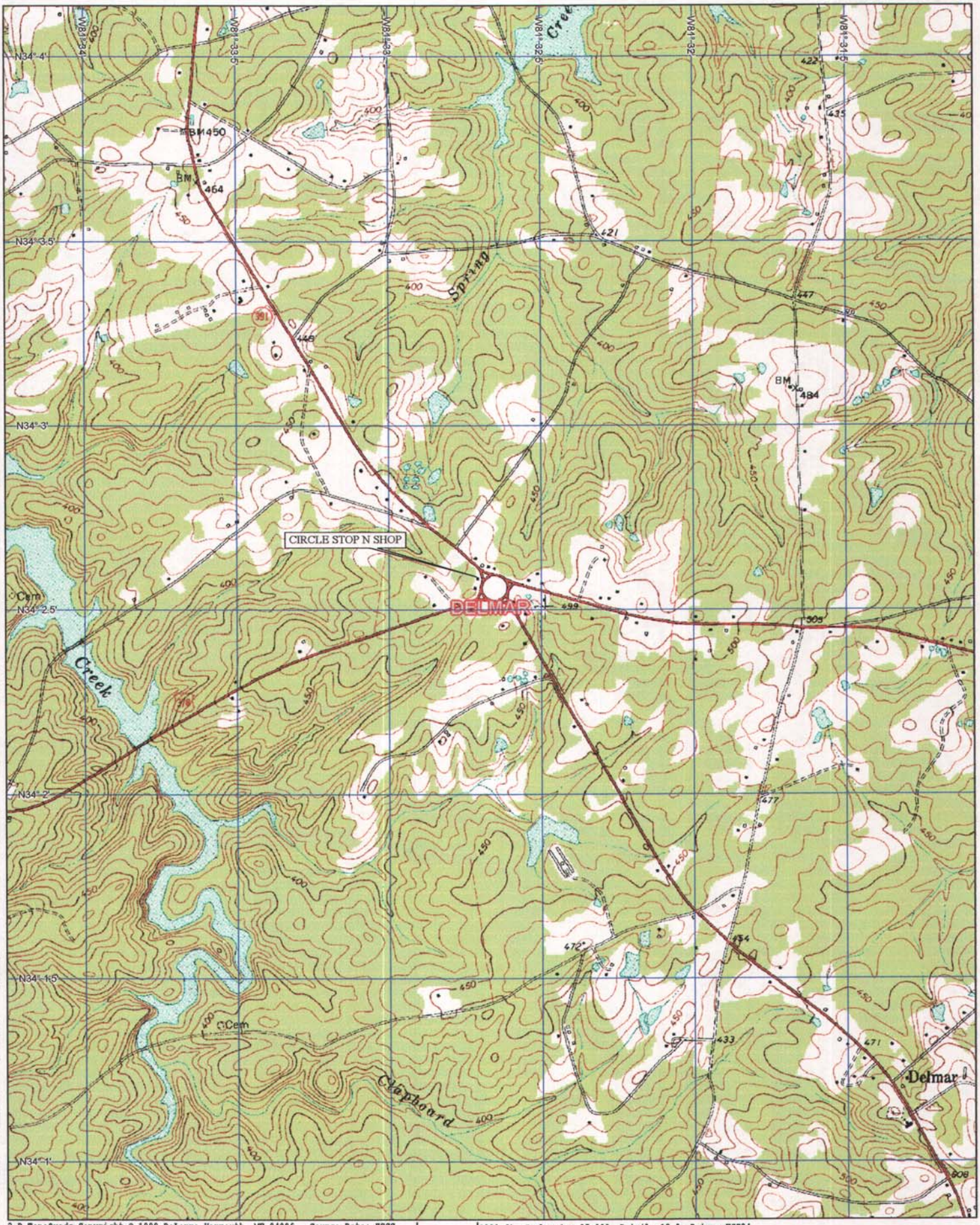
Figure 1: Site Location



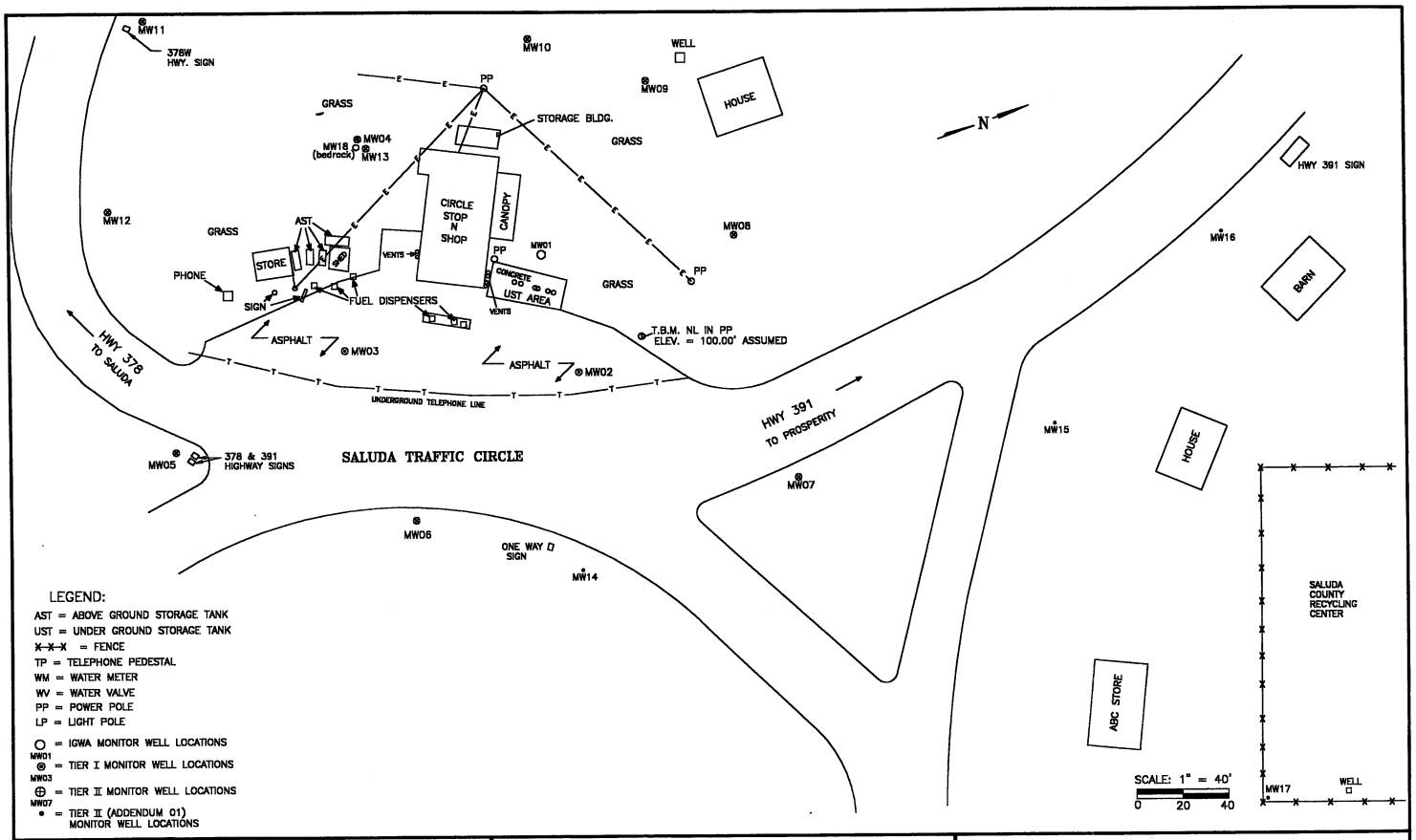
Mag 14.00
Sun Oct 14 21:57 2001
Scale 1:31,250 (at center)
2000 Feet
1000 Meters

Local Road
State Route
US Highway
Locale
Cemetery
Water
Woodland
River/Canal
Intermittent River

FIGURE 2: TOPOGRAPHIC MAP OF SITE



3-D TopoQuads Copyright © 1999 DeLorme Yarmouth, ME 04096 Source Data: USGS 1000 ft Scale: 1 : 25,000 Detail: 13-0 Datum: WGS84



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 3:
SITE MAP

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F:\KSG\CAD\2001\01550\SiteMap

Data generated during the Tier II Assessment did not define the lateral extent of ground water contamination in the downgradient (i.e. northeasterly) direction. Deep Well MW13 also contained petroleum hydrocarbon constituents in excess of the calculated SSTL concentrations. In order to complete the assessment process, the SCDHEC requested by letter dated June 6, 2001 that additional well installation be conducted at the Circle Stop N Shop site. KSG personnel completed the additional assessment activities in September and October of 2001. Data compiled during this phase of site activities was compiled into the Tier II Assessment Report (Addendum 01) as presented herein.

SECTION 2.0

REGIONAL & SITE SPECIFIC GEOLOGY

The Circle Stop N shop site is located in the Piedmont Physiographic Province of South Carolina. This province consists of several distinct belts of rocks including the Inner Piedmont, Kings Mountain, Charlotte, Carolina Slate, Kiokee and Belair belts. Rocks beneath the subject facility appear to lie within the Carolina Slate Belt. The Carolina Slate Belt extends laterally for more than 400 miles from Petersburg, Virginia to south of Milledgeville, Georgia. The Carolina Slate Belt is generally comprised of a low grade assemblage of metasedimentary and metavolcanic rocks including metagraywacke, metasiltstone and metadacite.

The Carolina Slate Belt is generally comprised of rocks of low to medium metamorphic grade. Soils within the Piedmont Physiographic Province are generally the product of intense chemical weathering over geologic time. The resultant soil, commonly referred to as saprolite, often retains relict textures from the parent rock and can be useful during geologic mapping. Weathering of the saprolite becomes less pronounced with increasing depth producing a gradual transition from upper soil horizons into competent bedrock.

Due to the relatively thin horizon of saprolite that covers bedrock lithologies of the Piedmont Physiographic Province, a well-defined stratigraphy does not exist for soils in this area. The uppermost water-bearing zone commonly occurs within this saprolitic horizon, often perched upon the lower confining bedrock. Due to the clay-rich nature of the saprolitic soils, the shallow depth to ground water and the narrow width of water saturated soils, the uppermost aquifer is not commonly utilized to supply drinking water needs.

Split spoon samples collected during previous assessments revealed the presence of brown to tan, fine-grained silt from surface to a depth of approximately 42 feet below ground surface. A gradual transition to less weathered saprolitic soils was noted below 42 feet. Coarse-grained quartz and feldspar granules become increasingly abundant in saprolitic soils with increasing depth from ground surface. Bedrock (i.e. auger refusal) was encountered at 62 feet below ground surface at deep well MW13. Rock was encountered during the drilling of Well MW18 from 62 feet down to the final well depth of 102 feet. Static water levels varied across the site from 23.75 to 33.00 feet below ground surface. Three wells, MW09, MW10 and MW16, yielded little water and produced unusually low static water level readings.

SECTION 3.0

SITE ACTIVITIES

KSG personnel conducted Tier II Addendum 01 activities to achieve two main objectives: (1) to define the lateral extent of dissolved phase ground water contamination and (2) to define the vertical extent of dissolved phase contamination in the immediate vicinity of existing well MW13. Field activities required to generate site-specific information for the Circle Stop N Shop site are described in detail within this section.

3.1 Field Screening

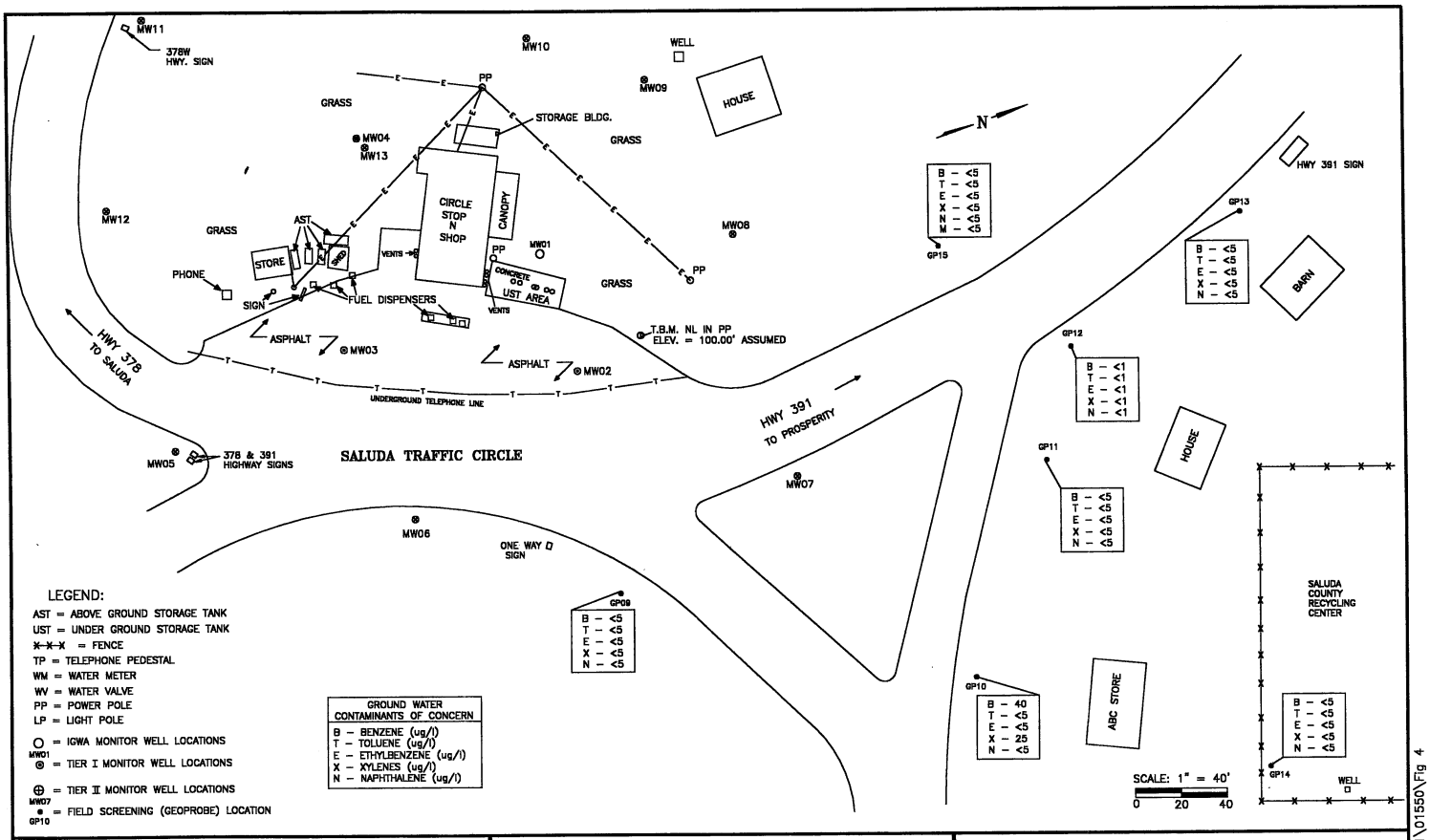
Seven temporary wells were utilized at the subject facility to check ground water quality at selected locations (see Figure 4). The temporary wells were positioned down gradient of the Circle Stop N Shop property. A Geoprobe® rig was used to advance one of the temporary wells to a depth of 48 feet below ground surface. Geoprobe rod refusal was encountered at the remaining field screening locations. Therefore, it was necessary to mobilize a truck-mounted drilling rig onto the site to complete the field screening process.

Ground water samples were collected at each field screening location. Once ground water collection activities were completed at each field screening location, the well screen and rods or hollow stem augers were removed from the ground and each borehole was properly abandoned by filling with a lean grout mixture to ground surface.

All ground water samples collected at the Circle Stop N Shop site were packed in crushed ice immediately following collection. A Chain of Custody was completed prior to offsite sample removal. The GeoProbe® sample was transported to Access Analytical, Inc. and analyzed for benzene, toluene, ethyl benzene and total xylenes (BTEX) and naphthalene using EPA Method 8260B. Field screening samples that were collected using the truck-mounted rig were transported to Shealy Environmental and analyzed for BTEX on an overnight turnaround basis. Analytical data sheets for each ground water sample are provided in Appendix A.

3.2 Soil Assessment

All drilling activities were performed using a truck-mounted drilling rig equipped with hollow-stem augers. Personnel from SAEDACCO, Charlotte, NC, performed all split spoon sampling and monitor well installations. All assessment activities were performed under the supervision of a KSG staff geologist.



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 4:
FIELD SCREENING DATA

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F:\KSG\CAD\2001\01550\Fig 4

Split-spoon samples were collected at five foot intervals at each ground water monitor well location from surface until the water table was encountered. Each split-spoon sample was screened with a portable VOC monitor. All shallow wells were drilled to a total depth of 35-40 feet below ground surface. The deep, telescoping well was drilled until a water bearing fracture was found at 97 feet. The total well depth was 102 feet. Soil Boring Lithology Logs and Well Construction Summaries are presented in Appendix B. Due to the extensive amount of soil analytical data generated during previous assessments, additional soil analyses were not performed during this investigation.

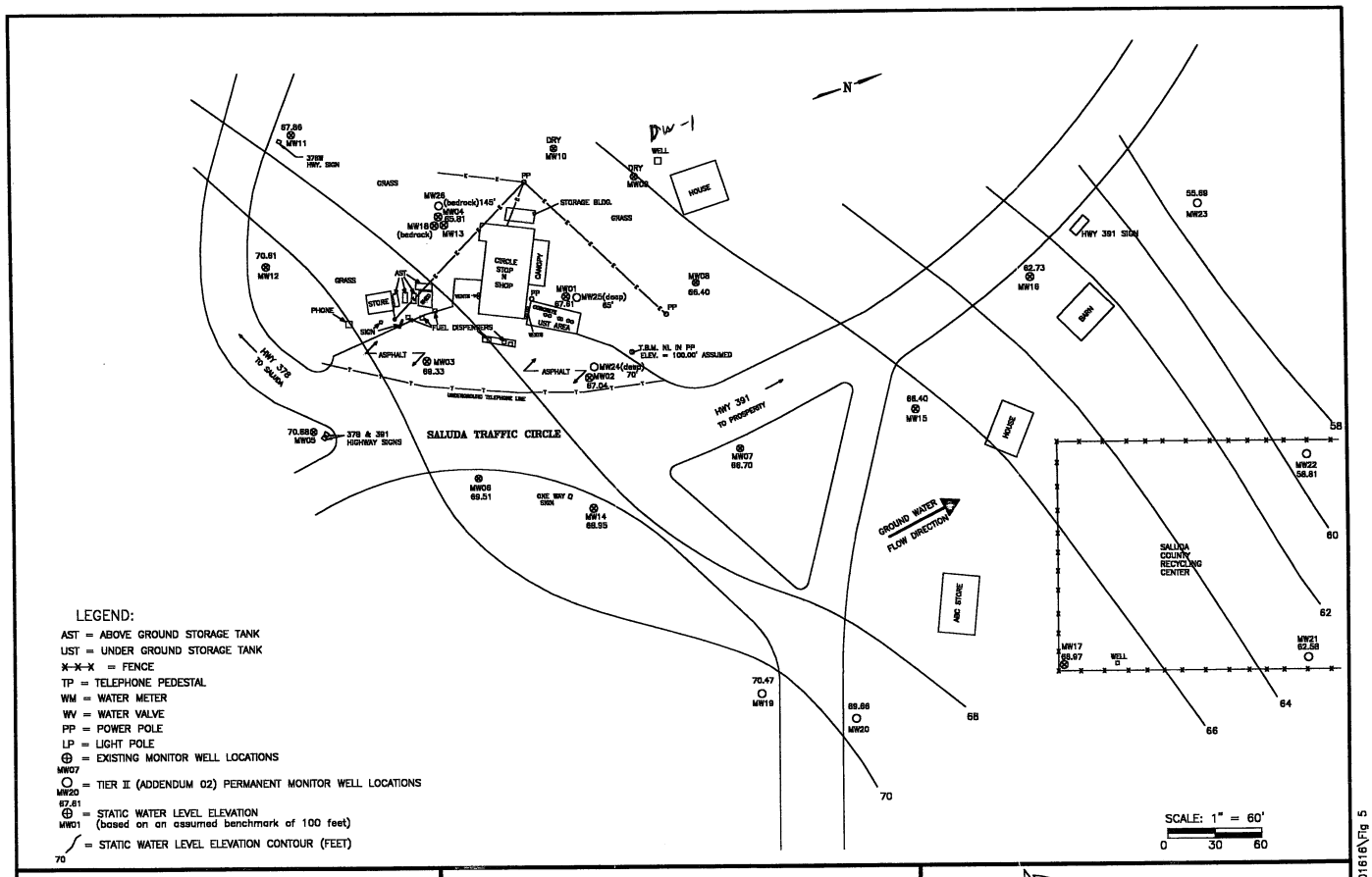
3.3 Static Water Level Measurement

Prior to well development or sample collection, static water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. All measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Static water levels are summarized in Table 1. Free product was not observed in any monitoring wells during Tier II Addendum 01 activities.

TABLE 1
STATIC WATER LEVEL ELEVATIONS

Well ID #	Static Water Level†	Free Product Thickness	Top of Casing Elevation‡	Ground Water Elevation‡
MW01	30.10	ND	99.59	69.49
MW02	28.58	ND	97.68	69.10
MW03	29.27	ND	99.53	70.26
MW04	33.00	ND	100.28	67.28
MW05	29.47	ND	100.88	71.41
MW06	27.21	ND	97.43	70.22
MW07	28.97	ND	97.26	68.29
MW08	31.24	ND	98.70	67.46
MW09	*39.61	ND	99.68	*60.07
MW10	*38.90	ND	100.22	*61.32
MW11	31.26	ND	100.47	69.21
MW12	29.10	ND	100.62	71.52
**MW13	33.00	ND	100.22	67.22
MW14	26.58	ND	96.30	69.72
MW15	27.20	ND	94.59	67.39
MW16	29.15	ND	92.01	62.86
MW17	23.75	ND	91.65	67.90
**MW18	33.80	ND	100.05	66.25

Notes: † = Depth below top of casing, in feet
ND = Not Detected
‡ = Elevation assuming an onsite benchmark of 100 feet
** = Deep Well
* = Very Poor Well Recharge



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

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3.4 Ground Water Sampling

Ground water samples were collected from the above listed monitoring wells on September 28, October 1, and October 2, 2001. Prior to monitor well sampling, Wells MW01 – MW13 were purged three well volumes and Wells MW14 - MW18 were purged 10 well volumes to ensure that a representative sample of the aquifer was collected (see Well Purge Logs - Appendix B). All wells were purged with a PVC bailer and sampled with a disposable Teflon bailer. Dissolved oxygen readings were taken at each well location. Following well purging activities, a ground water sample was collected from each well and placed into appropriate containers.

All samples were packed in crushed ice and transported to Access Analytical, Inc., for chemical analysis. Each sample was analyzed for BTEX, MTBE and naphthalene using EPA Method 8260B, nitrates (EPA Method 300), sulfates (EPA Method 300) and ferrous iron (EPA Method 3500 Fe-D). Methane was analyzed for in each well using Method RSK-175. A summary of the ground water analytical data is provided in Table 2.

3.5 Ground Water Analytical Data

The following table summarizes ground water analytical results.

TABLE 2
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW01	MW01	**MW01**	MW02	MW02	**MW02**	MW03	MW03	**MW03**
Benzene (µg/l)	3,600	1,880	**1,920**	7,500	12,100	**8,590**	25	6.65	**52.6**
Ethylbenzene (µg/l)	3,600	1,200	**1,840**	1,600	2,530	**1,950**	9	4.16	**6.66**
MTBE (µg/l)	3,400	3,430	**2,770**	720	2,980	**1,330**	< 5.0	1.29	**< 1.0**
Naphthalene (µg/l)	460	356	**1,110**	320	1,120	**84.1**	< 5.0	< 1.0	**< 1.0**
Toluene (µg/l)	32,000	13,800	**17,000**	14,000	29,600	**16,700**	110	40.8	**42.2**
Total Xylenes (µg/l)	17,000	6,820	**8,510**	7,200	99,260	**6,978**	81	25.92	**90.6**
Lead (mg/l)	< 0.003	NA	**NA**	< 0.003	NA	**NA**	0.023	NA	**NA**
Ferrous Iron (mg/l)	0.56	1.0	**0.8**	0.091	< 0.03	**< 0.03**	0.31	0.4	**< 0.03**
Nitrates (mg/l)	< 0.02	< 0.05	**< 0.05**	< 0.02	< 0.05	**< 0.05**	0.02	0.19	**< 0.05**
Sulfates (mg/l)	22	2.15	**2.01**	2.6	2.36	**3.19**	< 1	2.26	**2.18**
Methane (µg/l)	< 26	2.1	**3.5**	< 26	1.4	**0.8**	< 26	NA	**0.5**
Dissolved Oxygen (mg/l)	3.0	2.0	**1.8**	3.7	1.4	**2.6**	4.1	4.5	**3.1**
Sample Date	8/07/00	3/15/01	**9/28/01**	8/07/00	3/15/01	**9/28/01**	8/07/00	3/15/01	**9/28/01**

TABLE 2 (Continued)
GROUND WATER ANALYTICAL
DATA SUMMARY

Chemical of Concern (units)	MW04	MW04	**MW04**	MW05	**MW05**	MW06	**MW06**	MW07	**MW07**	MW08	**MW08**
Benzene (µg/l)	6,100	1,580	**3,850**	< 1.0	**< 1.0**	< 1.0	**6.19**	11,460	**4,490**	< 1.0	**49.3**
Ethylbenzene (µg/l)	2,800	1,980	**2,680**	< 1.0	**< 1.0**	< 1.0	**9.90**	157	**1,090**	< 1.0	**44.3**
MTBE (µg/l)	24,000	1,440	**10,000**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	< 1.0	**< 1.0**
Naphthalene (µg/l)	< 100	839	**325**	< 1.0	**< 1.0**	< 1.0	**12.8**	53.9	**116**	< 1.0	**10.6**
Toluene (µg/l)	36,000	17,800	**29,800**	< 1.0	**< 1.0**	< 1.0	**68.8**	351	**2,350**	< 1.0	**353**
Total Xylenes (µg/l)	13,000	11,200	**15,620**	< 1.0	**< 1.0**	< 1.0	**52.2**	749	**1,880**	< 1.0	**217.9**
Lead (mg/l)	< 0.003	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**
Ferrous Iron (mg/l)	0.24	< 0.03	**< 0.03**	< 0.03	**< 0.03**	< 0.03	**< 0.03**	< 0.03	**1.4**	< 0.03	**< 0.03**
Nitrates (mg/l)	0.093	< 0.05	**< 0.05**	0.34	**0.29**	0.27	**0.16**	0.23	**0.16**	0.19	**< 0.05**
Sulfates (mg/l)	4.7	13.51	**2.43**	3.06	**1.89**	12.06	**2.85**	16.43	**2.16**	5.40	**2.56**
Methane (µg/l)	< 26	46.4	**43.4**	NA	**< 0.2**	NA	**< 0.2**	NA	**35.9**	NA	**2.2**
Dissolved Oxygen (mg/l)	4.5	1.8	**1.9**	1.8	**3.2**	5.5	**2.8**	3.3	**2.4**	5.5	**1.3**
Sample Date	8/07/00	3/27/01	**10/02/01**	3/27/01	**9/28/01**	3/15/01	**10/01/01**	3/15/01	**10/01/01**	3/16/01	**9/28/01**

TABLE 2 (Continued)
GROUND WATER ANALYTICAL
DATA SUMMARY

Chemical of Concern (units)	MW09	**MW09**	MW10	**MW10**	MW11	**MW11**	MW12	**MW12**	MW13	**MW13**
Benzene (µg/l)	< 1.0	**< 1.0**	1.82	**4.17**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	2,750	**4,040**
Ethylbenzene (µg/l)	< 1.0	**< 1.0**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	444	**978**
MTBE (µg/l)	1.38	**< 1.0**	40.2	**27.3**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	68,200	**110,000**
Naphthalene (µg/l)	< 1.0	**< 1.0**	13.12	**< 1.0**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	742	**216**
Toluene (µg/l)	< 1.0	**< 1.0**	11.8	**5.47**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	5,680	**9,850**
Total Xylenes (µg/l)	< 1.0	**< 1.0**	22.61	**11.96**	< 1.0	**< 1.0**	< 1.0	**< 1.0**	2,772	**5,490**
Lead (mg/l)	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**	NA	**NA**
Ferrous Iron (mg/l)	NA	**NA**	< 0.03	**< 0.03**	< 0.03	**< 0.03**	< 0.03	**< 0.03**	< 0.03	**< 0.03**
Nitrates (mg/l)	NA	**NA**	0.57	**< 0.05**	0.99	**0.80**	0.26	**0.24**	< 0.05	**0.17**
Sulfates (mg/l)	NA	**NA**	30.96	**3.29**	5.02	**2.08**	4.02	**2.26**	2.92	**10.3**
Methane (µg/l)	NA	**NA**	NA	**414.9**	NA	**< 0.2**	NA	**< 0.2**	NA	**4.2**
Dissolved Oxygen (mg/l)	4.8	**2.3**	4.6	**2.2**	5.8	**3.4**	6.6	**3.1**	1.9	**1.8**
Sample Date	3/27/01	**9/28/01**	3/28/01	**9/28/01**	3/15/01	**9/28/01**	3/15/01	**9/28/01**	3/27/01	**10/02/01**

TABLE 2 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW14	MW15	MW16	MW17	MW18	Northey Well	Saluda Cty. Well
Benzene (µg/l)	6.71	28.3	25.9	8.24	209	< 1.0	< 1.0
Ethylbenzene (µg/l)	8.86	24.5	33.5	15.5	24.8	< 1.0	< 1.0
MTBE (µg/l)	< 1.0	< 1.0	< 1.0	< 1.0	2,680	< 1.0	8.86
Naphthalene (µg/l)	< 1.0	< 1.0	< 1.0	< 1.0	33.1	< 1.0	< 1.0
Toluene (µg/l)	55.5	70.1	84.8	29.9	127	< 1.0	< 1.0
Total Xylenes (µg/l)	40.0	63.2	62.66	47.8	343	< 1.0	< 1.0
Lead (mg/l)	NA	NA	NA	NA	NA	NA	NA
Ferrous Iron (mg/l)	< 0.03	< 0.03	< 0.03	< 0.03	< 0.03	NA	NA
Nitrates (mg/l)	0.17	0.24	2.71	0.80	< 0.05	NA	NA
Sulfates (mg/l)	2.86	3.77	7.02	3.24	3.85	NA	NA
Methane (µg/l)	< 0.2	< 0.2	< 0.2	< 0.2	0.3	NA	NA
Dissolved Oxygen (mg/l)	3.2	2.1	2.6	2.5	2.4	NA	NA
Sample Date	10/01/01	10/01/01	10/01/01	10/01/01	10/02/01	10/05/01	10/05/01

3.6 Aquifer Characterization

Aquifer characterization was conducted during the Tier I Assessment. Two rising head tests were performed on Wells MW03 and MW04. Characterization of the shallow aquifer during the previous assessment yielded the following:

Hydraulic Conductivity: 0.009 – 0.49 ft / day
Hydraulic Gradient: 0.02 ft / ft
Porosity: 40%
Estimated Seepage Velocity: 0.16 – 8.9 ft / yr.

Three additional slug tests were conducted as part of the Tier II Assessment. Two slug tests were performed on shallow wells MW06 and MW11. A slug test was also performed on deep well MW13. Data generated during the shallow well slug tests yielded an average hydraulic conductivity of 7.37×10^{-2} ft / day. Field data generated a hydraulic conductivity of 2.22×10^{-2} ft / day on deep well MW13. Additional aquifer characterization was not performed during the Tier II Addendum 01 field event.

3.7 Receptor Survey

A receptor survey was conducted at the subject facility as part of the Tier I and Tier II Assessments to identify any potential exposure pathways for soil and/or ground water contamination at the Circle Stop N Shop site. Exposure points are considered the location that a receptor can come into contact, either now or in the future, with soil and/or ground water contaminants. Typical exposure points may be drinking water wells, ponds, streams, underground basements, or underground utilities.

3.7.1 Water Wells

Reconnaissance of the area immediately surrounding Circle Stop N Shop revealed the presence of a residential drinking water well (DW01) approximately 120 feet northwest of the UST pit. The well and property are owned by the Northey family. At the present time, the well is not in use as the house is supplied by the Saluda County water system. According to local officials, there are no restrictions concerning the installation of drinking water wells or irrigation wells in the Saluda Traffic Circle area. A water sample was collected and submitted for analysis of BTEX, naphthalene and MTBE during Tier II Addendum 01 activities.

A second water well was identified during the current investigation. The water well (DW02) is located at the Saluda County Recycling Center (see Figure 3). This well is located in a downgradient location approximately 420 feet from the Circle Stop N Shop property. Saluda County officials were unsure of the well depth and stated that the well is used as the water source for their onsite office building. According to county officials, bottled water is used onsite for drinking water purposes. This well also provides potable water for the Country Peddler convenience store located adjacent to the Saluda County Recycling Center. A sample was collected from the Saluda County well and submitted for analysis of BTEX, naphthalene and MTBE.

3.7.2 Underground Utilities

A utility check by Palmetto Utilities Protection Services was requested for the subject property prior to the assessment field effort. Utilities were marked to identify any potential underground exposure points (i.e., storm drain, sanitary sewer line, etc.). Contaminated ground water could potentially seep into these utilities if the static water level existed at an elevation greater than or equal to the corresponding underground utility.

A water main and sanitary sewer line are located along U.S. Hwy. 378 in front of the convenience store property. Water and sewer service lines extend from the road into the convenience store building. A buried telephone line also runs in close proximity to the UST pit and into the convenience store. Depth to ground water in the immediate vicinity of these underground utilities is 25 - 30 feet below ground surface. Therefore, it is unlikely that the underground utilities present beneath the subject site could serve as a preferential pathway for contaminant transport during high water table periods.

3.7.3 Surface Water

Field activities implemented during the Tier I and Tier II Assessment identified an unnamed tributary approximately 1000 feet northeast of the Circle Stop N Shop site. Field reconnaissance during the September – October 2001 sampling event revealed that the unnamed tributary was dry and could not be sampled.

3.8 Site Survey

A site survey was performed during the Tier I Assessment to establish an accurate site map portraying the locations of the former UST area, onsite building and adjacent structures. The comprehensive site survey was performed by Mr. Jay S. Joshi, Registered Land Surveyor. The elevation of each monitor well top of casing (TOC) was established using an assumed onsite benchmark elevation of 100 feet.

The survey plat established by Mr. Joshi was utilized as a base map during the Tier II Addendum 01 field event. Personnel from KSG conducted a subsequent survey to establish the location of Wells MW14 – MW18. TOC elevations for each new well were established using the same assumed onsite benchmark.

SECTION 4.0

RESULTS, CONCLUSIONS AND RECOMMENDATIONS

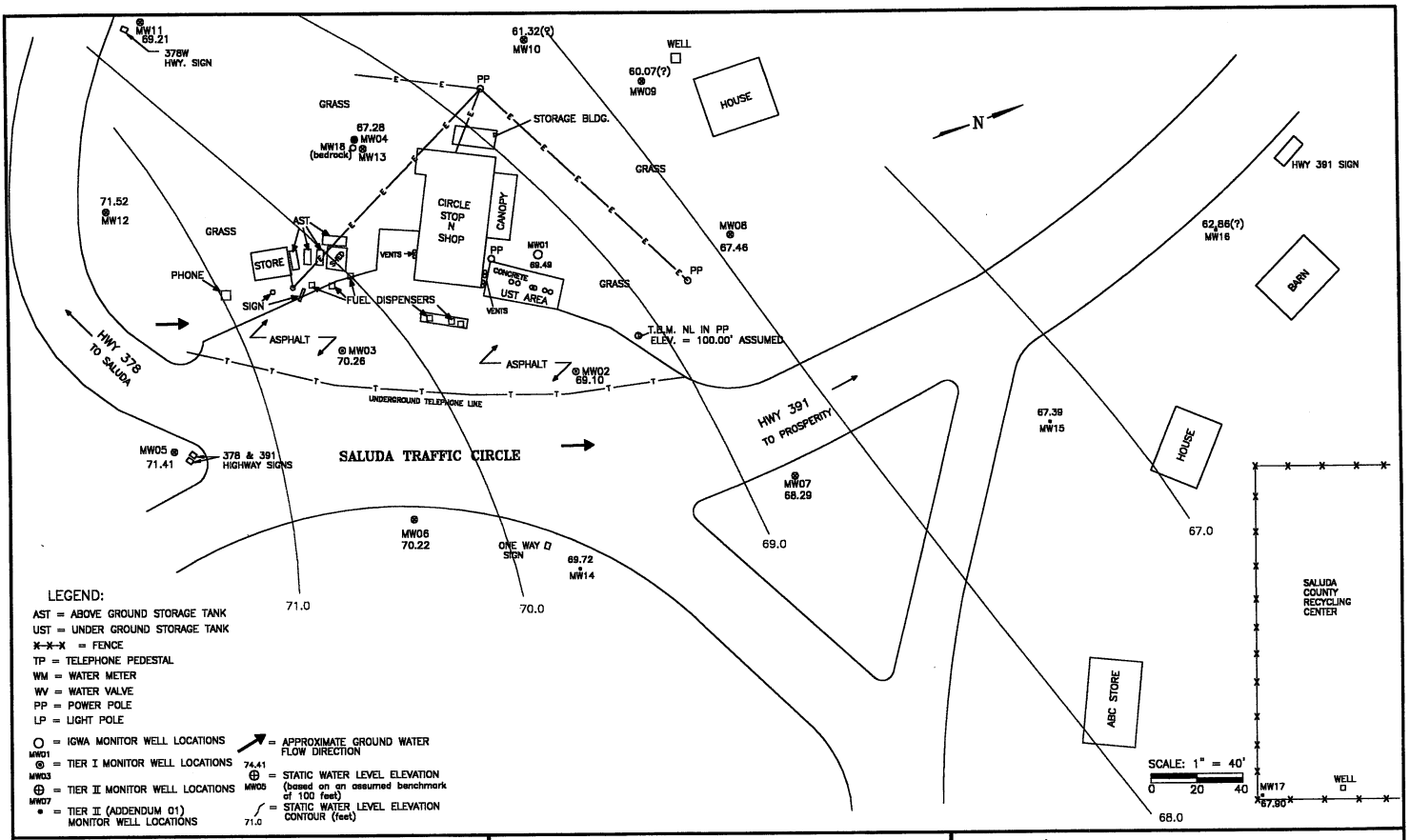
4.1 Results & Conclusions

Subsurface soils consist of light brown, fine-grained, clayey silt from surface to approximately 35 feet below ground surface. Subsurface soils gradually transition into partially weathered rock from 35 feet to 62 feet below ground surface. Auger refusal (i.e. bedrock) was encountered while drilling Well MW13 at 62 feet below ground surface. Rock drilling was necessary to install Well MW18 to a depth of 102 feet. It should be noted that the depth to bedrock across the site is variable. Geoprobe rod refusal was encountered at shallow depths at several locations during field screening events.

Soil sampling efforts during previous assessment activities identified elevated levels of petroleum hydrocarbons in soils around the UST pit from near surface down to the water table at approximately 30 feet. Additional soil sampling and analysis was not performed during the Tier II Addendum 01 investigation.

Static water levels varied across the site from 23.75 to 33.00 feet below ground surface. Two wells, MW09 and MW10, yielded little water and produced unusually low static water level readings. An unusually low static water level was also recorded in Well MW16. As shown on Figure 5, static water level readings indicate a general ground water flow direction to the north. However, variations in the permeability of subsurface soils may be directing ground water contaminants into preferential pathways that correspond to a northeasterly flow direction. This may account for the poor productivity of Well MW09 and MW10 and the lack of ground water contaminants from both well locations at the present time. The use of the water well at Saluda County's Recycling Center may also be locally depressing the water table and influencing contaminant migration direction.

The dissolved phase ground water contamination plume measures approximately 500 feet in length x 250 feet in width. Wells MW05, MW11 and MW12 successfully define the upgradient extent of the dissolved phase plume. Wells MW06, MW10 and MW14 define the crossgradient extent of the dissolved phase plume. The downgradient extent of ground water contamination is defined by Wells MW16 and MW17. Free product was not observed within any wells during the subject assessment. A diagram showing the dissolved phase hydrocarbon concentrations within the surficial aquifer is presented in Figure 6.



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

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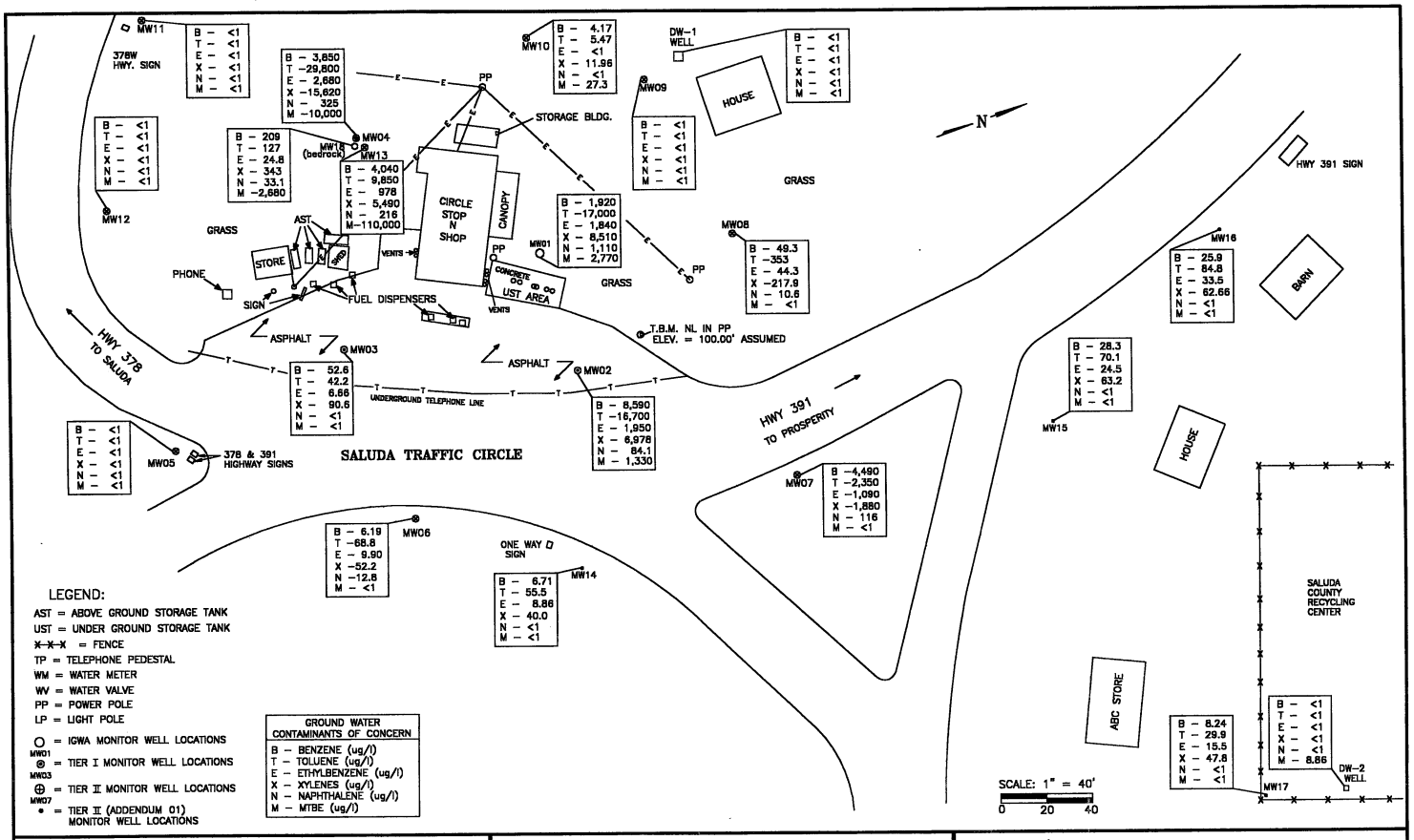
F:\KSG\CAD\2001\01550\Fig 5



CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 6:
GROUND WATER COC
CONCENTRATION MAP

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F:\KSG\CAD\2001\01550\Fig 6

Drilling activities at deep Well MW18 confirmed that bedrock is present at approximately 60 feet below ground surface. Rock drilling continued until a water-bearing fracture was encountered at 97 feet below ground surface. The total depth for deep Well MW18 was 102 feet. Laboratory analysis of the ground water sample that was collected from Well MW18 revealed that ground water contamination extends down into the bedrock at this location. Therefore, Well MW18 was not successful in defining the vertical extent of the dissolved phase contaminant plume.

Dissolved oxygen levels were measured on ground water samples from each monitor well location. A review of the data presented in Table 2 indicates a lowering of dissolved oxygen levels within the area of ground water contamination. This data suggests that aerobic microbial degradation of petroleum compounds at the site is occurring at the present time. However, the degradation process is being hindered by the levels of dissolved oxygen that are available.

Previous receptor surveys have been performed as part of the assessment process. A drinking water well that is not being used at the present time is located approximately 110 feet from the UST pit. Laboratory analysis of the Northey Well (DW01) revealed no evidence of petroleum hydrocarbon constituents at concentrations above instrument detection limits. A second water well (DW02) was identified at the Saluda County Recycling Center. This well provides water to an onsite office building on the Saluda County property but the water is reportedly not used for drinking purposes. However, the well also provides potable water for the Country Peddler convenience store located adjacent to the Saluda County property. MTBE was identified in water sample DW02 at a concentration of 8.86 ug/l. This concentration is below the State Risk Based Screening Level of 40 ug/l that has been established for MTBE.

Previous receptor surveys also identified an unnamed tributary approximately 1000 feet from the Circle Stop N Shop property. Field reconnaissance during the October 2001 sampling event revealed that the tributary is dry at the present time.

4.2 Recommendations

The existing ground water monitor well network extends to the downgradient boundary of the dissolved phase plume at the present time. However, historical ground water analytical data generated to date indicates that the plume is expanding. Therefore, additional shallow ground water monitor well installation may be necessary in the future as the plume continues to migrate to the north and northeast.

The installation of deep Well MW18 was not successful in defining the vertical extent of ground water contamination. The presence of dissolved phase hydrocarbons in the water-bearing fracture at 97 feet indicates a hydraulic connection with the surficial aquifer located within the saprolitic horizon. However, the approximate depth of deeper fractures within bedrock beneath the site is unknown at the present time. Additional bedrock wells would be necessary to determine the extent of contaminant migration within the bedrock fracture network.

KSG recommends quarterly sampling of the potable water well located at the Saluda County Recycling Center. Future migration of dissolved phase hydrocarbons may eventually impact this well to the degree that it can no longer be used as a potable water source. KSG also recommends the preparation of a Corrective Action Plan in order to determine the most cost effective and technically sound method of site remediation.

GEOPROBE SAMPLING DEPTHS

GeoProbe Number	Sampling Depth
GP09	49 feet
GP10	48 feet
GP11	49 feet
GP12	49 feet
GP13	49 feet
GP14	49 feet
GP15	49 feet
Total GeoProbe Depth	342 feet

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle Stop n Shop

Project Manager: Bill Dunnagan Phone: 803-791-1996

Project Number: 01550

Collected By: JC

Laboratory: Shealy Environmental

RUSH Analysis Requested

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX/NAPH/MTBE								Special Instructions
GP09		9/27/01	1745	Field Screening Spl	L	✓								CI28002
GP13		9/27/01	1800	Field Screening Spl	L	✓								
GP15		9/27/01	1730	Field Screening Spl	L	✓								

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	PMcClanahan	9/28/01	1025

Matrix: S=Solid L=Liquid O=Other

Laboratory Remarks: 9.2°C

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409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle Stop & Shop

Project Manager: Bill Dunnagin Phone: 791-1996

Project Number:

Collected By: SC/SF

Laboratory: Shealy

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX, NAPH								Special Instructions
GP10		9/27/01	1230		L	✓								
GP14		9/27	1330		L	✓								
GP11		9/27	1100		L	✓								

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Scott Frost	M McLanahan	9/27/01	1640

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

S[redacted]# [redacted]01[redacted]-[redacted]03

ORO#: 217537 SQ

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle Stop N Shop

Project Manager: Bill Dunnagan Phone: 803-791-1996

Project Number: 01550

Collected By: WBD

Laboratory: Access Analytical

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX/NAPH/MTBE								Special Instructions
GP12		9/14/01	1100	GeoProbe Sample	L	✓								217537.

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	Cheryl Barr	9/14/01	14:45
Cheryl Barr	Fedex	9/14/01	1700
Fedex	S. Usaacs STL	9/15/01	1000

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:
Temp 3.4°C.

01/10-80 223533 - 223542 a.B.

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle STOP N SHOP

Project Manager: BILL DUNNAGAN Phone: 791 1996

Project Number: 01550

Collected By: JC/SF

Laboratory: ACCESS

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX NAPH MTBE	Lead	Nitrate Sulfate	Carbon Tron				Special Instructions
MW11		9/28	1500			O	O	O	O				223533
MW08			1300			O	O	O	O				223534
MW03			955			O	O	O	O				223535
MW10			1230			O	O	O	O				223536
MW12			1440			O	O	O	O				223537
MW09			1270			O							a.B. ~~223538~~ 223542
MW01			1140			O	O	O	O				223538
MW02			1045			O	O	O	O				223540
MW05			1350			O	O	O	O				223541

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
[illegible]	Cheryl Burr	10/1/01	14:00
Cheryl Burr	Fedex	10/1/01	1700
Fedex	Anthony C. Burnett, Sr.	10/2/01	1000

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks: Cancel Lead Analysis per Cheryl. See Attached Fax. (W) 10/2/01

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

01/10 - 121 223830 - 223839

Job Name: Circle Stop N Shop

Project Manager: Bill Dunnagan Phone: 803-791-1996

Project Number: 01550

Collected By: SF

Laboratory: Access Analytical

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX	Nitrate	Sulfate	Ferrous Iron	Methane*				Special Instructions
MW06	223830	10/1/01	1030	Well MW06	L	✓	✓	✓	✓	✓				*Methane subcontracted out
MW07	223832	10/1/01	1215	Well MW07	L	✓	✓	✓	✓	✓				
MW14	223833	10/1/01	1140	Well MW14	L	✓	✓	✓	✓	✓				
MW15	223835	10/1/01	1300	Well MW15	L	✓	✓	✓	✓	✓				*only 1 vial per BTEX
MW16	223837	10/1/01	1330	Well MW16	L	✓	✓	✓	✓	✓				
MW17	223839	10/1/01	1430	Well MW17	L	✓	✓	✓	✓	✓				

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	Cheryl Burr	10/2/01	14:15
Cheryl Burr	Fedex	10/2/01	1700
Fedex	VT SR	10/3/01	1000

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

01/10-120 223827 - 223829

Job Name: Circle Stop of Shop

Project Manager: Bill Donnaker Phone: 791-1556

Project Number:

Collected By: Scott Frost

Laboratory: Access

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	~~Lead~~	Nitrate/Sulfate	Ferrous Iron	BTEX	NMT, Methane *				Special Instructions
MW18		10/2	1330	223827	L	✓	✓	✓	✓	✓				* Methane sorbed and
MW13		10/2	1220	223828	L	✓	✓	✓	✓	✓				
MW04		10/2	1145	223829	L	✓	✓	✓	✓	✓				* only 1 vial for BTEX

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
	Scott Frost		
	Cheryl Barr	10/2/01	14:15
Cheryl Barr	Fedex	10/2/01	1700
Fedex	VOT SR	10/3/01	0000

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

SUB#: 01/10-347
ORD # 225258

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle STOP N SHOP
Project Manager: BILL DUNNAGAN Phone:
Project Number:
Collected By: JC
Laboratory: ACCESS

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX, NAPH, MTBE								Special Instructions
DW-1		10/5	1145		L	1								225257
DW-2			1315			1								225258

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
[illegible]	Cheryl Burr	10/5/01	15:10
Cheryl Burr	Fedex	10/5/01	1700
Fedex	S Usacus STL	10/6/01	1000

Matrix:
S=Solid
L=Liquid
O=Other

4° C

Laboratory Remarks:

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW14**
TOTAL DEPTH: **40'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01550	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	9-28-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5					24 ppm		
-10		SAPROLITE: Gray to white, with rock fragments, no odor			39 ppm		Concrete Seal
-15		SANDY SILT: Brown, medium-grained, slight petroleum odor			29 ppm		
-20					84 ppm		Bentonite
-25 ▼					75 ppm		Sand
-30							
-35 ▽							Screened interval -25' to -40'
-40							

DHEC
PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:
Street Address: SALUDA CIRCLE
County: SALUDA City: SALUDA Zip:
Latitude: Longitude:

2. System Name: System Number: MW-14

3. WELL DEPTH (completed) Date Started: 9-27-01
40' ft. Date Completed: 9-27-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS: 2' BENTONITE CHIPS 21' TO 23'

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 1472
Address: 9000 MARKSWOOD RD CHARLOTTE, N.C.
Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 25' ft. depth
_____ in. to _____ ft. depth
Height: Above/Below Surface _____ ft.
Weight _____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 15'
Set Between: 25' ft. and 40' ft.
_____ ft. and _____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
_____ ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 23' ft. to 40' ft.
Effective size 20/30 Uniformity Coefficient _____

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____
Depth: From 0 ft. to 21' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction
_____ Type well disinfected ☐ Yes Type: _____
_____ upon completion ☐ No Amount: _____

19. 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

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Robert L. Miller Date: 9-28-01
Authorized Representative

DHEC 1903 (11/2000) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW15**
TOTAL DEPTH: **35'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**01550**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**9-28-01**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5					14 ppm		
-10					25 ppm		Concrete Seal
-15					11 ppm		
-20					43 ppm		Bentonite
-25 ▼					57 ppm		Sand
-30 ▽		SAPROLITE: Brown to white, with silts, no odor					Screened interval -25' to -35'
-35							

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

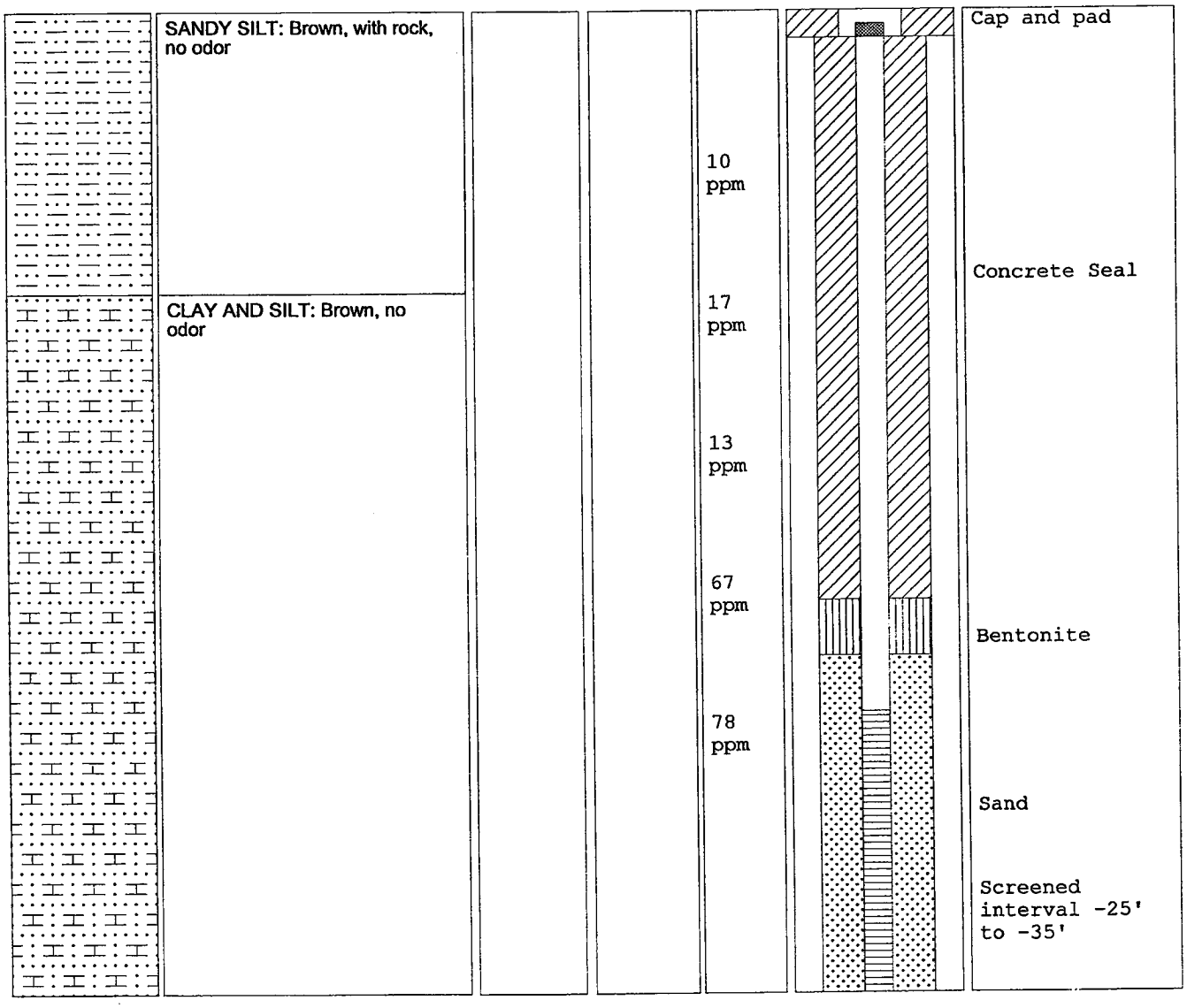
BOREHOLE NO.: **MW16**
TOTAL DEPTH: **35'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**01550**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**9-28-01**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SANDY SILT: Brown, with rock, no odor					Cap and pad
-5					10 ppm		
-10		CLAY AND SILT: Brown, no odor			17 ppm		Concrete Seal
-15					13 ppm		
-20					67 ppm		Bentonite
-25					78 ppm		
▼ -30							Sand
▽ -35							Screened interval -25' to -35'



DHEC
PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:

Street Address: SALUDA CIRCLE

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW-15

3. WELL DEPTH (completed) 35' ft. Date Started: 9-27-01 Date Completed: 9-27-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	35'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS: 2' BENTONITE CHIPS 20 TO 23'

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 1472
Address: 9000 MARKSWOOD RD. CHARLOTTE, N.C.
Telephone No.:

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 25' ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 10'
Set Between: 25' ft. and 35' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 23' ft. to 35' ft.
Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 21' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

19. 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

20. WATER WELL CONTRACTOR'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: 9-28-01
Authorized Representative

DHEC
PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:

Street Address: SALUDA CIRCLE

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW-16

3. WELL DEPTH (completed) Date Started: 9-27-01
35' ft. Date Completed: 9-27-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SAND	0	35'

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW17**
TOTAL DEPTH: **37'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**01550**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**9-28-01**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ , Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SANDY SILT: Tan to white, with rock, no odor					Cap and pad
-5					22 ppm		
-10					42 ppm		Concrete Seal
-15		SILT: Brown, no odor			26 ppm		
-20					35 ppm		Bentonite
▼ -25					31 ppm		Sand
-30							Screened interval -22' to -37'
-35							

D H E C

PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:

Street Address: SALUDA CIRCLE

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW-17

3. WELL DEPTH (completed) Date Started: 9-27-01

37' ft. Date Completed: 9-27-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	37'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)

Address: HWY 378 & HWY 391 SALUDA, S.C

Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 1472

Address: 9000 MARKSWOOD RD. CHARLOTTE, N.C.

Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded

Diam.: 2"

Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other

0 in. to 22' ft. depth

_____ in. to _____ ft. depth

Height: Above/Below Surface _____ ft.

Weight _____ lb./ft.

Drive Shoe? ☐ Yes ☐ No

12. SCREEN

Type: PVC Diam.: 2"

Slot/Gauge: 0.01 Length: 15'

Set Between: 22' ft. and 37' ft.

_____ ft. and _____ ft.

NOTE: MULTIPLE SCREENS USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL

_____ ft. below land surface after 24 hours

14. PUMPING LEVEL Below Land Surface.

_____ ft. after _____ hrs. Pumping _____ G.P.M.

Pumping Test: ☐ Yes (please enclose) ☐ No

Yield: _____

15. WATER QUALITY

Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No

Please enclose lab results.

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No

Installed from 20' ft. to 37' ft.

Effective size 20/30 Uniformity Coefficient _____

17. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other _____

Depth: From 0 ft. to 18' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

_____ Type well disinfected ☐ Yes Type: _____

_____ upon completion ☐ No Amount: _____

19. 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

20. WATER WELL CONTRACTOR'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: 9-28-01

Authorized Representative

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

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW18**
TOTAL DEPTH: **102'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01550	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	H. Stem Auger / Air Rotary
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	09-27-01/ 09-28-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: Circle Stop N Shop

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, petroleum odor at 25'					Cap and pad
-5							
-10							
-15							
-20							
-25							
-30		CLAY AND SILT: Tan, strong petroleum odor					
-35		SILT: Dark brown-red, strong petroleum odor					Grouted Annulus
-40							
-45							
-50		SANDY SILT: Gray, medium to course-grained, strong petroleum odor					
-55							6-inch PVC casing (0 to 60')
-60		WEATHERED ROCK: Rock chips, silt, sand, petroleum odor					
-65							
-70							
-75							
-80							
-85							
-90							Bentonite Sand
-95							Screened -97' to -102'
-100							

D H E C

PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:

Street Address: SALUDA CIRCLE

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW-18

3. WELL DEPTH (completed) Date Started: 9 27 01

102 ft. Date Completed: 9-28-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☒ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SAND	0	102'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS: 2" BENTONITE CHIPS 73 TO 95

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)

Address: HWY 378 & HWY 391 SALUDA, S.C.

Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 1472

Address: 9000 MARKSWOOD RD CHARLOTTE, N.C

Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded

Diam.: 2" & 6"

Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other

2" 0 in. to 97' ft. depth

6" 0 in. to 60' ft. depth

Height: Above/Below Surface ft.

Weight lb./ft.

Drive Shoe? ☐ Yes ☐ No

12. SCREEN

Type: PVC Diam.: 2"

Slot/Gauge: 0.01 Length: 5'

Set Between: 97 ft. and 102' ft.

ft. and ft.

NOTE: MULTIPLE SCREENS USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL

ft. below land surface after 24 hours

14. PUMPING LEVEL Below Land Surface.

ft. after hrs. Pumping G.P.M.

Pumping Test: ☐ Yes (please enclose) ☐ No

Yield:

15. WATER QUALITY

Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No

Please enclose lab results.

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No

Installed from 95' ft. to 102 ft.

Effective size Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other

Depth: From 0 ft. to 93' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction

Type well disinfected ☐ Yes Type:

upon completion ☐ No Amount:

19. 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

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

Signed: Robert L. Miller Date: 9-28-01

Authorized Representative

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

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW01

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	49.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	30.10 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	18.90 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	3.1 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	9.3 Gallons
DATE:	09-28-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1130	3.1	21.6	30	5.15	Strong petroleum odor.
1133	6.2	21.4	29	4.97	
1137	9.3	20.9	27	4.86	
					DO = 1.8

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW02

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	28.58 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	11.42 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.9 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	5.7 Gallons
DATE:	09-28-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1040	1.9	21.2	23	5.23	Strong petroleum odor
1042	3.8	21.9	22	4.96	
1044	5.7	21.7	24	4.97	
					DO= 1.6

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW03

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	29.27 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	10.73 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.8 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	5.4 Gallons
DATE:	09-28-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
0950	1.8	21.7	35	5.53	Petroleum odor
0951	3.6	21.4	36	5.45	
0953	5.4	21.2	27	5.48	
					DO = 3.1

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW04

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	33.00 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	7.00 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.1 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	3.3 Gallons
DATE:	10-02-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1133	1.1	20.2	315	5.56	Strong petroleum odor.
1135	2.2	19.5	292	5.31	
1138	3.3	19.2	298	5.12	
					DO = 1.9

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW05

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	45.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	29.47 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	15.53 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.6 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	7.8 Gallons
DATE:	09-28-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1335	2.6	21.2	47	6.07	No odor.
1339	5.2	21.1	54	5.89	
1345	7.8	21.2	58	5.93	
					DO= 3.2

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW06

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	27.21 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	12.79 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.1 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	6.3 Gallons
DATE:	10-01-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1020	2.1	20.1	37	6.30	No odor.
1022	4.2	20.1	28	6.15	
1024	6.3	20.2	27	5.89	
					DO = 3.8

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW07

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	34.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	28.97 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	5.03 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	0.8 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	2.4 Gallons
DATE:	10-01-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1205	0.8	24.7	231	6.30	Petroleum odor
1207	1.6	23.6	114	6.25	
1208	2.4	21.6	172	6.04	
					DO = 2.4

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW08

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	31.24 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	8.76 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.4 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	4.2 Gallons
DATE:	09-28-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1254	1.4	20.8	43	5.96	No odor
1256	2.8	19.1	44	5.81	
1258	4.2	18.8	51	5.85	
					DO = 3.3

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW09

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	39.61 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	0.39 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	
DATE:	09-28-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
					Due to insufficient water column
					well purging was not performed.

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW10

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	45.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	38.90 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	6.10 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	3 Gallons
DATE:	09-28-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1226	1.0	21.5	106	6.02	Slight petroleum odor.
1229	2.0	20.8	108	6.04	
	3.0				DRY
					DO= 2.2

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW11

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	31.26 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	8.74 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.5 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	4.5 Gallons
DATE:	09-28-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1447	1.5	20.1	53	5.65	No odor
1450	3.0	19.9	49	5.43	
1453	4.5	19.9	54	5.47	
					DO= 3.4

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW12

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	29.10 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	10.90 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.8 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	5.4 Gallons
DATE:	09-28-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1430	1.8	22.7	50	6.15	No odor
1432	3.6	21.2	49	6.11	
1435	5.4	20.5	52	6.09	
					DO= 3.1

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GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW13

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	62.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	33.00 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	29.00 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	4.8 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	14.4 Gallons
DATE:	10-02-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1200	4.8	19.5	228	9.35	Petroleum odor
1205	9.6	19.6	261	10.08	
1209	14.4	19.9	253	9.97	
					DO= 1.8

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW14

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	26.58 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	13.42 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.2 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	22.0 Gallons
DATE:	10-01-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1100	2.2	21.3	48	6.04	No odor
1102	4.4	20.9	41	5.78	
1105	6.6	20.8	42	5.60	
1110	8.8	21.1	33	5.28	
1113	11.0	21.2	31	5.24	
1115	13.2	21.4	30	5.29	
1117	15.4	22.3	32	5.36	
1121	17.6	21.8	33	5.22	
1125	19.8	21.3	29	5.21	
1128	22.0	21.1	28	5.18	DO= 3.2

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW15

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	35.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	27.20 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	7.80 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.3 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	13.0 Gallons
DATE:	10-01-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1240	1.3	23.5	31	5.84	No odor.
1242	2.6	23.2	42	5.66	
1244	3.9	21.9	37	5.43	
1245	5.2	21.7	36	5.31	
1247	6.5	21.5	31	5.23	
1250	7.8	21.4	37	5.21	
1252	9.1	21.3	35	5.13	
	10.4				DRY
	11.7				
	13.0				DO= 3.1

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW16

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	35.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	29.15 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	5.85 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	0.9 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	9.0 Gallons
DATE:	10-01-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1320	0.9	22.5	160	5.80	No odor.
1322	1.8	21.5	128	5.58	
1323	2.7	20.7	112	5.42	
1325	3.6	20.4	97	5.32	
1326	4.5	20.1	101	5.23	
1328	5.4	20.1	128	5.30	
	6.3				DRY
	7.2				
	8.1				
	9.0				DO= 2.6

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW17

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	37.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	23.75 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	13.25 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.2 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	22.0 Gallons
DATE:	10-01-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1350	2.2	21.2	80	5.82	
1353	4.4	20.5	95	5.70	
1356	6.6	20.0	76	5.53	
1400	8.8	19.8	83	5.43	
1403	11.0	19.6	74	5.42	
1406	13.2	19.5	75	5.27	
1408	15.4	19.3	75	5.24	
1411	17.6	19.3	65	5.21	
1415	19.8	19.2	62	5.13	
1418	22.0	19.5	60	5.10	
					DO= 2.5

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GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW18

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	102.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	33.80 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	68.20 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	11.3 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	113.0 Gallons
DATE:	10-02-01	KSG PERSONNEL:	SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1230	11.3	21.7	181	9.24	Petroleum odor.
1240	22.6	20.5	179	8.61	
1246	33.9	20.0	173	7.87	
1251	45.2	19.9	165	7.51	
1255	56.5	19.7	158	7.30	
1259	67.8	19.6	153	7.13	
1305	79.1	19.8	149	7.10	
1310	90.4	19.6	151	7.17	
1316	101.7	19.4	152	7.16	
1322	113.0	19.7	149	7.11	
					DO= 3.4

GK 4092

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No.

2. Page 1 of 10-11-01

3. Generator's Name and Mailing Address Circle STOP AND Shop

4. Generator's Phone ( ) Saluda S.C.

5. Transporter 1 Company Name GTK TANK Services.

6. US EPA ID Number

A. Transporter's Phone 803-494-9044

7. Transporter 2 Company Name

8. US EPA ID Number

B. Transporter's Phone

9. Designated Facility Name and Site Address GTK. TANK Services 5070 Broad St. EXT Sumter S.C

10. US EPA ID Number

C. Facility's Phone 803-494-9044

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS Petroleum Contaminated Soil	23 ~~24~~	DB		
b. NON HAZARDOUS Petroleum Contaminated	1	DR		
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information

~~Safety Kleen Geological~~

Kleen Sites GEO

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

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name FRANK Tidwell Jr | Signature Frank Tidwell Jr. | Month 10 | Day 11 | Year 01

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 S. Collett | Signature S. Collett | Month 10 | Day 11 | Year 01

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

Tons 23 Drums
Circle Stop & Go
Saluda Traffic Circle

Contaminant NonHazardous Petroleum
Contaminanted Soil

This is to cerify the above soil has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. [illegible]

Date 10/11/01

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

Tons 1 Drum

Circle Stop & Go
Saluda Traffic Circle

Contaminant NonHazardous Petroleum
Contaminanted Water

This is to cerify the above ~~soil~~ water has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. [illegible]

Date 10/11/01

RECEIVED

APR 0 9 2001

Underground Storage
Tank Program

Tier II Assessment Report

Circle Stop N Shop
U.S. Hwy. 378
Saluda Traffic Circle
Leesville, SC
Site ID No. 05981

April 6, 2001

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Land & Waste Management
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Kleen Sites Geoservices, Inc.
UST Site Rehabilitation Contractor #8
171 Lott Court
West Columbia, South Carolina 29169

UST PROGRAM
DOCKETING # [redacted] #37

Signature Page

This document entitled "Tier II Assessment Report", has been prepared for the South Carolina Department of Health and Environmental Control to describe Tier II Assessment activities conducted at the Circle Stop N Shop facility located in Leesville, South Carolina. This Tier II Assessment has been performed under the direct supervision of William B. Dunnagan, Jr. in accordance with accepted quality control practices.

KLEEN SITES GEOSERVICES, INC.

William B. Dunnagan, Jr., P.G.
South Carolina Registration # 937
Project Geologist

Professional Seal

Tier II Assessment Report

Circle Stop N Shop
Leesville, South Carolina

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E) Waste Disposal Manifests
F) Fate & Transport Model
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SECTION 1.0

INTRODUCTION

Circle Stop N Shop is located on the Saluda Traffic Circle at the intersection of U.S. Hwy. 378 and S.C. Hwy. 391 in Leesville, South Carolina. The subject facility is a convenience store that currently sells gasoline, diesel fuel and kerosene to the public. One 3,000 gallon leaded gasoline underground storage tank (UST) and one 3,000 gallon unleaded gasoline UST were installed onsite in 1978. These tanks were excavated and removed from the ground in December 1998. One 8,000 gallon unleaded gasoline UST was installed in December 1998 and is currently in use. A site topographic map and a site location map are provided in Figures 1 and 2, respectively. Figure 3 provides a site layout map.

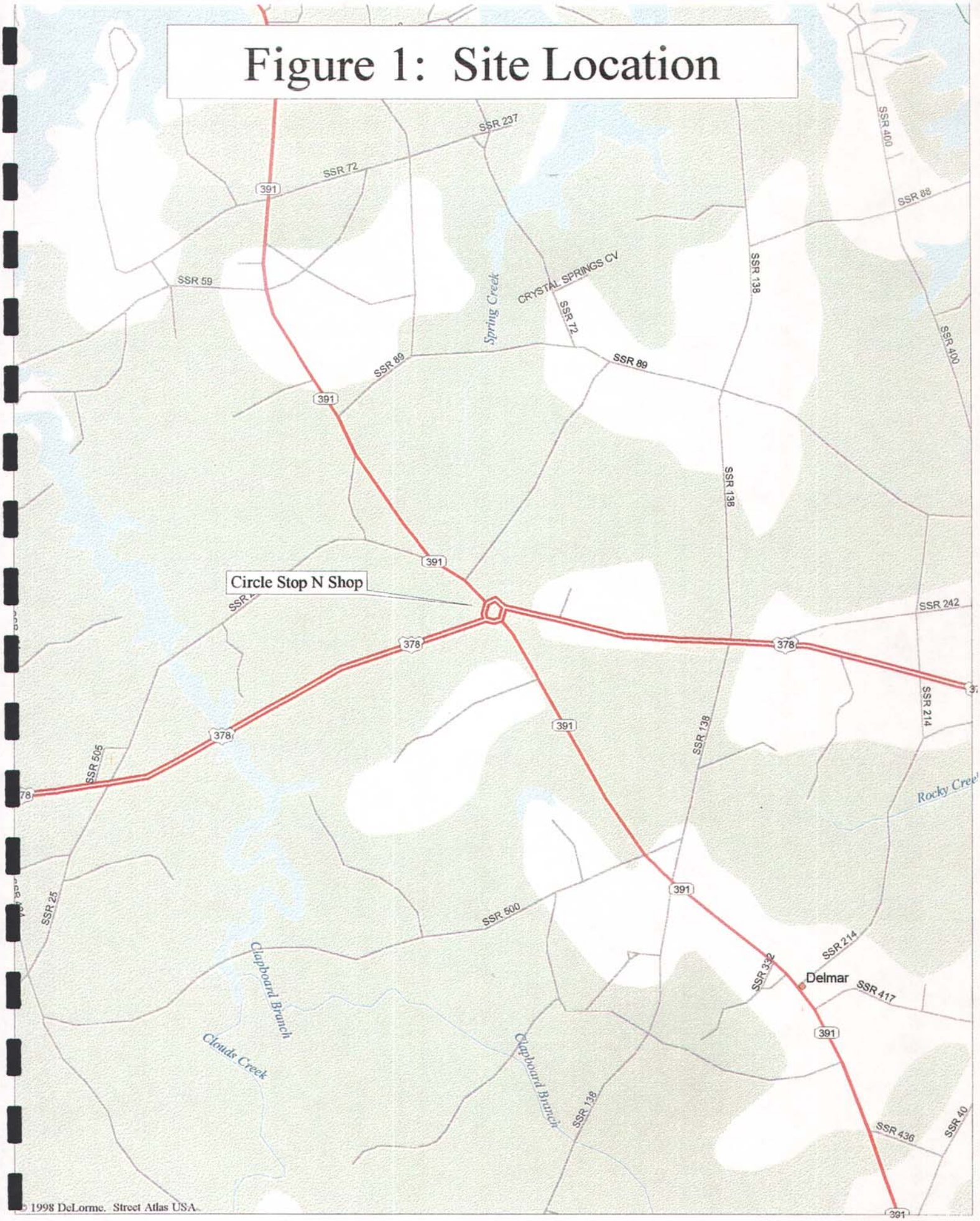
A soil contamination assessment was performed by personnel from Nu-Way Environmental, Inc. in December 1991 to check for the presence of soil contamination around the existing UST system. As a result of this initial environmental investigation, a release of petroleum product into the environment at the subject property was reported to the SCDHEC on December 27, 1991.

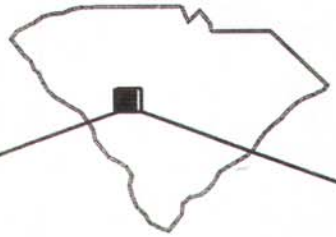
In an effort to determine whether the surficial aquifer had been adversely impacted by the UST system release, the SCDHEC requested that an Initial Ground Water Assessment (IGWA) be conducted at the Circle Stop N Shop facility. Personnel from Kleen Sites Geoservices, Inc. (KSG) conducted the IGWA and prepared a report dated April 19, 2000. The results of this investigation confirmed that ground water contamination was present

In response to the IGWA Report, the SCDHEC requested that a Tier I Assessment be performed to generate additional soil and ground water analytical data on the site. KSG personnel conducted the Tier I Assessment in August and September of 2000. Elevated petroleum hydrocarbon levels were identified in soil and ground water samples that were collected during this assessment. A Tier I Assessment Report dated September 22, 2000 was submitted to the SCDHEC for review and comment.

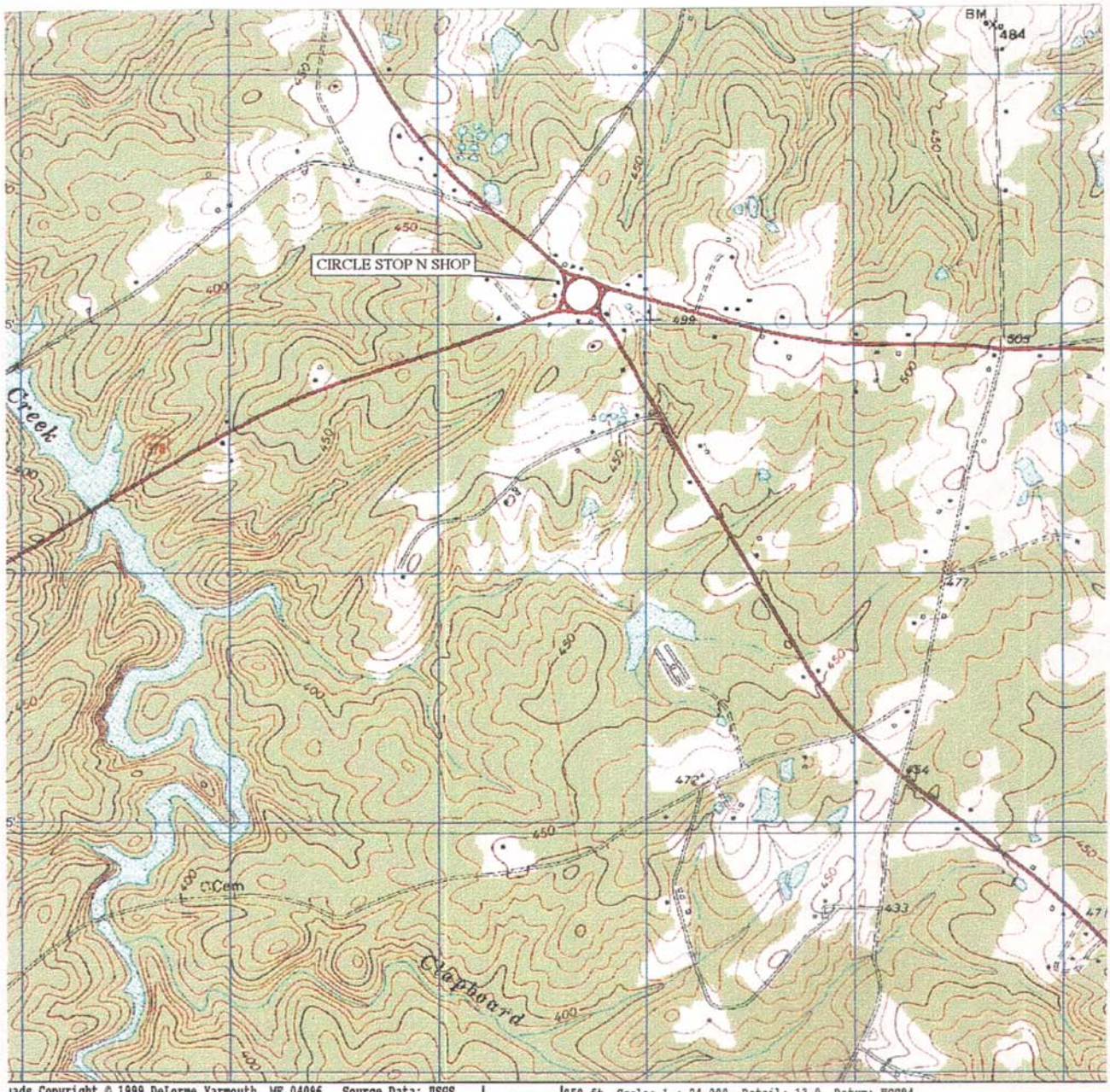
Following a review of the Tier I Assessment Report, the SCDHEC requested a Tier II Assessment at the subject facility in a letter dated November 6, 2000. KSG personnel completed the Tier II Assessment at the subject property in order to define the vertical and horizontal extent of the ground water contamination plume. The assessment was also conducted to evaluate the risk, if any, posed by the contamination to human health and the environment. A Tier II analysis designed to establish ground water cleanup criteria for the site was part of the assessment process. This document summarizes the results of the Tier II Assessment.

Figure 1: Site Location





DELMAR QUADRANGLE



CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 2:
SITE TOPOGRAPHIC
DIAGRAM

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SITES
GEOSERVICES

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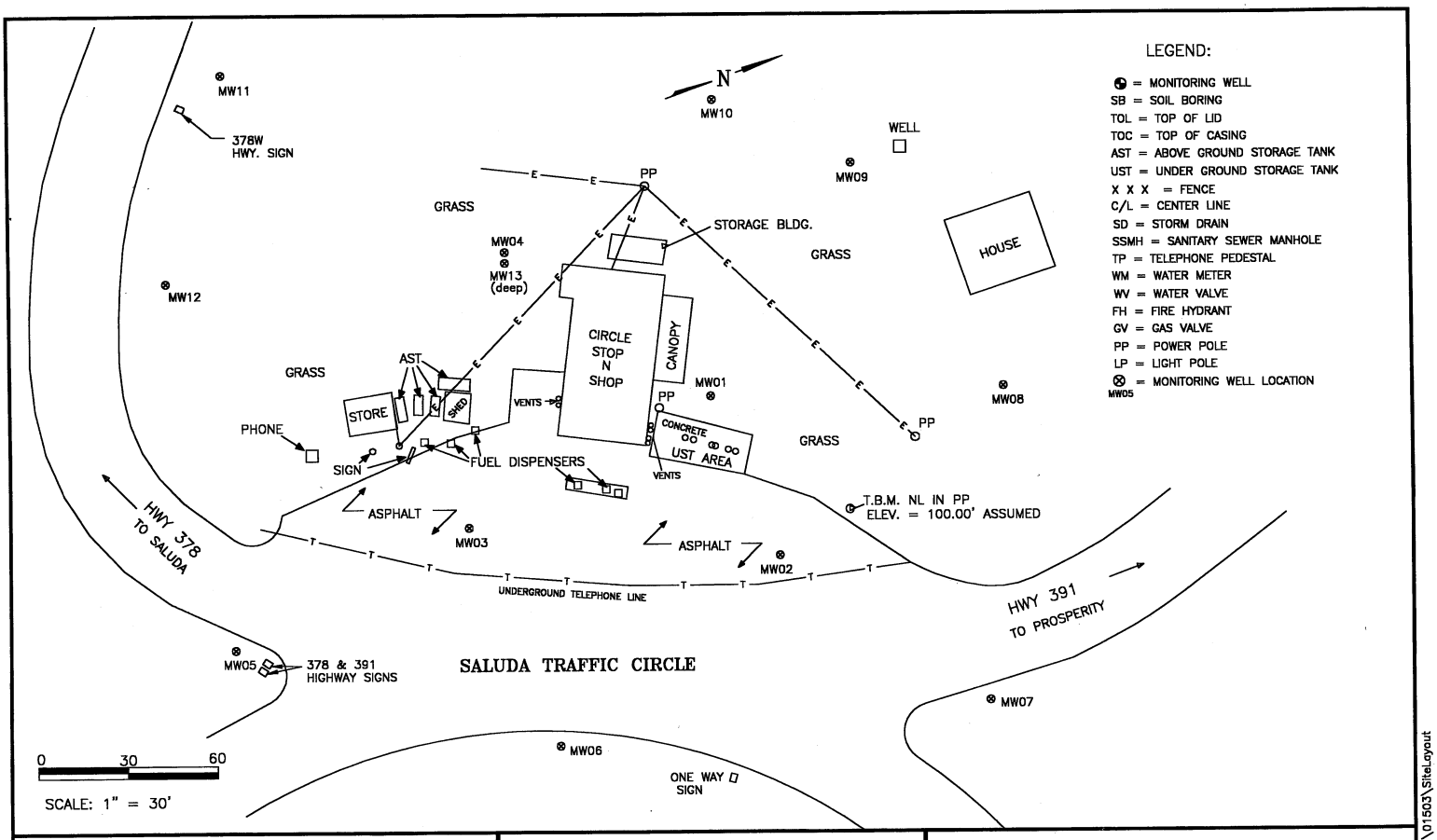

CIRCLE STOP N SHOP HWY 378/391 SALUDA COUNTY, SOUTH CAROLINA	FIGURE 3: SITE LAYOUT AND GROUND WATER MONITOR WELL NETWORK	KLEEN SITES GEOSERVICES

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SECTION 2.0

REGIONAL & SITE SPECIFIC GEOLOGY

The Circle Stop N shop site is located in the Piedmont Physiographic Province of South Carolina. This province consists of several distinct belts of rocks including the Inner Piedmont, Kings Mountain, Charlotte, Carolina Slate, Kiokee and Belair belts. Rocks beneath the subject facility appear to lie within the Carolina Slate Belt. The Carolina Slate Belt extends laterally for more than 400 miles from Petersburg, Virginia to south of Milledgeville, Georgia. The Carolina Slate Belt is generally comprised of a low grade assemblage of metasedimentary and metavolcanic rocks including metagraywacke, metasiltstone and metadacite.

The Carolina Slate Belt is generally comprised of rocks of low to medium metamorphic grade. Soils within the Piedmont Physiographic Province are generally the product of intense chemical weathering over geologic time. The resultant soil, commonly referred to as saprolite, often retains relict textures from the parent rock and can be useful during geologic mapping. Weathering of the saprolite becomes less pronounced with increasing depth producing a gradual transition from upper soil horizons into competent bedrock.

Due to the relatively thin horizon of saprolite that covers bedrock lithologies of the Piedmont Physiographic Province, a well defined stratigraphy does not exist for soils in this area. The uppermost water-bearing zone commonly occurs within this saprolitic horizon, often perched upon the lower confining bedrock. Due to the clay-rich nature of the saprolitic soils, the shallow depth to ground water and the narrow width of water saturated soils, the uppermost aquifer is not commonly utilized to supply drinking water needs.

Split spoon samples collected during the assessment revealed the presence of brown to tan, fine-grained silt from surface to a depth of approximately 42 feet below ground surface. A gradual transition to less weathered saprolitic soils was noted below 42 feet. Coarse-grained quartz and feldspar granules become increasingly abundant in saprolitic soils with increasing depth from ground surface. Bedrock (i.e. auger refusal) was encountered at 62 feet below ground surface at deep well MW13. Static water levels varied across the site from 24.90 to 29.82 feet below ground surface. Two wells, MW09 and MW10, yielded little water and produced unusually low static water level readings. Geologic cross-sectional views of the Circle Stop N Shop site are provided in Appendix A.

SECTION 3.0

SITE ACTIVITIES

KSG personnel conducted Tier II Assessment activities to achieve two main objectives: (1) to define the vertical and lateral extent of dissolved phase ground water contamination and (2) to perform a Tier II Analysis of the site in order to develop Site Specific Target Levels (SSTLs) for ground water cleanup, if necessary. Field activities required to generate site-specific information for the Circle Stop N Shop site are described in detail within this section.

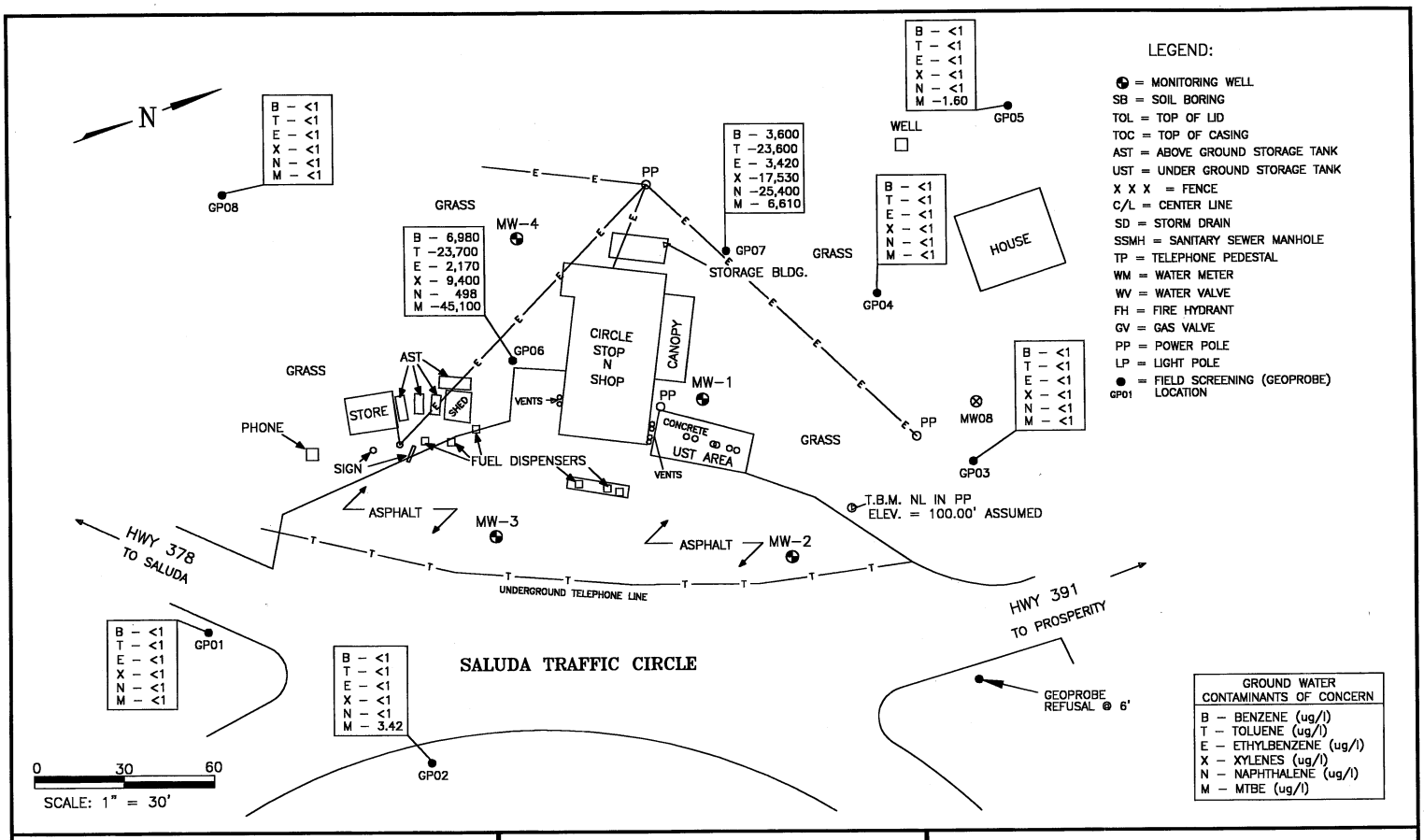
3.1 Field Screening

Eight temporary wells were utilized at the subject facility to check ground water quality at selected locations (see Figure 4). The temporary wells were positioned near the former USTs and down gradient of the former pit area. A Geoprobe® rig was used to advance eight temporary wells to a depth of 52 feet below ground surface. Geoprobe rod refusal was encountered at several locations across the site. Disposable, clear tubing was inserted inside the Geoprobe® rods and used for the collection of ground water samples. Once ground water collection activities were completed at each Geoprobe® location, the well screen and rods were removed from the ground and each borehole was properly abandoned by filling with a lean grout mixture to ground surface.

All ground water samples collected at the Circle Stop N Shop site were packed in crushed ice immediately following collection. A Chain of Custody was completed prior to offsite sample removal. Samples were transported to Access Analytical, Inc. and analyzed for benzene, toluene, ethyl benzene and total xylenes (BTEX) and naphthalene using EPA Method 8260B. Analytical data sheets for each ground water sample are provided in Appendix B.

3.2 Soil Assessment

All drilling activities were performed using a truck-mounted drilling rig equipped with hollow-stem augers. Personnel from SAEDACCO, Charlotte, NC, performed all split spoon sampling and monitor well installations. All assessment activities were performed under the supervision of a KSG staff geologist.



CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 4:
FIELD SCREENING DATA

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SITES
GEOSERVICES

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Split-spoon samples were collected at five foot intervals at each ground water monitor well location from surface until the water table was encountered. Each split-spoon sample was screened with a portable VOC monitor. All shallow wells were drilled to a total depth of 35-45 feet below ground surface. The deep, telescoping well was drilled to a depth of 62 feet. Soil Boring Lithology Logs and Well Construction Summaries are presented in Appendix C. Due to the extensive amount of soil analytical data generated during the Tier I Assessment, additional soil analyses were not performed during this investigation.

3.3 Static Water Level Measurement

Prior to well development or sample collection, static water levels were taken to the nearest 0.01 foot using a graduated electronic indicator. All measurements were taken from the surveyed top of the well casing so they could be referenced to a common datum. Static water levels are summarized in Table 1. Free product was not observed in any monitoring wells during the Tier II Assessment.

TABLE 1
STATIC WATER LEVEL ELEVATIONS

Well ID #	Static Water Level†	Free Product Thickness	Top of Casing Elevation‡	Ground Water Elevation‡
MW01	28.42	ND	99.59	71.17
MW02	26.73	ND	97.68	70.95
MW03	25.37	ND	99.53	74.16
MW04	29.82	ND	100.28	70.46
MW05	24.90	ND	100.88	75.98
MW06	23.33	ND	97.43	74.10
MW07	26.37	ND	97.26	70.89
MW08	28.05	ND	98.70	70.65
MW09	*39.40	ND	99.68	*60.28
MW10	*44.33	ND	100.22	*55.89
MW11	27.90	ND	100.47	72.57
MW12	25.00	ND	100.62	75.62
**MW13	30.18	ND	100.22	70.04

Notes: † = Depth below top of casing, in feet
ND = Not Detected
‡ = Elevation assuming an onsite benchmark of 100 feet
** = Deep Well
* = Very Poor Well Recharge

3.4 Ground Water Sampling

Ground water samples were collected from the above listed monitoring wells on March 15, 16, 27 and 28, 2001. Prior to monitor well sampling, Wells MW01, MW02, MW03 and MW04 were purged three well volumes and Wells MW05 through MW13 were purged 10 well volumes to ensure that a representative sample of the aquifer was collected (see Well Purge Logs - Appendix C). All wells were purged with a PVC bailer and sampled with a disposable Teflon bailer. Dissolved oxygen readings were taken at each well location. Following well purging activities, a ground water sample was collected from each well and placed into appropriate containers.

All samples were packed in crushed ice and transported to Access Analytical, Inc., for chemical analysis. Each sample was analyzed for BTEX, MTBE and naphthalene using EPA Method 8260B, nitrates (EPA Method 353.2), sulfates (EPA Method 300) and ferrous iron (EPA Method 3500 Fe-D). Methane was analyzed for in Wells MW01, MW02 and MW04 using Method RSK-175. A summary of the ground water analytical data is provided in Table 2.

3.5 Ground Water Analytical Data

The following table summarizes ground water analytical results.

TABLE 2
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW01	MW01	MW02	MW02	MW03	MW03	MW04	MW04
Benzene (µg/l)	3,600	1,880	7,500	12,100	25	6.65	6,100	1,580
Ethylbenzene (µg/l)	3,600	1,200	1,600	2,530	9	4.16	2,800	1,980
MTBE (µg/l)	3,400	3,430	720	2,980	< 5.0	1.29	24,000	1,440
Naphthalene (µg/l)	460	356	320	1,120	< 5.0	< 1.0	< 100	839
Toluene (µg/l)	32,000	13,800	14,000	29,600	110	40.8	36,000	17,800
Total Xylenes (µg/l)	17,000	6,820	7,200	99,260	81	25.92	13,000	11,200
Lead (mg/l)	< 0.003	NA	< 0.003	NA	0.023	NA	< 0.003	NA
Ferrous Iron (mg/l)	0.56	1.0	0.091	< 0.03	0.31	0.4	0.24	< 0.03
Nitrates (mg/l)	< 0.02	< 0.05	< 0.02	< 0.05	0.02	0.19	0.093	< 0.05
Sulfates (mg/l)	22	2.15	2.6	2.36	< 1	2.26	4.7	13.51
Methane (µg/l)	< 26	2.1	< 26	1.4	< 26	NA	< 26	46.4
Dissolved Oxygen (mg/l)	3.0	2.0	3.7	1.4	4.1	4.5	4.5	1.8
Sample Date	8/07/00	3/15/01	8/07/00	3/15/01	8/07/00	3/15/01	8/07/00	3/27/01

TABLE 2 (Continued)
GROUND WATER ANALYTICAL DATA SUMMARY

Chemical of Concern (units)	MW05	MW06	MW07	MW08	MW09	MW10	MW11	MW12	MW13
Benzene (µg/l)	< 1.0	< 1.0	11,460	< 1.0	< 1.0	1.82	< 1.0	< 1.0	2,750
Ethylbenzene (µg/l)	< 1.0	< 1.0	157	< 1.0	< 1.0	< 1.0	< 1.0	< 1.0	444
MTBE (µg/l)	< 1.0	< 1.0	< 1.0	< 1.0	1.38	40.2	< 1.0	< 1.0	68,200
Naphthalene (µg/l)	< 1.0	< 1.0	53.9	< 1.0	< 1.0	13.12	< 1.0	< 1.0	742
Toluene (µg/l)	< 1.0	< 1.0	351	< 1.0	< 1.0	11.8	< 1.0	< 1.0	5,680
Total Xylenes (µg/l)	< 1.0	< 1.0	749	< 1.0	< 1.0	22.61	< 1.0	< 1.0	2,772
Lead (mg/l)	NA	NA	NA	NA	NA	NA	NA	NA	NA
Ferrous Iron (mg/l)	< 0.03	< 0.03	< 0.03	< 0.03	NA	< 0.03	< 0.03	< 0.03	< 0.03
Nitrates (mg/l)	0.34	0.27	0.23	0.19	NA	0.57	0.99	0.26	< 0.05
Sulfates (mg/l)	3.06	12.06	16.43	5.40	NA	30.96	5.02	4.02	2.92
Dissolved Oxygen (mg/l)	1.8	5.5	3.3	5.5	4.8	4.6	5.8	6.6	1.9
Sample Date	3/27/01	3/15/01	3/15/01	3/16/01	3/27/01	3/28/01	3/15/01	3/15/01	3/27/01

3.6 Aquifer Characterization

Aquifer characterization was conducted during the previous Tier I Assessment. Two rising head tests were performed on Wells MW03 and MW04. Characterization of the shallow aquifer during the previous assessment yielded the following:

Hydraulic Conductivity: 0.009 – 0.49 ft / day
Hydraulic Gradient: 0.02 ft / ft
Porosity: 40%
Estimated Seepage Velocity: 0.16 – 8.9 ft / yr.

Three additional slug tests were conducted as part of the Tier II Assessment. Two slug tests were performed on shallow wells MW06 and MW11. A slug test was also performed on deep well MW13. Data generated during the shallow well slug tests yielded a hydraulic conductivity range of 7.37×10^{-2} ft / day. Field data generated a hydraulic conductivity of 2.22×10^{-2} ft / day on deep well MW13. Aquifer characterization data generated during the Tier II Assessment is provided in Appendix D of this document.

3.7 Receptor Survey

A receptor survey was conducted at the subject facility as part of the previous Tier I Assessment to identify any potential exposure pathways for soil and/or ground water contamination at the Circle Stop N Shop site. Exposure points are considered the location that a receptor can come into contact, either now or in the future, with soil and/or ground water contaminants. Typical exposure points may be drinking water wells, ponds, streams, underground basements, or underground utilities.

3.7.1 Water Wells

Reconnaissance of the area immediately surrounding Circle Stop N Shop revealed the presence of a residential drinking water well approximately 120 feet northwest of the UST pit. The well and property are owned by the Northey family. At the present time, the well is not in use as the house is supplied by the Saluda County water system. According to local officials, there are no restrictions concerning the installation of drinking water wells or irrigation wells in the Saluda Traffic Circle area. A water sample was collected and submitted for analysis of BTEX, naphthalene and MTBE during the Tier II Assessment. Laboratory analytical data identified only MTBE at a level above the instrument detection limits. MTBE was present at a concentration of 4.49 ug/l.

3.7.2 Underground Utilities

A utility check by Palmetto Utilities Protection Services was requested for the subject property prior to the assessment field effort. Utilities were marked to identify any potential underground exposure points (i.e., storm drain, sanitary sewer line, etc.). Contaminated ground water could potentially seep into these utilities if the static water level existed at an elevation greater than or equal to the corresponding underground utility.

A water main and sanitary sewer line are located along U.S. Hwy. 378 in front of the convenience store property. Water and sewer service lines extend from the road into the convenience store building. A buried telephone line also runs in close proximity to the UST pit and into the convenience store. Depth to ground water in the immediate vicinity of these underground utilities is 25 - 30 feet below ground surface. Therefore, it is unlikely that the underground utilities present beneath the subject site could serve as a preferential pathway for contaminant transport during high water table periods.

3.7.3 Surface Water

Field activities implemented during the Tier I Assessment identified an unnamed tributary approximately 1000 feet northeast of the Circle Stop N Shop site.

3.8 Site Survey

A site survey was performed during the Tier I Assessment to establish an accurate site map portraying the locations of the former UST area, onsite building and adjacent structures. The comprehensive site survey was performed by Mr. Jay S. Joshi, Registered Land Surveyor. The elevation of each monitor well top of casing (TOC) was established using an assumed onsite benchmark elevation of 100 feet.

The survey plat established by Mr. Joshi was utilized as a base map during the Tier II Assessment. Personnel from KSG conducted a subsequent survey to establish the location of Wells MW05 – MW13. TOC elevations for each new well were established using the same assumed onsite benchmark.

SECTION 4.0

TIER II EVALUATION

4.1 Fate and Transport Model

A computer model that was developed by the U.S. EPA, BIOSCREEN, was used for the fate and transport modeling at the Circle Stop N Shop site. The BIOSCREEN model simulates remediation through natural attenuation of dissolved hydrocarbons. The software is based on the Dominico analytical solute transport model and has the ability to simulate advection, dispersion, adsorption and aerobic (or anaerobic) decay. Site specific data that was generated during the Tier II Assessment was utilized to simulate plume migration over time. Results of the BIOSCREEN model are provided in Appendix F.

4.2 SSTL Calculation

KSG evaluated the health and environmental risks associated with this site and identified the Northey water well as the closest potential receptor. It should be noted that the Northey house is presently vacant and the well is not in use. However, since there are no local ordinances to prohibit the future installation of drinking water or irrigation wells, the use of the Northey well for modeling purposes seemed a conservative approach.

Following a straight line from MW01 to the Northey well is approximately 110 feet. During the Tier II analysis, the Northey well was used as the receptor for determining SSTL values. Using a modified version of Equation 1 of the Dominico Model, the following analysis was performed:

$$C_0 / 2 = (C_X) / \{erfc[(x-vt)/(2(\alpha_X vt)^{1/2})] * erf[Y/(4(\alpha_Y x)^{1/2})] * erf[Z/(4(\alpha_Z x)^{1/2})]\}$$

Where: Northey Well

C_X =

5	ppb benzene
1,000	Ppb toluene
700	ppb ethylbenzene
10,000	ppb xylenes
40	ppb MTBE
25	ppb naphthalene

Using above information, the following SSTLs were calculated (see Appendix G for calculations):

C_0 =

7.3	ppb benzene		**1,880 ppb benzene**
1,500	ppb toluene	compared to actual	**13,800 ppb toluene**
1,000	ppb ethylbenzene	concentrations in	**1,200 ppb ethylbenzene**
15,000	ppb xylenes	Well MW01	6,820 ppb xylenes
58	ppb MTBE		**3,430 ppb MTBE**
36	ppb naphthalene		**356 ppb naphthalene**

SECTION 5.0

RESULTS, CONCLUSIONS AND RECOMMENDATIONS

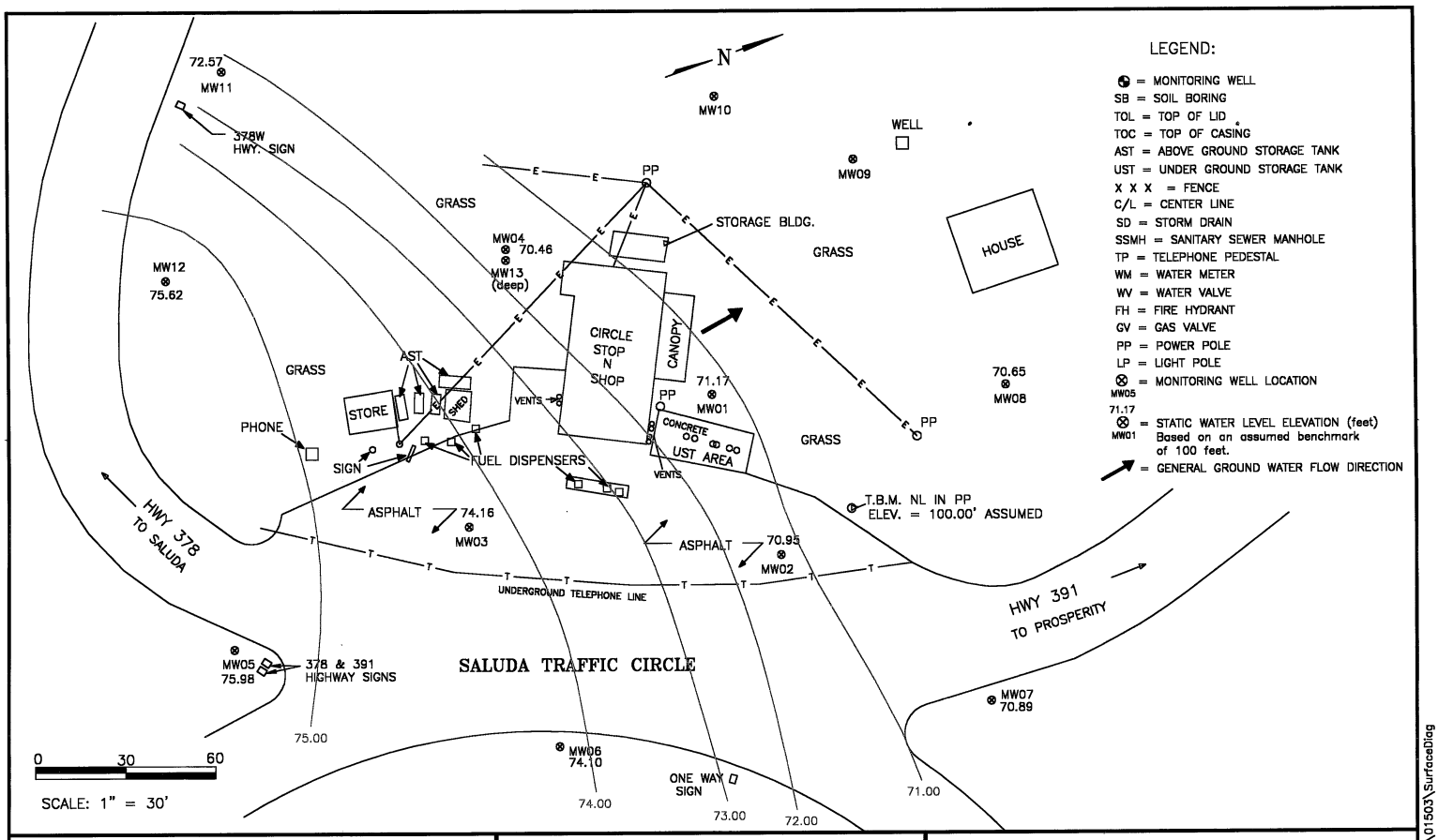
5.1 Results & Conclusions

Subsurface soils consist of light brown, fine-grained, clayey silt from surface to approximately 35 feet below ground surface. Subsurface soils gradually transition into partially weathered rock from 35 feet to 62 feet below ground surface. Auger refusal (i.e. bedrock) was encountered while drilling deep well MW13 at 62 feet below ground surface. It should be noted that the depth to bedrock across the site may be variable. Geoprobe rod refusal was encountered at shallow depths at several locations during field screening.

The UST pit / dispenser island area appears to be the source of contamination at the subject site. Soil sampling efforts during the Tier I Assessment identified elevated levels of petroleum hydrocarbons in soils around the UST pit from near surface down to the water table at approximately 30 feet. Additional soil sampling and analysis was not performed during the Tier II investigation.

Static water levels varied across the site from 24.90 to 29.82 feet below ground surface. Two wells, MW09 and MW10, yielded little water and produced unusually low static water level readings. As shown on Figure 5, static water level readings indicate a general ground water flow direction to the north. However, variations in the permeability of subsurface soils appears to be directing the ground water contaminants into preferential pathways that may not correspond to a northerly flow direction. This may account for the poor productivity of Well MW09 and MW10 and the lack of ground water contaminants from both well locations at the present time.

The dissolved phase ground water contamination plume measures approximately 220 feet in length x 170 feet in width. Wells MW05 and MW12 were successful in defining the upgradient extent of the dissolved phase plume. Wells MW06 and MW11 define the crossgradient extent of the dissolved phase plume. The downgradient extent of ground water contamination is partially defined by Wells MW08, MW09 and MW10. Well MW07 was not successful defining the dissolved phase plume to the northeast of the site. Free product was not observed within any wells during the Tier II Assessment. A diagram showing the dissolved phase hydrocarbon concentrations within the surficial aquifer is presented in Figure 6.



CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 5:
POTENTIOMETRIC
SURFACE DIAGRAM

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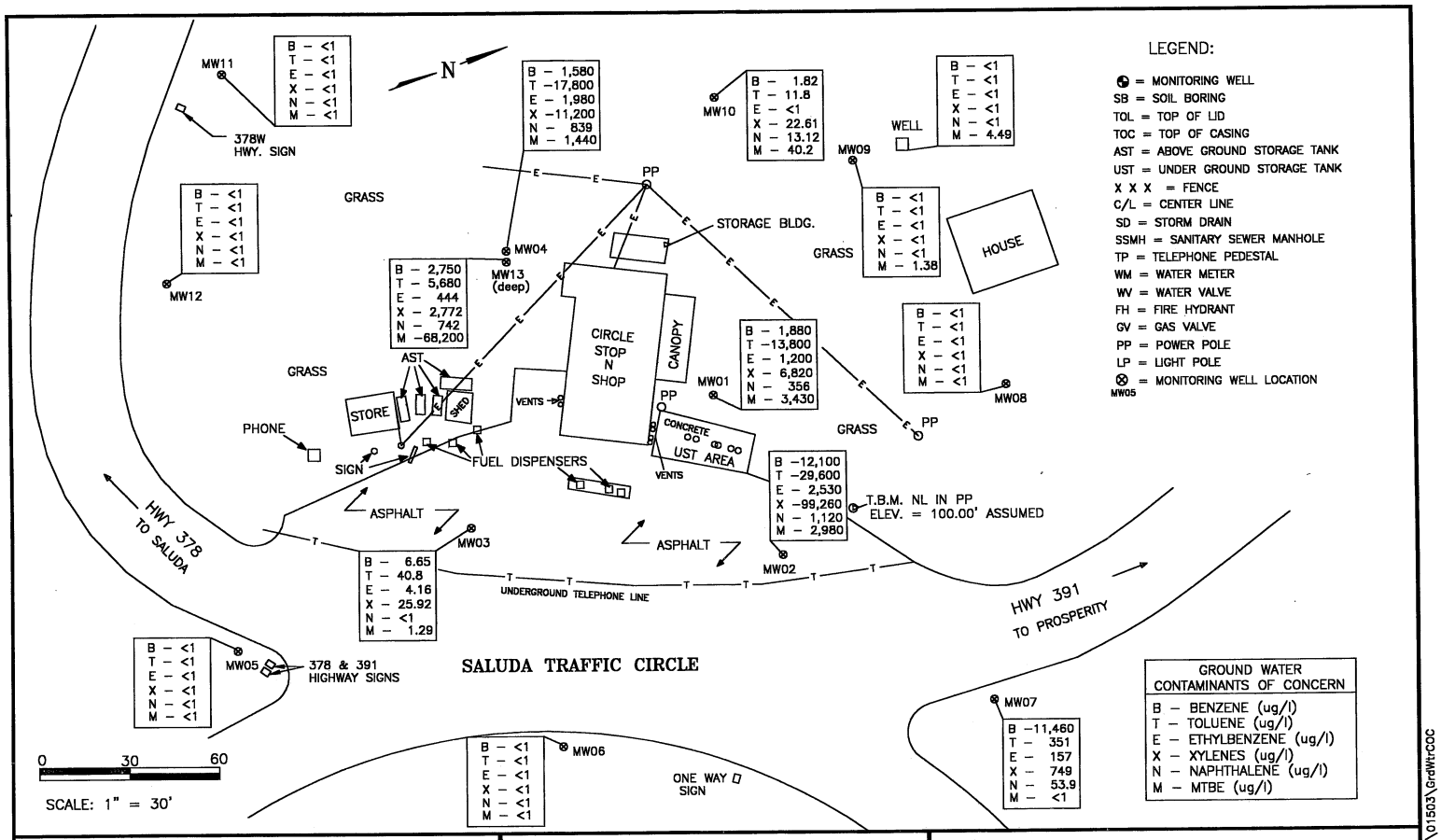

CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 6:
GROUND WATER
COC MAP

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The soil boring log generated for deep well MW13 indicates that bedrock is present at approximately 62 feet below ground surface. Laboratory analysis of the ground water sample that was collected from Well MW13 revealed that ground water contamination extends down to the bedrock at this location. Therefore, Well MW13 was not successful in defining the vertical extent of the dissolved phase contaminant plume. The installation of a bedrock well at this location would be necessary to define the vertical extent of ground water contamination.

Site specific target levels (SSTLs) were calculated using the Northey well as the closest potential receptor to the source area. A comparison was made between the calculated SSTL values and the ground water analysis from Well MW01. This comparison indicated that five compounds: benzene, ethylbenzene, toluene, MTBE and naphthalene are present in Well MW01 at concentrations above the calculated SSTLs.

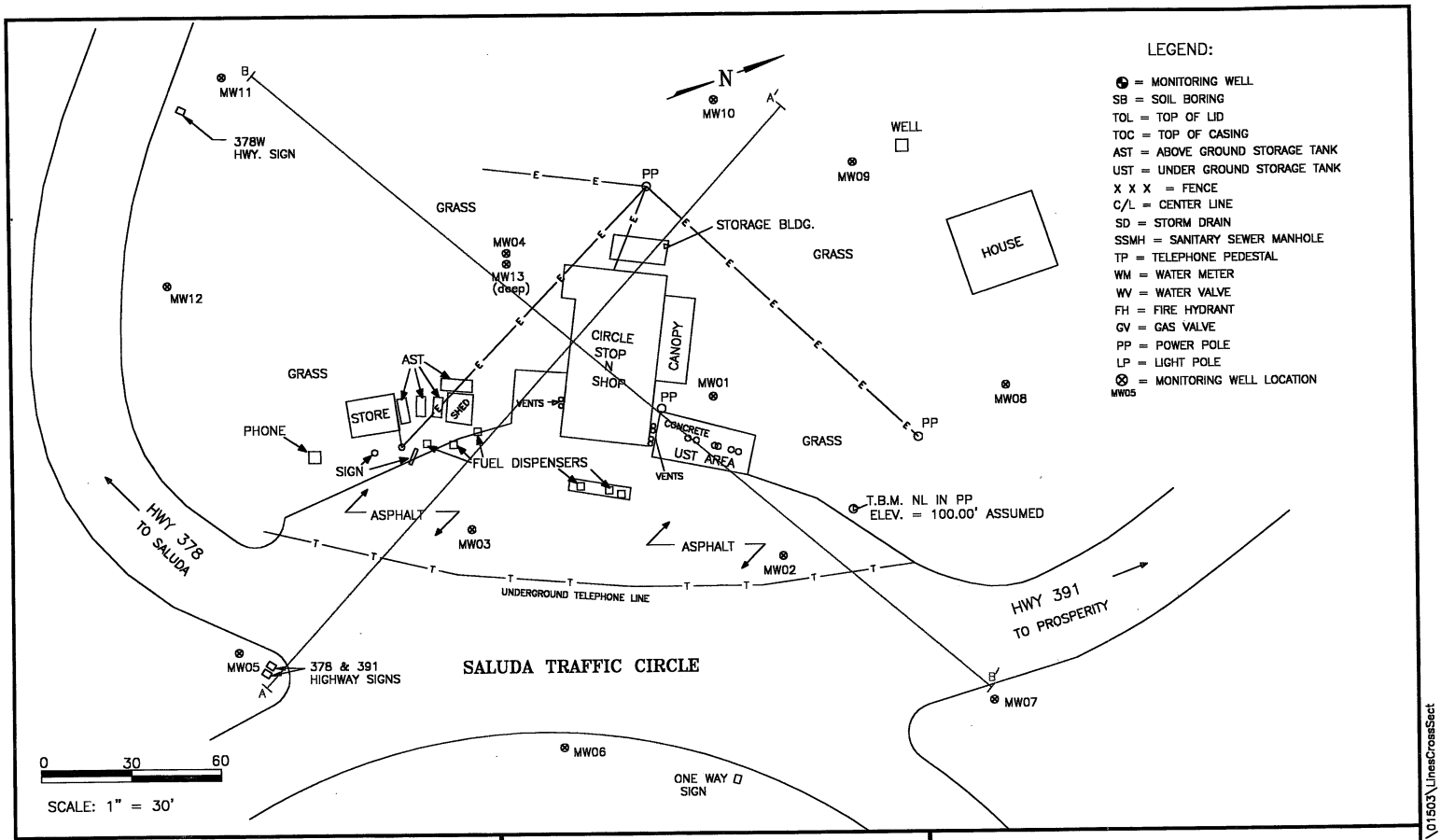
Dissolved oxygen levels were measured on ground water samples from each monitor well location. A review of the data presented in Table 2 indicates a lowering of dissolved oxygen levels within the area of ground water contamination. This data suggests that aerobic microbial degradation of petroleum compounds at the site is occurring at the present time. However, the degradation process is being hindered by the levels of dissolved oxygen that are available.

A receptor survey was performed as part of the previous Tier I Assessment process. A drinking water well that is not being used at the present time is located approximately 110 feet from the UST pit. There is also an unnamed tributary approximately 1000 feet from the Circle Stop N Shop property. Telephone conversations with local officials indicate that there are no city ordinances that prevent the installation of either irrigation or drinking water wells on adjoining properties in the future.

5.2 Recommendations

The Tier II Assessment was not completely successful in defining the vertical and lateral extent of soil and ground water contamination at the Circle Stop N Shop site. Additional wells would be necessary to define the lateral extent of the dissolved phase contaminant plume northeast of the subject property. It would also be necessary to install a bedrock well in order to check the fracture system for evidence of contamination. While no free product plume was identified, dissolved phase ground water contaminants are present at concentrations above calculated SSTLs.

KSG recommends the installation of additional wells to complete the assessment process. The use of a standard drill rig for field screening purposes may be necessary due to the variable nature of subsurface soils around the traffic circle. Once the assessment process has been completed, KSG recommends the preparation of a Corrective Action Plan in order to determine the most cost effective and technically sound method of site remediation.



CIRCLE STOP N SHOP HWY 378/391 SALUDA COUNTY, SOUTH CAROLINA	LINES OF CROSS-SECTIONAL VIEW	KLEEN SITES GEOSERVICES

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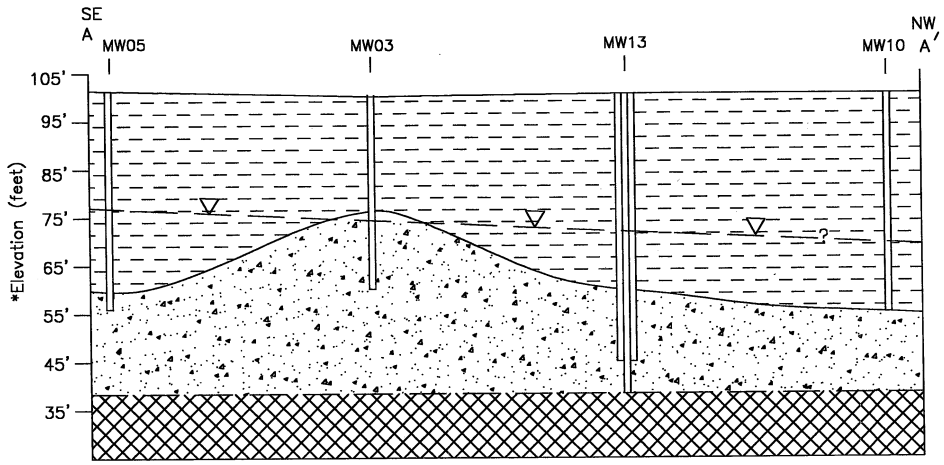

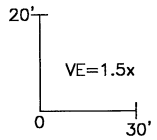

LEGEND

- Silt: light brown, clayey in places
- Partially Weathered Rock: light brown, silty medium to coarse-grained, glassy quartz and white, weathered feldspar
- Bedrock: biotite gnesis or biotite granite
- Potentiometric Surface

* Elevations are based on an assumed onsite benchmark of 100 feet.

CIRCLE STOP N SHOP
HWY. 378/391
SALUDA COUNTY
SOUTH CAROLINA

GEOLOGIC CROSS-SECTIONAL
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GEOSERVICES

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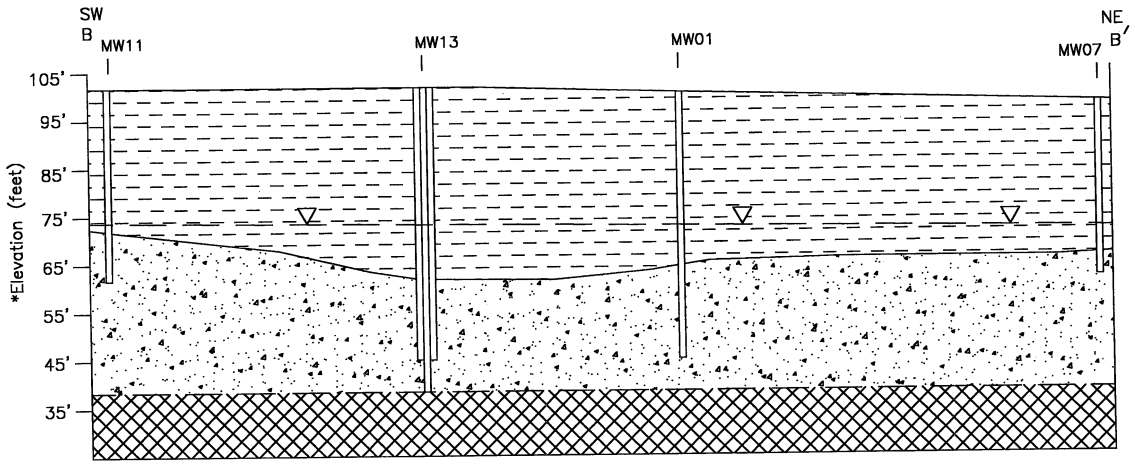

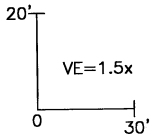

LEGEND

- Silt: light brown, clayey in places
- Partially Weathered Rock: light brown, silty medium to coarse-grained, glassy quartz and white, weathered feldspar
- Bedrock: biotite gnesis or biotite granite
- Potentiometric Surface

* Elevations are based on an assumed onsite benchmark of 100 feet.

CIRCLE STOP N SHOP
HWY. 378/391
SALUDA COUNTY
SOUTH CAROLINA

GEOLOGIC CROSS-SECTIONAL
B – B′

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2001\01503\CrossSectDiag

GEOPROBE SAMPLING DEPTHS

GeoProbe Number	Sampling Depth
GP01	52 feet
GP02	52 feet
GP03	52 feet
GP04	52 feet
GP05	52 feet
GP06	52 feet
GP07	52 feet
GP08	52 feet
Total GeoProbe Depth	416 feet

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

01/2-410 136295-136300

VJ

Job Name: CIRCLE STOP

Project Manager: BILL DUNNAGAN Phone: 791-1996

Project Number:

Collected By: JC

Laboratory: ACCESS

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX	NAPH	MTBE						Special Instructions
BP01		2/8	9:35	136295		✓	✓	✓						
GP02		2/7	1400	136296		✓	✓	✓						
GP03		2/6	16:20	136297		✓	✓	✓						
GP04		2/7	8:20	136298		✓	✓	✓						
GP05		2/7	11:10	136299		✓	✓	✓						
GP06		2/6	10:15	136300		✓	✓	✓						

Parameter Analysis

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Scott Hunt	Cheryl Barr	2/8/01	13:15
Cheryl Barr	Fedex	2/8/01	1700
Fedex	VJ STL	2/9/01	10:30

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

KLEEN SITES GEOSERVICES, INC.

CHAIN OF CUSTODY RECORD

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

012-995 140325/140326 (JJ)

Job Name: Circle Stop N Shop

Project Manager: Bill Dunnagan Phone: 803-791-1996

Project Number: 01503

Collected By: WBD

Laboratory: Access Analytical

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX + Naph + MTBE							Special Instructions
GP07		2/20/01	1020	GeoProbe Sample	L	✓							140325
GP08		2/20/01	1040	" "	L	✓							140326

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	Cheryl Bam	2/20/01	14:45
Cheryl Bam	Fedex	2/20/01	1700
Fedex	VJ STL	2/21/01	10:30

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

01503 [redacted]
149235 / 149241

KLEEN SITES GEOSERVICES, INC.

CHAIN OF CUSTODY RECORD

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

RR.

Job Name: Circle Stop N Shop
Project Manager: Bill Dunnagan Phone: 803-791-1996
Project Number: 01503
Collected By: SF
Laboratory: Access Analytical

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX + Naph + MTBE	Ferrous Iron	Nitrate	Sulfate	Methane				Special Instructions
MW01		3/15/01	1615	Monitor Well MW01	L	✓	✓	✓	✓	✓				149235
MW02		3/15/01	1535	Monitor Well MW02	L	✓	✓	✓	✓	✓				149236
MW03		3/15/01	1500	Monitor Well MW03	L	✓	✓	✓	✓					149237
MW06		3/15/01	0930	Monitor Well MW06	L	✓	✓	✓	✓					149238
MW07		3/15/01	1015	Monitor Well MW07	L	✓	✓	✓	✓					149239
MW11		3/15/01	1350	Monitor Well MW11	L	✓	✓	✓	✓					149240
MW12		3/15/01	1200	Monitor Well MW12	L	✓	✓	✓	✓					149241

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	Cheryl Barr	3/16/01	15:45
Cheryl Barr	Fedex	3/16/01	1700
Fedex	Rukhsana STLM	3/17/01	10:00

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

Sub#01/37145
OLD#153082/153088

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle Stop N Shop
Project Manager: Bill Dunnagan Phone: 791 1996
Project Number:
Collected By: JC/SF
Laboratory: Access

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX/NAPH/MTBE	Nitrate/Sulfate	Ferrous Iron	Methane					Special Instructions
MW09		3/27	1015			1								153082
MW05			1135			1	1	1						153085
MW04			1115			1	1	1	1					153086
MW13			1120			1	1	1						153087
DW-1			1030			1								153088

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
[illegible]	Cheryl Barr	3/27/01	1415
Cheryl Barr	Fedex	3/27/01	1700
Fedex	[illegible]	3/28/01	0800

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:
*Methane sub'ed out

[redacted]/03 [redacted]

149242 RR

KLEEN SITES GEOSERVICES, INC.

CHAIN OF CUSTODY RECORD

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

Job Name: Circle Stop N Shop

Project Manager: Bill Dunnagan Phone: 803-791-1996

Project Number: 01503

Collected By: SF

Laboratory: Access Analytical

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX + NAPH + MTBE	Ferrous Iron	Nitrate	Sulfate					Special Instructions
MW08		3/16/01	1130	Monitor Well	L	✓	✓	✓	✓					149242

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	Cheryl Brown	3/16/01	16:00
Cheryl Brown	Fedex	3/16/01	1700
Fedex	Rutherford SZ	3/17/01	10:00

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

KLEEN SITES GEOSERVICES, INC.

CHAIN OF CUSTODY RECORD

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

SUB# 01/03-1570
ORDER# 154084

TT

Job Name: Circle Stop N Shop
Project Manager: BILL DUNNAGAN Phone: 803-791-1996
Project Number: 01503
Collected By: SF
Laboratory: ACCESS ANALYTICAL

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX+Naph+MTBE	Ferrous Iron	Nitrate	Sulfate					Special Instructions
MW10		3/28/01	1600	Well MW10	L	✓	✓	✓	✓		154084			

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
Bill Dunnagan	Cheryl Barr	3/28/01	15:10
Cheryl Barr	Fedex	3/29/01	1700
Fedex	Tameshia Thompkins	3/30/01	10:00

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW05**
TOTAL DEPTH: **45'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-13-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5							
-10							Concrete Seal
-15							
-20							Bentonite
-25 ▼							Sand
-30		CLAY AND SILT: Light brown, with saprolite layers, no odor					Screened interval -25' to -45'
-35							
-40		SILT: Light brown, with saprolite layers, no odor					
▽ -45							

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FIELD BOREHOLE LOG

BOREHOLE NO.: **MW06**
TOTAL DEPTH: **40'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-13-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5							
-10							Concrete Seal
-15							Bentonite
-20							
▼ -25							Sand
-30		CLAY AND SILT: Light brown, with saprolite layers, no odor					Screened interval -20' to -40'
-35		SILT: Light brown, with saprolite layers, no odor					
▽ -40							

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(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW07**
TOTAL DEPTH: **35'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-13-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5							Concrete Seal
-10							Bentonite
-15							
-20							
-25 ▼							Sand
-30		SILT: Red, tan, white, with saprolite, slight odor, wet					Screened interval -15' to -35'
▽ -35							

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FIELD BOREHOLE LOG

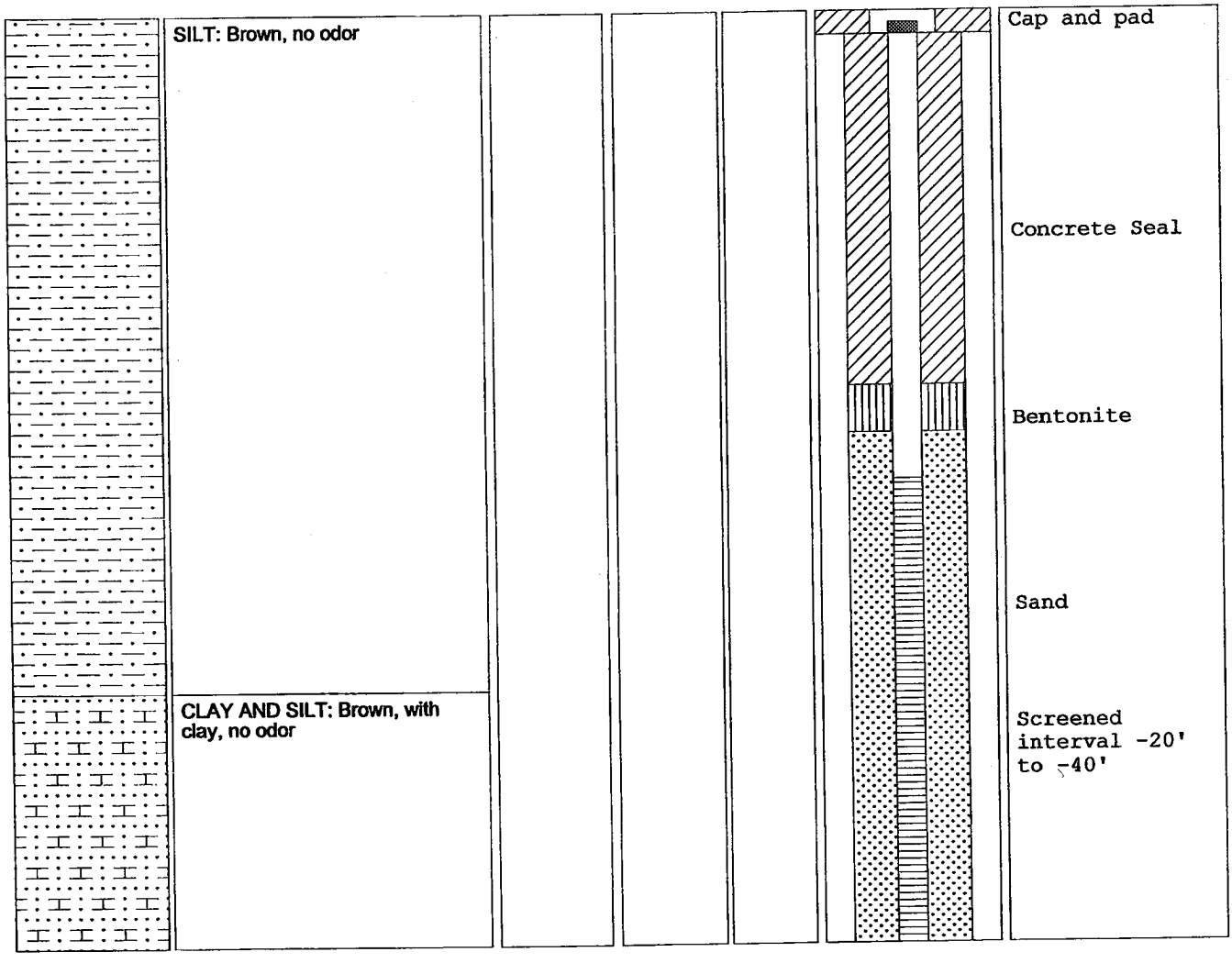
BOREHOLE NO.: **MW08**
TOTAL DEPTH: **40'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-15-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5							
-10							Concrete Seal
-15							Bentonite
-20							
-25							Sand
▼							
-30		CLAY AND SILT: Brown, with clay, no odor					Screened interval -20' to -40'
-35							
▽ -40							



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171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW09**
TOTAL DEPTH: **40'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-14-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, with saprolite layers, no odor					Cap and pad
-5							
-10							Concrete Seal
-15							Bentonite
-20							
-25							Sand
-30							Screened interval -20' to -40'
-35							
-40							

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FIELD BOREHOLE LOG

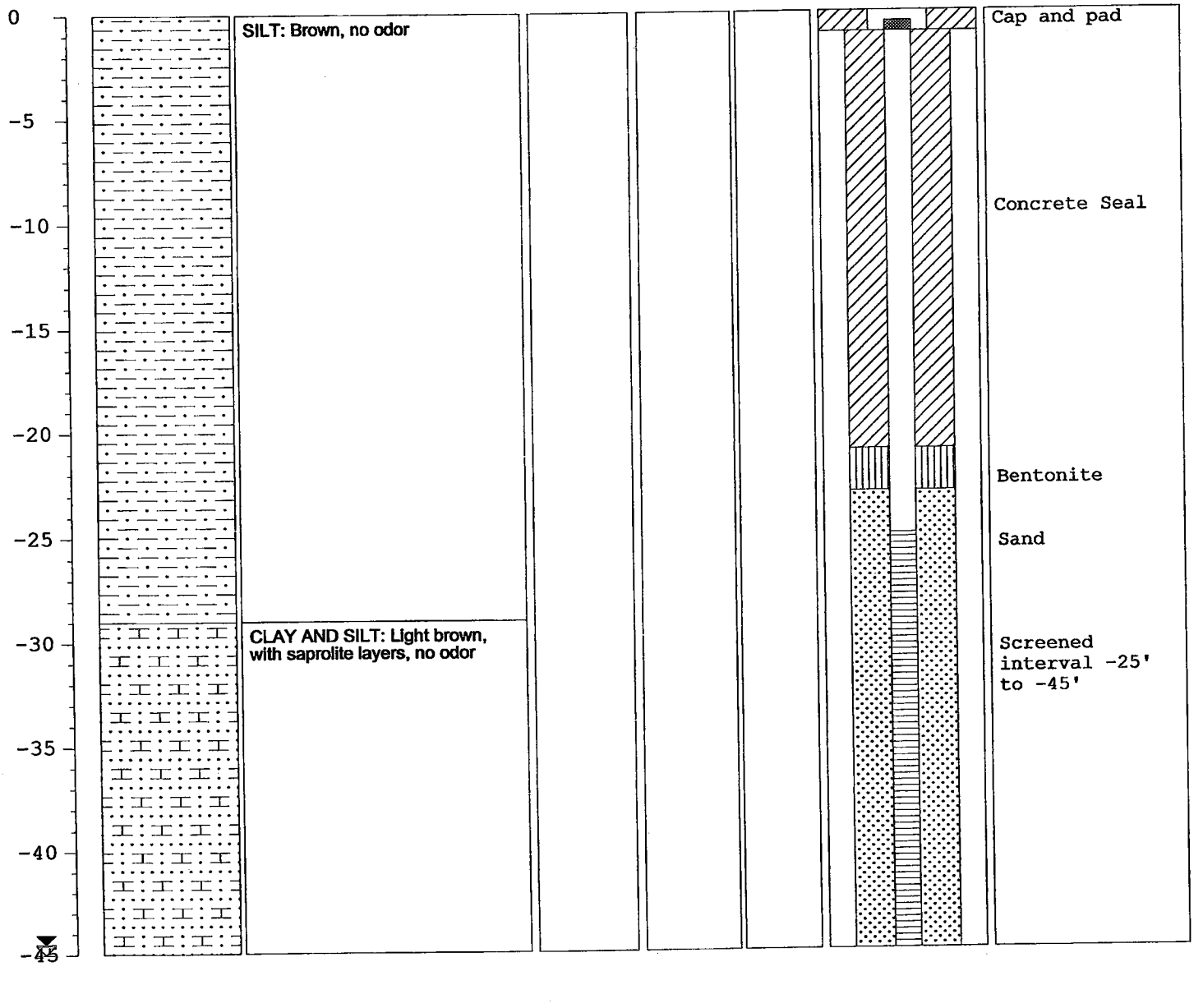
BOREHOLE NO.: **MW10**
TOTAL DEPTH: **45'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-27-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION



Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

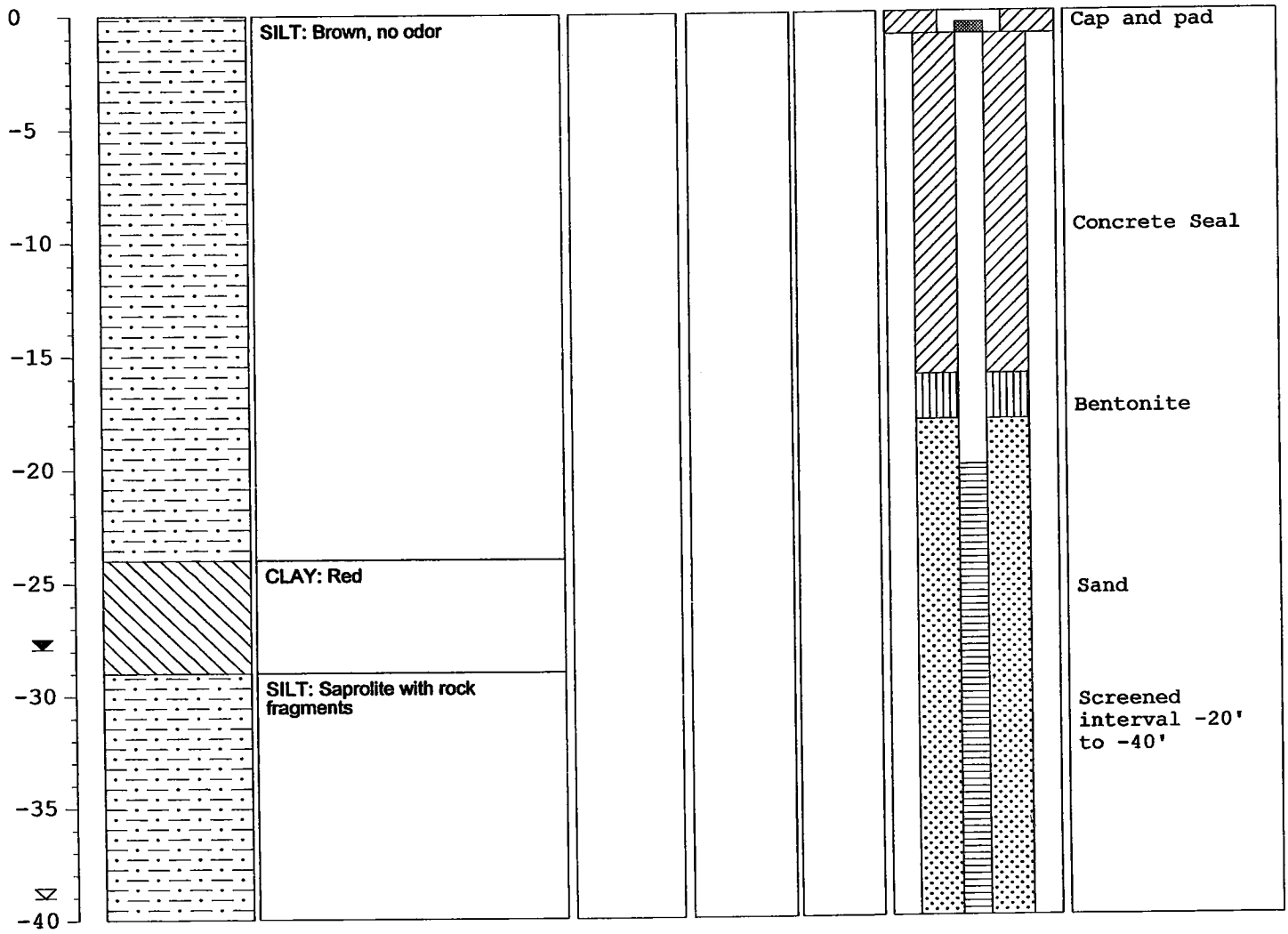
BOREHOLE NO.: **MW11**
TOTAL DEPTH: **40'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-14-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION



Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW12**
TOTAL DEPTH: **40'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-14-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, no odor					Cap and pad
-5							
-10							Concrete Seal
-15							Bentonite
-20							
-25							Sand
-30							Screened interval -20' to -40'
-35		SILT: Tan, with saprolite layers, no odor					
-40							

Kleen Sites Geoservices, Inc.
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West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW13**
TOTAL DEPTH: **62'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	01503	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	03-15-01/ 03-16-01	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: Circle Stop N Shop

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
0		SILT: Brown, petroleum odor at 25'					Cap and pad
-5							
-10							
-15							
-20							
-25							Grouted Annulus
-30		CLAY AND SILT: Tan, strong petroleum odor					
-35		SILT: Dark brown-red, strong petroleum odor					
-40							
-45							6-inch PVC casing (0 to 55')
-50		SANDY SILT: Gray, medium to course-grained, strong petroleum odor					Bentonite
-55							Sand
-60							Screened interval -57' to -62'

DHEC
PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:
Street Address: HWY 378 & HWY 391
County: SALUDA City: SALUDA Zip:
Latitude: Longitude:

2. System Name: System Number: MW#5

3. WELL DEPTH (completed) Date Started: 3-13-01
45' ft. Date Completed: 3-13-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TN. SILT	0	45'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA TRAFFIC CIRCLE
SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 1472
Address: 9000 MARKSWOOD RD. CHARLOTTE, N.C.
Telephone No.: 704-504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 25 ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 25' ft. and 45' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 23' ft. to 45' ft.
Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 23' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected upon completion ☐ Yes ☐ No Type: Amount:

19. 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

20. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Signed: Robert L. Miller Date: 3-19-01
Authorized Representative

DHEC 1903 (11/2000) 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. LOCATION OF WELL:

Street Address: HWY 378 & HWY 391

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW#6

3. WELL DEPTH (completed) Date Started: 3-13-01
40' ft. Date Completed: 3-13-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TN. SILT	0	40'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA TRAFFIC CIRCLE
SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: Robert Lee Miller Cert. No.: 1972
Address: 9000 MARKSWOOD RD.
CHARLOTTE, N.C.
Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 20' ft. depth
in. to ft. depth

Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 20' ft. and 40' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 18' ft. to 40' ft.
Effective size 20/30' Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 18' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

19. 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

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

Signed: Robert L. Miller Date: 3-19-01
Authorized Representative

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. LOCATION OF WELL:

Street Address: HWY 378 & HWY 391

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW#7

3. WELL DEPTH (completed) Date Started: 3-13-01
34' ft. Date Completed: 3-13-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
TN. SILT	0	28'
FRAG ROCK	28'	34'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE SHOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA TRAFFIC CIRCLE
SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT LEE MILLER Cert. No.: 1472
Address: 9000 MARKSWOOD RD.
CHARLOTTE, N.C.
Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 14' ft. depth
in. to ft. depth

Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 14' ft. and 34' ft. NOTE: MULTIPLE SCREENS
ft. and ft. USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 12' ft. to 34' ft.
Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 12' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

19. 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

20. WATER WELL CONTRACTOR'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: 3-19-01
Authorized Representative

DHEC
PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:

Street Address: HWY 378 & HWY 391

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW #8

3. WELL DEPTH (completed) Date Started: 3-15-01
40' ft. Date Completed: 3-15-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA TRAFFIC CIRCLE SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 472
Address: 9000 MARKSWOOD RD. CHARLOTTE, N.C.
Telephone No: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 20' ft. depth
in. to ft. depth

Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 20' ft. and 40' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 18' ft. to 40' ft.
Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 18' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

19. 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

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

Signed: Robert L. Miller Date: 3-19-01
Authorized Representative

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. LOCATION OF WELL:

Street Address:

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW#9

3. WELL DEPTH (completed) Date Started: 3-14-01
40' ft. Date Completed: 3-14-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA TRAFFIC CIRCLE
SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT C. MILLER Cert. No.: 1472
Address: 9000 MARKSWOOD RD
CHARLOTTE, N.C
Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 20' ft. depth
in. to ft. depth

Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 20' ft. and 40' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 18' ft. to 40' ft.
Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 18' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

19. 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

20. WATER WELL CONTRACTOR'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: 3-19-01
Authorized Representative

DHEC 1903 (11/2000) 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. LOCATION OF WELL:

Street Address: SALUDA CIRCLE

County: SALUDA #10 City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number:

3. WELL DEPTH (completed) Date Started:

45' ft. Date Completed:

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	45'

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

6. REMARKS:

7. WELL OWNER NAME: CIRCLE SELF-N-STORE (last) (first)

Address: SALUDA CIRCLE
SALUDA, S.C.

Telephone Work: Home:

8. Well Driller: Robert Miller Cert. No.: 1972

Address: 9000 MARKSWOOD RD.
CHARLOTTE, N.C.

Telephone No.: (704) 564-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded

Diam.: 2"

Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other

0 in. to 25' ft. depth

in. to ft. depth

Height: Above/Below Surface ft.

Weight lb./ft.

Drive Shoe? ☐ Yes ☐ No

12. SCREEN

Type: PVC Diam.: 2"

Slot/Gauge: 0.01 Length: 20'

Set Between: 25' ft. and 45' ft.

ft. and ft.

NOTE: MULTIPLE SCREENS USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL

ft. below land surface after 24 hours

14. PUMPING LEVEL *Below Land Surface.*

ft. after hrs. Pumping G.P.M.

Pumping Test: ☐ Yes (please enclose) ☐ No

Yield:

15. WATER QUALITY

Chemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No

Please enclose lab results.

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No

Installed from 23' ft. to 45' ft.

Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other

Depth: From 0 ft. to 23' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction

Type well disinfected upon completion ☐ Yes ☐ No Type: Amount:

19. 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

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

Signed: Robert Miller Date: 3-19-01

DHEC
PROMOTE PROTECT PROSPER

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

1. LOCATION OF WELL:

Street Address:

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW#11

3. WELL DEPTH (completed) Date Started: 3-14-01
40' ft. Date Completed: 3-14-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Orange Silt	0	40'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA TRAFFIC CIRCLE
SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 1472
Address: 9000 MARKSWOOD RD.
CHARLOTTE, N.C.
Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 20' ft. depth
in. to ft. depth

Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 20' ft. and 40' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 18' ft. to 40' ft.
Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 18' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

19. 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

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

Signed: Robert L. Miller Date: 3-19-01
Authorized Representative

DHEC 1903 (11/2000) 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. LOCATION OF WELL:

Street Address:

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW #12

3. WELL DEPTH (completed) Date Started: 3-14-01
40' ft. Date Completed: 3-14-01

4. ☐ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

6. REMARKS:

7. WELL OWNER NAME: CIRCLE STOP-N-SHOP (last) (first)
Address: HWY 378 & HWY 391 SALUDA TRAFFIC CIRCLE
SALUDA, S.C.
Telephone Work: Home:

8. Well Driller: ROBERT L. MILLER Cert. No.: 1472
Address: 9000 MARKSWOOD RD.
CHARLOTTE, N.C.
Telephone No.: (704) 504-3574

9. Permit Number:

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

11. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other
0 in. to 20' ft. depth
in. to ft. depth

Height: Above/Below
Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

12. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 20' ft. and 40' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☐ No

13. STATIC WATER LEVEL
ft. below land surface after 24 hours

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

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

16. ARTIFICIAL FILTER (filter pack) ☒ Yes ☐ No
Installed from 18' ft. to 40' ft.
Effective size 20/30 Uniformity Coefficient

17. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From 0 ft. to 18' ft.

18. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected ☐ Yes Type:
upon completion ☐ No Amount:

19. 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

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

Signed: Robert L. Miller Date: 3-19-01
Authorized Representative

DHEC 1903 (11/2000)

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. LOCATION OF WELL:

Street Address:

County: SALUDA City: SALUDA Zip:

Latitude: Longitude:

2. System Name: System Number: MW #13

3. WELL DEPTH (completed) Date Started: 3-16-01
62' ft. Date Completed: 3-16-01

4. ☒ Mud Rotary ☐ Jetted ☒ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☐ Other

5. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	55'
SAPARLITE	55'	62'

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW01

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	49.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	28.42 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	16.58 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.8 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	8.4 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1558	2.8	68.5	33	6.17	Petroleum odor.
1605	5.6	68.6	34	6.12	Petroleum odor.
1612	8.4	68.9	34	6.19	Petroleum odor.
					DO = 2.0

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW02

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	26.73 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	13.27 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.2 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	6.6 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1523	2.2	73.0	49	6.22	Petroleum odor, sheen
1528	4.4	71.5	236	6.16	Petroleum odor
1533	6.6	70.3	233	6.08	Petroleum odor
					DO= 1.4

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW03

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	25.37 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	14.63 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.4 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	7.2 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1450	2.4	69.9	49	6.07	Petroleum odor
1453	4.8	69.7	546	6.01	
1457	7.2	69.8	42	6.05	
					DO = 4.5

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW04

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	29.82 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	10.18 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.7 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	5.1 Gallons
DATE:	03-27-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1404	1.7	58.8	29	6.65	Sweet chemical odor, strong
1409	3.4	57.7	30	6.72	
1413	5.1	57.9	31	6.23	
					DO = 1.8

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW05

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	45.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	24.90 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	20.10 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	3.4 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	34.0 Gallons
DATE:	03-27-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1015	3.4	62.6	69	6.95	No odor
1020	6.8	64.6	67	6.73	
1022	10.2	65.8	86	6.65	
1024	13.6	64.6	61	6.64	
1026	17.0	65.0	55	6.57	
1028	21.4	64.7	52	6.54	
1030	24.8	63.8	53	6.50	DRY
	28.2				
	31.6				
	34.0				
					DO = 1.8

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW06

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	23.33 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	16.67 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.7 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	5.1 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
845	2.7	62.8	70	6.15	No odor
855	5.4	62.5	54	6.07	
910	8.1	62.3	52	5.90	
920	10.8	62.4	52	5.96	
930	13.5	62.4	50	5.99	DRY
	16.2				
	18.9				
	21.6				
	24.3				
	27.0				
					DO = 5.5

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW07

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	35.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	26.37 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	8.63 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.4 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	14.0 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
955	1.4	61.6	90	6.34	Petroleum odor
1000	2.8	64.7	111	6.29	
1005	4.2	66.2	128	6.24	
1010	5.6	65.8	139	6.25	
1015	7.0	66.0	146	6.22	DRY
	8.4				
	9.8				
	11.2				
	12.6				
	14.0				
					DO = 2.3

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW08

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	28.05 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	11.95 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.0 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	20 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1100	2	62.9	108	6.45	No odor
1104	4	64.3	90	6.35	
1109	6	64.7	93	6.32	
1113	8	64.5	73	6.27	
1117	10	64.1	69	6.25	
1121	12	64.3	66	6.28	
1125	14	62.1	63	6.23	
	16				
	18				
	20				
					DO = 5.5

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW09

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	39.52 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	0.48 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	
DATE:	03-27-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
					Due to insufficient water column
					well purging was not performed.

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SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW10

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	45.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	44.43 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	0.57 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	Gallons
DATE:	03-28-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
					Due to insufficient water column
					well purging was not performed.

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW11

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	27.90 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	12.10 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.0 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	20.0 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1245	2	67.6	225	6.11	No odor
1310	4	66.7	202	6.07	
1316	6	68.6	185	6.02	
1328	8	68.6	173	5.99	
1333	10	69.1	173	5.97	
1340	12	69.0	170	5.93	
1345	14	68.3	167	5.95	
1350	16	68.8	162	5.92	
	18				
	20				
					DO= 5.8

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW12

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	25.00 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	15.00 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.5 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	25 Gallons
DATE:	03-15-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1100	2.5	59.8	88	6.23	No odor
1130	5.0	69.4	81	6.20	
1137	7.5	69.6	82	6.24	
1142	10.0	68.5	71	6.21	
1147	12.5	68.6	99	6.17	
1152	15.0	68.9	98	6.14	
1158	17.5	69.1	99	6.11	
	20.0				
	22.5				
	25.0				DO=6.6

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER – MW13

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	62.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	30.18 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	31.82 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	5.3 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	53 Gallons
DATE:	03-27-01	KSG PERSONNEL:	JC/SF

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1150	5	61.6	299	6.76	Petroleum odor
1200	10	56.5	305	7.03	DRY
	15				
	20				
	25				
	30				
	35				
	40				
	45				
	50				
	53				DO=1.9

Site: Circle Stop N Shop
Well: MW06

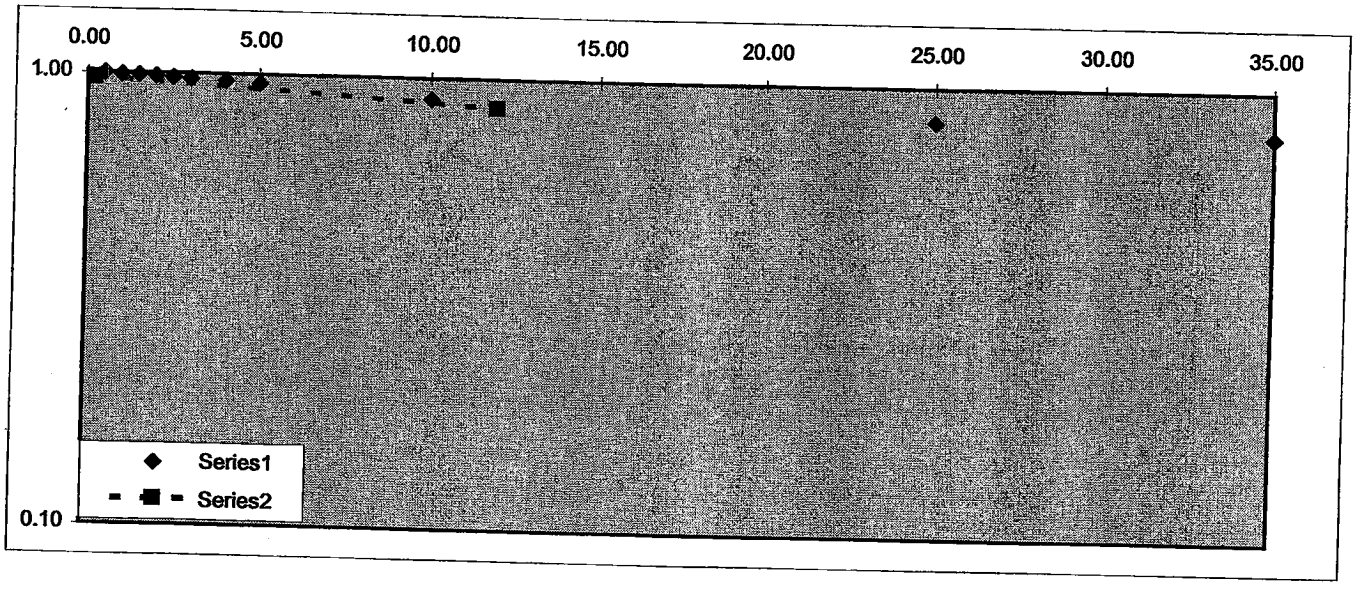
VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	15	screen length (ft)	ln(m-l/rw)=	3.807663
d=	17.07	depth of screen below water (ft)	(l-d)/rw=	-6.2162162
rw=	0.333	well radius (ft)	A=	1.6028741
rc=	0.083	casing radius (ft)	B=	0.2468729
m=	30	formation thickness (ft)	tL=	97.883295
Hi=	74.5	static water level (ft above xdcr)	ln(R/rw)=	-4.8251235

t1=	0.2	(Hw/H0)1=	0.9772372
t2=	11.92	(Hw/H0)2=	0.8669619

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 8.20E-05 ft/min = 4.17E-05 cm/s = 4.17E-07 m/s



Slug Test Data

TOC of Well	Static Water Level	Ground Water Elevation	Elapsed Time (min)	Hw/Ho
97.43	39.43	58.00	0.50	1.0000
	39.31	58.12	1.00	0.9927
	39.24	58.19	1.50	0.9885
	39.16	58.27	2.00	0.9836
	39.05	58.38	2.50	0.9770
	38.97	58.46	3.00	0.9721
	38.84	58.59	4.00	0.9642
	38.73	58.70	5.00	0.9576
	37.77	59.66	10.00	0.8994
	36.83	60.60	25.00	0.8424
	36.05	61.38	35.00	0.7952

Site: Circle Stop N Shop
Well: MW11

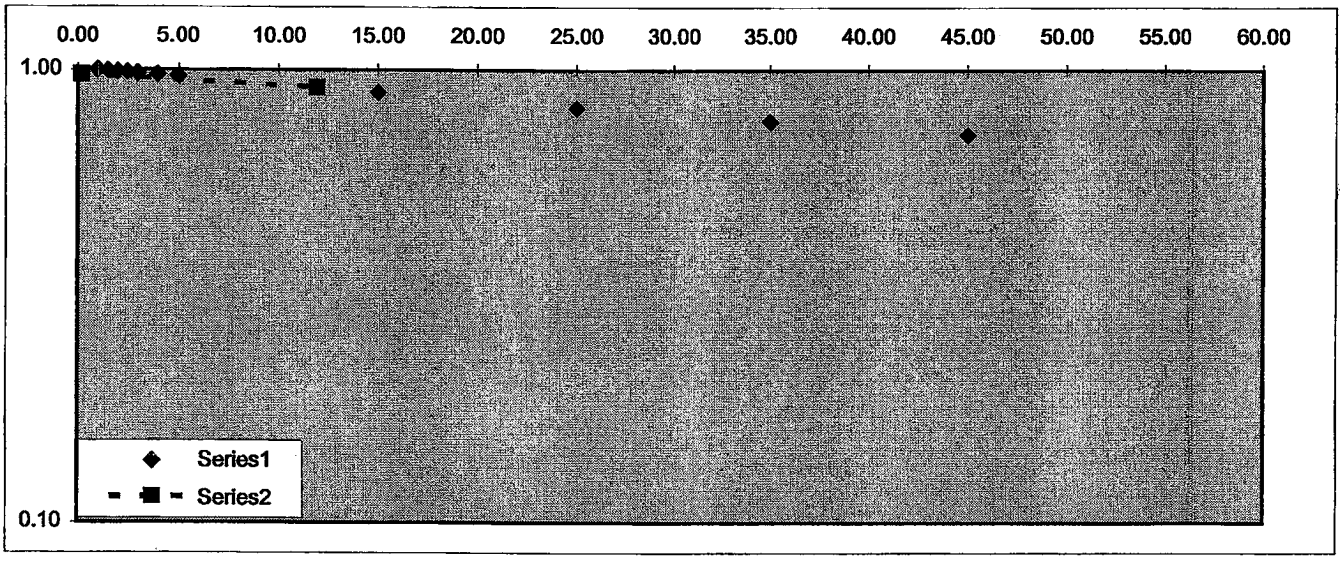
VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	15	screen length (ft)	ln(m-l/rw)=	3.807663
d=	15.33	depth of screen below water (ft)	(l-d)/rw=	-0.990991
rw=	0.333	well radius (ft)	A=	1.6028741
rc=	0.083	casing radius (ft)	B=	0.2468729
m=	30	formation thickness (ft)	tL=	181.78326
Hi=	75.81	static water level (ft above xdcr)	ln(R/rw)=	-0.3542007

t1=	0.2	(Hw/H0)1=	0.9772372
t2=	11.92	(Hw/H0)2=	0.9162205

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 2.03E-05 ft/min = 1.03E-05 cm/s = 1.03E-07 m/s



Slug Test Data

TOC of Well	Static Water Level	Ground Water Elevation	Elapsed Time (min)	Hw/Ho
100.47	39.01	61.46	1.00	1.0000
	38.95	61.52	1.50	0.9958
	38.89	61.58	2.00	0.9916
	38.84	61.63	2.50	0.9882
	38.79	61.68	3.00	0.9847
	38.67	61.80	4.00	0.9763
	38.56	61.91	5.00	0.9686
	37.46	63.01	15.00	0.8920
	36.52	63.95	25.00	0.8265
	35.75	64.72	35.00	0.7728
	35.01	65.46	45.00	0.7213

Site: Circle Stop N Shop
Well: MW13

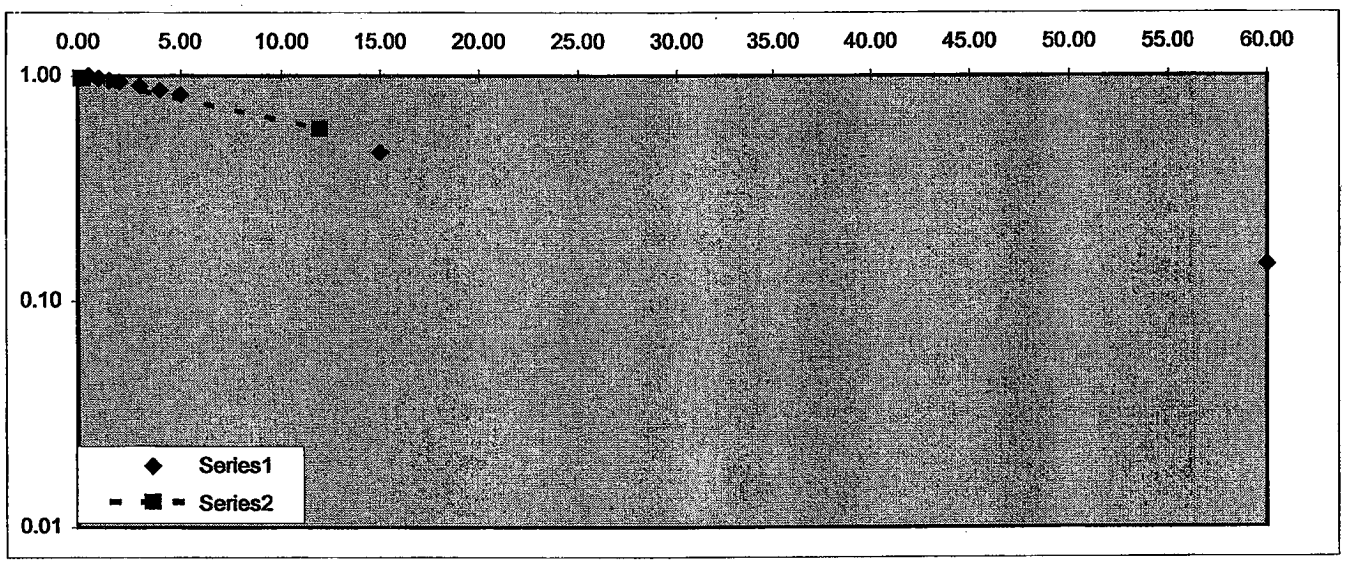
VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	5	screen length (ft)	ln(m-l/rw)=	4.3184886
d=	31.82	depth of screen below water (ft)	(l-d)/rw=	-80.540541
rw=	0.333	well radius (ft)	A=	1.6028741
rc=	0.083	casing radius (ft)	B=	0.2468729
m=	30	formation thickness (ft)	tL=	22.722908
Hi=	70.04	static water level (ft above xdcr)	ln(R/rw)=	2.7192117

t1=	0.2	(Hw/H0)1=	0.9772372
t2=	11.92	(Hw/H0)2=	0.5834451

ESTIMATED HYDRAULIC CONDUCTIVITY

k= -1.54E-05 ft/min = -7.81E-06 cm/s = -7.81E-08 m/s



Slug Test Data

TOC of Well	Static Water Level	Ground Water Elevation	Elapsed Time (min)	Hw/Ho
100.22	57.71	42.51	0.50	1.0000
	57.03	43.19	1.00	0.9753
	56.43	43.79	1.50	0.9535
	56.00	44.22	2.00	0.9379
	55.01	45.21	3.00	0.9019
	54.03	46.19	4.00	0.8663
	52.93	47.29	5.00	0.8264
	42.76	57.46	15.00	0.4570
	34.14	66.08	60.00	0.1438
	30.79	69.43	98.00	0.0222

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. GK3723

2. Page 1 of

3. Generator's Name and Mailing Address
CIRCLE STOP N GO
SALUDA TRAFFIC CIRCLE
SALUDA, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
G & K TANK SERVICES, INC

6. US EPA ID Number

A. Transporter's Phone
800-800-6840

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
PO BOX 1384
SUMTER, SC 29151

10. US EPA ID Number

C. Facility's Phone
800-800-6840

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
aNON HAZARDOUS PETROLEUM CONTAMINANTED SOIL CIRCLE STOP N GO SALUDA, SC	24DR			
bNON HAZARDOUS PETROLEUM CONTAMINANTED WATER CICRLE STOP N GO SALUDA, SC	06DR			
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
KLEEN SITES GEOSERVICES
409 BURTON ROAD
LEXINGTON, SC 29072

GENERATOR

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

TRANSPORTER

17. Transporter 1 Acknowledgement of Receipt of Materials
Printed/Typed Name: FRANK Tidwell | Signature: Frank Tidwell | Month 04 | Day 02 | Year 01

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: S. Collett | Signature: S. Collett | Month 04 | Day 02 | Year 01

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

Tons 24 Drums
Circle Stop & Go
Saluda, SC

Contaminant NonHazardous Petroleum
Contaminanted Soil

This is to cerify the above soil has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by S. [illegible]

Date 04/02/01

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

Tons 6 Drums

Circle Stop & Go
Saluda, SC

Contaminant NonHazardous Petroleum Contaminanted Water

This is to cerify the above ~~soil~~ water has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by [signature]

Date 04/02/01

04-02-2001 03:37PM Glasscock Co. 8034948598 P.03

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence

Version 1.4

Circle Stop N Shop

Benzene

Run Name

Data Input Instructions:

115 — 1. Enter value directly... or

or — 2. Calculate by filling in grey cells below. (To restore formulas, hit button below)

0.02

Variable* — Data used directly in model

20 — Value calculated by model. (Don't enter any data)

1. HYDROGEOLOGY

Seepage Velocity*	Vs	5.0	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.1E-02	(cm/sec)
Hydraulic Gradient	i	0.02	(ft/ft)
Porosity	n	0.4	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	12.5	(ft)
Transverse Dispersivity*	alpha y	1.3	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	250	(ft)

3. ADSORPTION

Retardation Factor*	R	1.0	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	35	(L/kg)
FractionOrganicCarbon	foc	5.7E-5	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	1.4E+0	(per yr)
or		or	
Solute Half-Life	t-half	0.500	(year)

or Instantaneous Reaction Model

Delta Oxygen*	DO	2	(mg/L)
Delta Nitrate*	NO3	0.05	(mg/L)
Observed Ferrous Iron*	Fe2+	1	(mg/L)
Delta Sulfate*	SO4	2.15	(mg/L)
Observed Methane*	CH4	0.002	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	180	(ft)
Simulation Time*	10	(yr)

6. SOURCE DATA

Source Thickness in Sat Zone* 32 (ft)

Source Zones

Width* (ft)	Conc. (mg/L)*
0	0
90	0.001
20	12.1
90	0.001
0	0

Source Half-life (see Help):

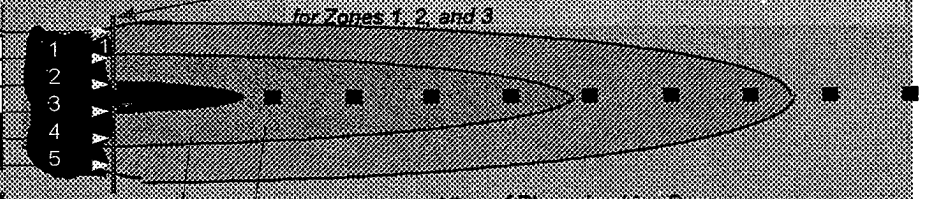
800 | >1000 (yr)

Inst. React. or 1st Order

Soluble Mass 1000 (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	20	40	60	80	100	120	140	160	180	200
Concentration (mg/L)	12.1				11.5						

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 BENZENE CONCENTRATION IN PLUME (mg/L at Z=0)

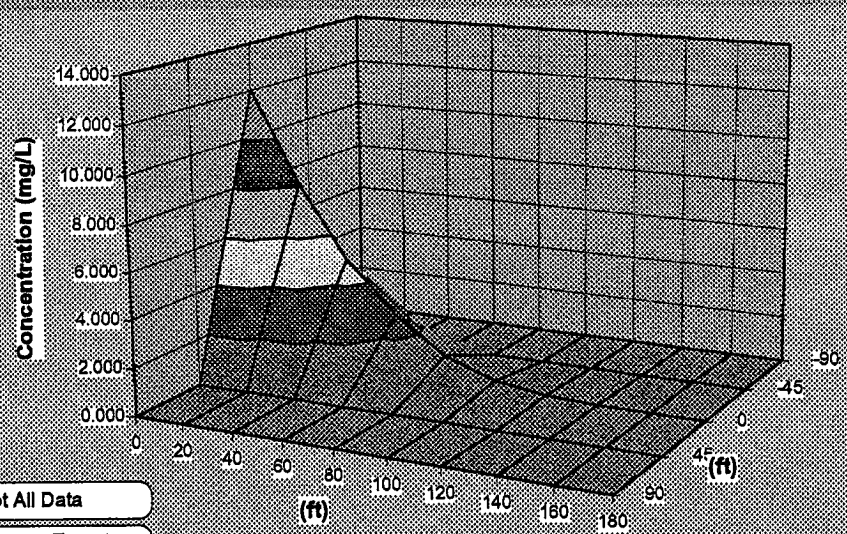
Distance from Source (ft)

Transverse Distance (ft)	0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.001	0.002	0.010	0.016	0.012	0.006	0.002	0.000	0.000	0.000
0	12.047	8.123	5.004	2.715	1.219	0.435	0.120	0.025	0.004	0.000	0.000
-45	0.001	0.001	0.002	0.010	0.016	0.012	0.006	0.002	0.000	0.000	0.000
-90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	1.2E+3	1.8E+3	1.1E+3	6.1E+2	2.8E+2	1.0E+2	2.9E+1	6.4E+0	1.1E+0	1.3E-1	1.2E-2

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 0.005 mg/L Displayed Model: No Degradation



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	995.6	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

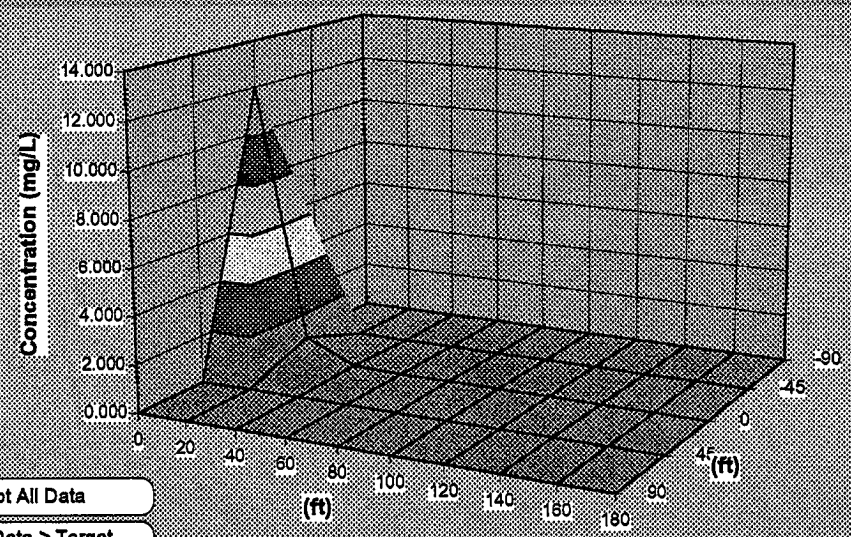
DISSOLVED BENZENE CONCENTRATION IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y \ Distance from Source (ft)	0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	12.047	1.024	0.084	0.007	0.001	0.000	0.000	0.000	0.000	0.000	0.000
-45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	1.2E+3	2.3E+2	1.9E+1	1.6E+0	1.5E-1	1.4E-2	1.3E-3	1.2E-4	1.1E-5	8.3E-7	5.4E-8

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 0.005 mg/L Displayed Model: 1st Order Decay



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	995.6	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — Version 1.4

Circle Stop N Shop
Ethylbenzene
Run Name

Data Input Instructions:

115 — 1. Enter value directly ... or
or
0.02 — 2. Calculate by filling in grey cells below. (To restore formulas, hit button below)

Variable* — Data used directly in model
20 — Value calculated by model. (Don't enter any data)

1. HYDROGEOLOGY

Seepage Velocity*	Vs	5.0	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.1E-02	(cm/sec)
Hydraulic Gradient	i	0.02	(ft/ft)
Porosity	n	0.4	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	12.5	(ft)
Transverse Dispersivity*	alpha y	1.3	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	250	(ft)

3. ADSORPTION

Retardation Factor*	R	1.0	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	36	(L/kg)
FractionOrganicCarbon	foc	5.7E-5	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	6.9E+0	(per yr)
or		or	
Solute Half-Life	t-half	0.100	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1.4	(mg/L)
Delta Nitrate*	NO3	0.05	(mg/L)
Observed Ferrous Iron*	Fe2+	0.03	(mg/L)
Delta Sulfate*	SO4	2.36	(mg/L)
Observed Methane*	CH4	0.001	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	180	(ft)
Simulation Time*	10	(yr)

L
W

6. SOURCE DATA

Source Thickness in Sat Zone* 32 (ft)

Source Zones:

	Width* (ft)	Conc. (mg/L)*
1	0	0
2	90	0.001
3	20	2.5
4	90	0.001
5	0	0

Source Halflife (see Help):

Inst. React.	1st Order
>1000	>1000 (yr)

Soluble Mass in Source NAPL, Soil: 1000 (Kg)

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)	Concentration (mg/L)
0	2.5
20	
40	
60	
80	.157
100	
120	
140	
160	
180	
200	

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

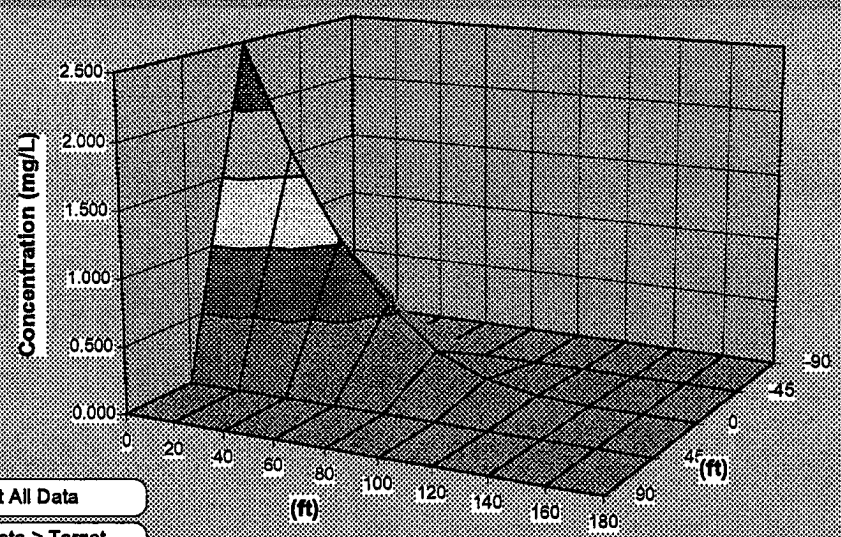
DISSOLVED ETHYLBENZENE CONCENTRATION IN PLUME (mg/L at Z=0)

Transverse Distance (ft)	Distance from Source (ft): 0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.001	0.001	0.002	0.003	0.003	0.001	0.000	0.000	0.000	0.000
0	2.498	1.682	1.035	0.561	0.252	0.090	0.025	0.005	0.001	0.000	0.000
-45	0.001	0.001	0.001	0.002	0.003	0.003	0.001	0.000	0.000	0.000	0.000
-90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	2.5E+2	3.8E+2	2.3E+2	1.3E+2	5.8E+1	2.1E+1	6.1E+0	1.3E+0	2.2E-1	2.7E-2	2.5E-3

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 0.700 mg/L Displayed Model: No Degradation



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass if No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	999.1	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

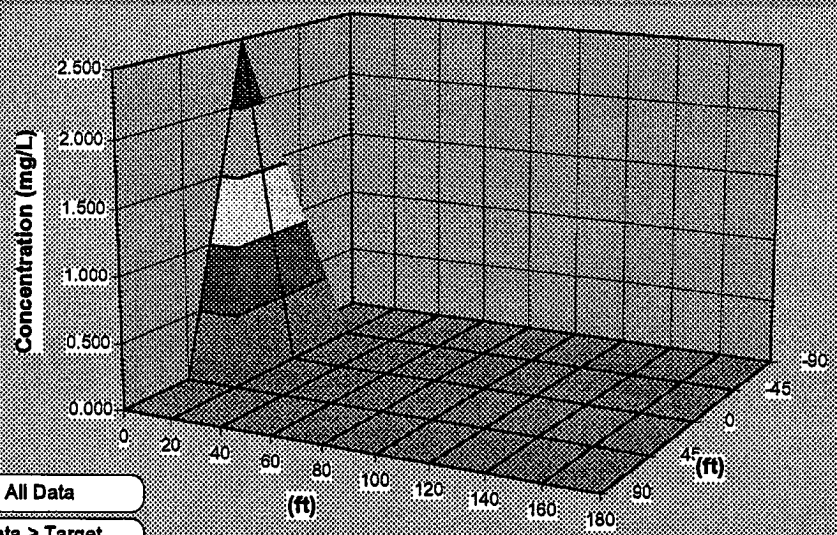
DISSOLVED ETHYLBENZENE CONCENTRATION IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y \ Distance from Source (ft)	0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	2.498	0.006	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	2.5E+2	1.2E+0	2.7E-3	6.2E-6	1.5E-8	3.7E-11	9.3E-14	2.4E-16	6.3E-19	1.7E-21	4.4E-24

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 0.700 mg/L Displayed Model: 1st Order Decay



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	999.1	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — Version 1.4

Circle Stop N Shop
Toluene
Run Name

Data Input Instructions:
1. Enter value directly ... or
2. Calculate by filling in grey cells below. (To restore formulas, hit button below).

Variable* — Data used directly in model
Value calculated by model. (Don't enter any data).

1. HYDROGEOLOGY

Seepage Velocity*	Vs	5.0	(ft/yr)
or		or	
Hydraulic Conductivity	K	1.1E-02	(cm/sec)
Hydraulic Gradient	I	0.02	(ft/ft)
Porosity	n	0.4	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	12.5	(ft)
Transverse Dispersivity*	alpha y	1.3	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		or	
Estimated Plume Length	Lp	250	(ft)

3. ADSORPTION

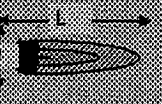
Retardation Factor*	R	1.0	(-)
or		or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	36	(L/kg)
FractionOrganicCarbon	foc	5.7E-5	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	6.9E+0	(per yr)
or		or	
Solute Half-Life	t-half	0.100	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1.4	(mg/L)
Delta Nitrate*	NO3	0.05	(mg/L)
Observed Ferrous Iron*	Fe2+	0.03	(mg/L)
Delta Sulfate*	SO4	2.36	(mg/L)
Observed Methane*	CH4	0.001	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	180	(ft)
Simulation Time*	10	(yr)



6. SOURCE DATA

Source Thickness in Sat Zone* 32 (ft)

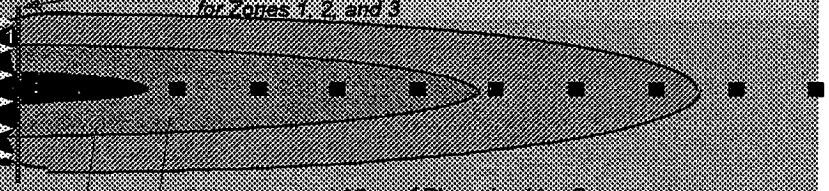
Source Zones

Width* (ft)	Conc. (mg/L)*
0	0
90	0.001
20	29.6
90	0.001
0	0

Source Halflife (see Help):
500 | 600 (yr)
Inst. React. | 1st Order

Soluble Mass 1000 (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 (ft)	0	20	40	60	80	100	120	140	160	180	200
Concentration (mg/L)	29.6				.351						

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

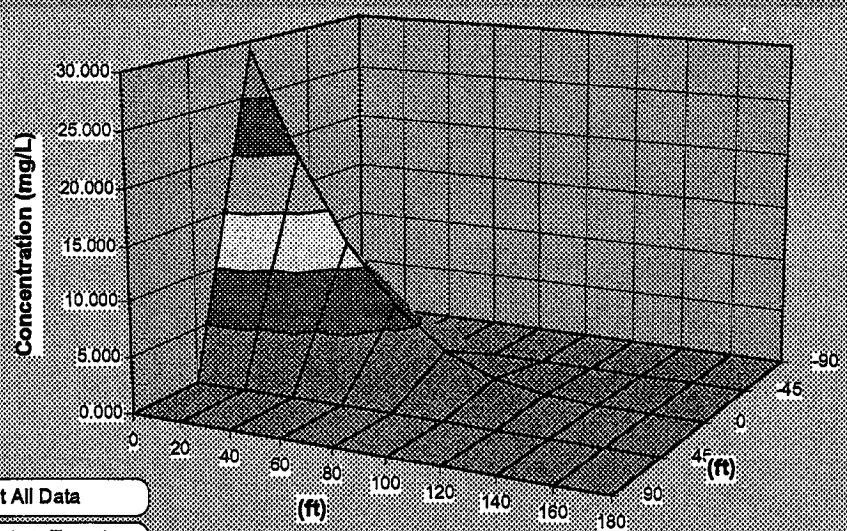
DISSOLVED TOLUENE CONCENTRATION IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y \ Distance from Source (ft)	0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.001	0.005	0.025	0.038	0.030	0.014	0.004	0.001	0.000	0.000
0	29.284	19.795	12.226	6.641	2.981	1.064	0.294	0.062	0.010	0.001	0.000
-45	0.001	0.001	0.005	0.025	0.038	0.030	0.014	0.004	0.001	0.000	0.000
-90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	2.9E+3	4.4E+3	2.7E+3	1.5E+3	6.8E+2	2.5E+2	7.2E+1	1.6E+1	2.6E+0	3.2E-1	2.9E-2

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 1.000 mg/L Displayed Model: No Degradation



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	989.3	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

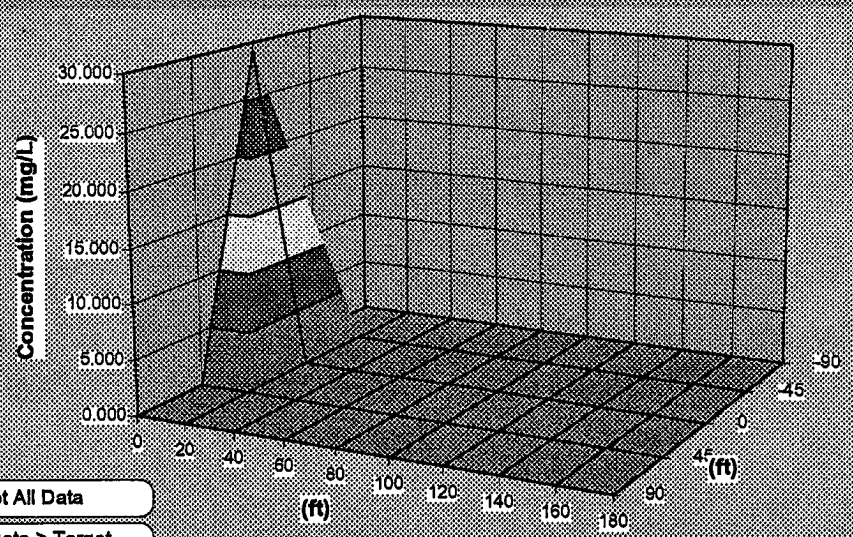
DISSOLVED TOLUENE CONCENTRATION IN PLUME (mg/L at Z=0)

Transverse Distance (ft) Y \ Distance from Source (ft)	0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	29.284	0.066	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	2.9E+3	1.5E+1	3.2E-2	7.3E-5	1.7E-7	4.3E-10	1.1E-12	2.8E-15	7.4E-18	1.9E-20	5.1E-23

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 1.000 mg/L Displayed Model: 1st Order Decay



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

Change in Electron Acceptor/Byproduct Masses

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	989.3	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence — *Version 1.4*

Circle Stop N Shop
Xylenes
Run Name

Data Input Instructions:

115 — 1. Enter value directly... or
Vs or — 2. Calculate by filling in grey cells below. (To restore formulas, hit button below)
0.02

Variable* — Data used directly in model
420 — Value calculated by model. (Don't enter any data)

1. HYDROGEOLOGY

Seepage Velocity*	Vs	5.0	(ft/yr)
or		Vs or	
Hydraulic Conductivity	K	1.1E-02	(cm/sec)
Hydraulic Gradient	i	0.02	(ft/ft)
Porosity	n	0.4	(-)

2. DISPERSION

Longitudinal Dispersivity*	alpha x	12.5	(ft)
Transverse Dispersivity*	alpha y	1.3	(ft)
Vertical Dispersivity*	alpha z	0.0	(ft)
or		Lp or	
Estimated Plume Length	Lp	250	(ft)

3. ADSORPTION

Retardation Factor*	R	1.0	(-)
or		Rf or	
Soil Bulk Density	rho	1.7	(kg/l)
Partition Coefficient	Koc	35	(L/kg)
FractionOrganicCarbon	foc	5.7E-5	(-)

4. BIODEGRADATION

1st Order Decay Coeff*	lambda	1.4E+0	(per yr)
or		t-half or	
Solute Half-Life	t-half	0.500	(year)
or Instantaneous Reaction Model			
Delta Oxygen*	DO	1.4	(mg/L)
Delta Nitrate*	NO3	0.05	(mg/L)
Observed Ferrous Iron*	Fe2+	0.03	(mg/L)
Delta Sulfate*	SO4	2.36	(mg/L)
Observed Methane*	CH4	0.001	(mg/L)

5. GENERAL

Modeled Area Length*	200	(ft)
Modeled Area Width*	180	(ft)
Simulation Time*	10	(yr)

L, W

6. SOURCE DATA

Source Thickness in Sat Zone* 32 (ft)

Source Zones:

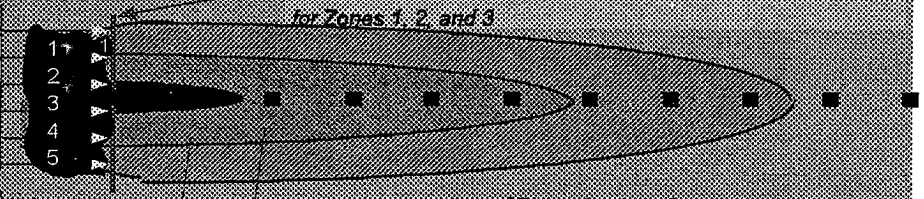
Width* (ft)	Conc. (mg/L)*
0	0
90	0.001
20	99.3
90	0.001
0	0

Source Halflife (see Help):

Inst. React.	1st Order
200	200 (yr)

Soluble Mass In Source NAPL Soil 1000 (Kg)

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)	Concentration (mg/L)
0	99.3
20	
40	
60	
80	.749
100	
120	
140	
160	
180	
200	

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 XYLENES CONCENTRATION IN PLUME (mg/L at Z=0)

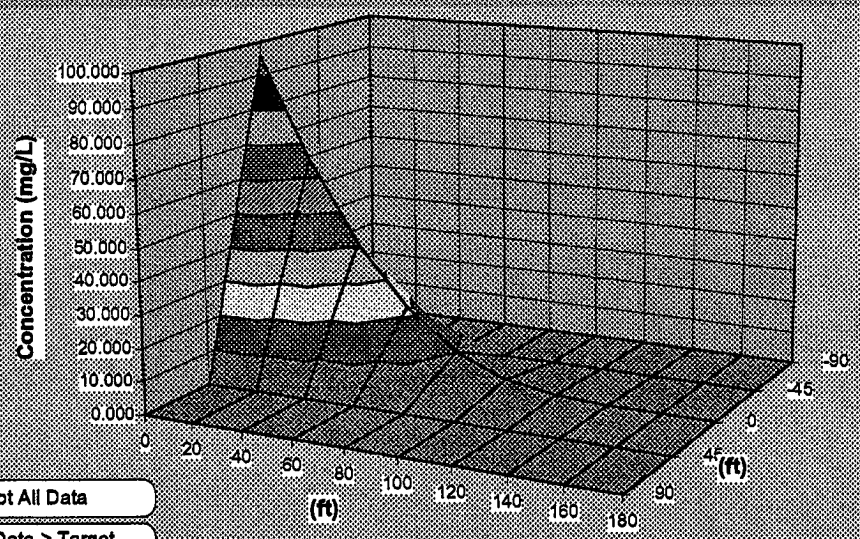
Transverse Distance (ft) Y	0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.001	0.015	0.082	0.128	0.100	0.048	0.015	0.003	0.000	0.000
0	95.791	65.414	40.815	22.277	10.001	3.569	0.986	0.207	0.033	0.004	0.000
-45	0.001	0.001	0.015	0.082	0.128	0.100	0.048	0.015	0.003	0.000	0.000
-90	0.001	0.001	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	9.9E+3	1.5E+4	9.1E+3	5.0E+3	2.3E+3	8.4E+2	2.4E+2	5.3E+1	8.7E+0	1.1E+0	9.7E-2

Distance from Source (ft)

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 10.000 mg/L Displayed Model: No Degradation



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg	-	(Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	964.7	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

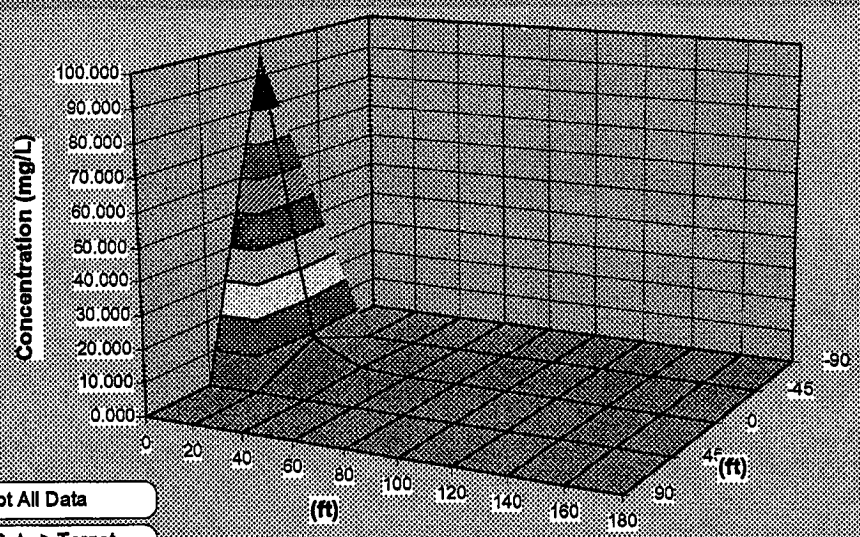
DISSOLVED XYLENES CONCENTRATION IN PLUME (mg/L at Z=0)

Transverse Distance (ft) ↓ / Distance from Source (ft) →	0	20	40	60	80	100	120	140	160	180	200
90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
0	95.791	8.247	0.683	0.059	0.005	0.000	0.000	0.000	0.000	0.000	0.000
-45	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
-90	0.001	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.000
MASS FLUX (mg/day)	9.9E+3	1.8E+3	1.5E+2	1.3E+1	1.2E+0	1.1E-1	1.1E-2	1.0E-3	8.8E-5	6.8E-6	4.4E-7

Model to Display:

- No Degradation Model
- 1st Order Decay Model
- Instantaneous Reaction Model

Time: 10 Years Target Level: 10.000 mg/L Displayed Model: 1st Order Decay



Plot All Data

Plot Data > Target

Plume and Source Masses (Order-of-Magnitude Accuracy)

Plume Mass If No Biodegradation	Can't Calc.	(Kg)
- Actual Plume Mass	Can't Calc.	(Kg)
= Plume Mass Removed by Biodeg.	-	(Kg)

Change in Electron Acceptor/Byproduct Masses:

Oxygen	Nitrate	Iron II	Sulfate	Methane	
na	na	na	na	na	(Kg)

Contam. Mass in Source (t=0 Years)	1000.0	(Kg)
Contam. Mass in Source Now (t=10Years)	964.7	(Kg)
Current Volume of Groundwater in Plume	Can't Calc.	(ac-ft)
Flowrate of Water Through Source Zone	Can't Calc.	(ac-ft/yr)

Mass HELP

Recalculate

RBCA TIER 1/TIER 2 EVALUATION

Output Table 1

Site Name: Circle Stop N Shop
Site Location: Leesville, SC

Job Identification: 1503
Date Completed: 4/5/01
Completed By: Bill Dunnagan

Software: GSI RBCA Spreadsheet
Version: 1.0.1

NOTE: values which differ from Tier 1 default values are shown in bold italics and underlined.

Exposure Parameter	Definition (Units)	Residential Adult	Residential (1-6yrs)	Residential (1-16 yrs)	Commercial/Industrial Chronic	Commercial/Industrial Constrctn
ATc	Averaging time for carcinogens (yr)	70				
ATn	Averaging time for non-carcinogens (yr)	30	6	16	25	1
BW	Body Weight (kg)	70	15	35	70	
ED	Exposure Duration (yr)	30	6	16	25	1
t	Averaging time for vapor flux (yr)	30			25	1
EF	Exposure Frequency (days/yr)	350			250	180
EF.Derm	Exposure Frequency for dermal exposure	350			250	
IRgw	Ingestion Rate of Water (L/day)	2			1	
IRs	Ingestion Rate of Soil (mg/day)	100	200		50	100
IRadj	Adjusted soil ing. rate (mg-yr/kg-d)	1.1E+02			9.4E+01	
IRa.in	Inhalation rate indoor (m^3/day)	15			20	
IRa.out	Inhalation rate outdoor (m^3/day)	20			20	10
SA	Skin surface area (dermal) (cm^2)	5.8E+03		2.0E+03	5.8E+03	5.8E+03
SAadj	Adjusted dermal area (cm^2-yr/kg)	2.1E+03			1.7E+03	
M	Soil to Skin adherence factor	1				
AAFs	Age adjustment on soil ingestion	FALSE			FALSE	
AAFd	Age adjustment on skin surface area	FALSE			FALSE	
tox	Use EPA tox data for air (or PEL based)?	TRUE				
gwMCL?	Use MCL as exposure limit in groundwater?	TRUE				

Matrix of Exposed Persons to Complete Exposure Pathways		Residential	Commercial/Industrial Chronic	Commercial/Industrial Constrctn
Outdoor Air Pathways:				
SS.v	Volatiles and Particulates from Surface Soil	FALSE	FALSE	FALSE
S.v	Volatilization from Subsurface Soils	FALSE	FALSE	
GW.v	Volatilization from Groundwater	FALSE	FALSE	
Indoor Air Pathways:				
S.b	Vapors from Subsurface Soils	FALSE	FALSE	
GW.b	Vapors from Groundwater	FALSE	FALSE	
Soil Pathways:				
SS.d	Direct Ingestion and Dermal Contact	FALSE	FALSE	FALSE
Groundwater Pathways:				
GW.I	Groundwater Ingestion	TRUE	FALSE	
S.I	Leaching to Groundwater from all Soils	TRUE	FALSE	

Matrix of Receptor Distance and Location On- or Off-Site		Residential Distance	Residential On-Site	Commercial/Industrial Distance	Commercial/Industrial On-Site
GW	Groundwater receptor (cm)	3.4E+03	FALSE	3.4E+03	FALSE
S	Inhalation receptor (cm)		FALSE		FALSE

Matrix of Target Risks		Individual	Cumulative
TRab	Target Risk (class A&B carcinogens)	1.0E-06	
TRc	Target Risk (class C carcinogens)	1.0E-05	
THQ	Target Hazard Quotient	1.0E+00	
Opt	Calculation Option (1, 2, or 3)	2	
Tier	RBCA Tier	2	

Surface Parameters	Definition (Units)	Residential	Constrctn
A	Contaminated soil area (cm^2)		
W	Length of affect. soil parallel to wind (cm)		
W.gw	Length of affect. soil parallel to groundwater (c		
Uair	Ambient air velocity in mixing zone (cm/s)		
delta	Air mixing zone height (cm)		
Lss	Thickness of affected surface soils (cm)		
Pe	Particulate areal emission rate (g/cm^2/s)		

Groundwate	Definition (Units)	Value
delta.gw	Groundwater mixing zone depth (cm)	***1.8E+02***
I	Groundwater infiltration rate (cm/yr)	***2.5E+01***
Ugw	Groundwater Darcy velocity (cm/yr)	***5.0E+01***
Ugw.tr	Groundwater seepage velocity (cm/yr)	***1.3E+02***
Ks	Saturated hydraulic conductivity(cm/s)	5.3E-04
grad	Groundwater gradient (cm/cm)	3.0E-03
Sw	Width of groundwater source zone (cm)	9.1E+02
Sd	Depth of groundwater source zone (cm)	1.1E+03
phi.eff	Effective porosity in water-bearing unit	4.0E-01
foc.sat	Fraction organic carbon in water-bearing unit	1.0E-03
BIO?	Is bioattenuation considered?	FALSE
BC	Biodegradation Capacity (mg/L)	

Soil	Definition (Units)	Value		
hc	Capillary zone thickness (cm)			
hv	Vadose zone thickness (cm)			
rho	Soil density (g/cm^3)			
foc	Fraction of organic carbon in vadose zone			
phi	Soil porosity in vadose zone			
Lgw	Depth to groundwater (cm)			
Ls	Depth to top of affected subsurface soil (cm)			
Lsubs	Thickness of affected subsurface soils (cm)			
pH	Soil/groundwater pH			
		capillary	vadose	foundation
phi.w	Volumetric water content			
phi.a	Volumetric air content			

Building	Definition (Units)	Residential	Commercial
Lb	Building volume/area ratio (cm)		
ER	Building air exchange rate (s^-1)		
Lcrk	Foundation crack thickness (cm)		
eta	Foundation crack fraction		

Transport Parameters	Definition (Units)	Residential	Commercial
Groundwater			
ax	Longitudinal dispersivity (cm)	3.0E+02	
ay	Transverse dispersivity (cm)	3.0E+01	
az	Vertical dispersivity (cm)	3.0E+00	
Vapor			
dcy	Transverse dispersion coefficient (cm)		
dcz	Vertical dispersion coefficient (cm)		

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RBCA CHEMICAL DATABASE

Physical Property Data

CAS Number	Constituent	type	Molecular Weight (g/mole) MW	ref	Diffusion Coefficients in air (cm2/s) Dair	ref	Diffusion Coefficients in water (cm2/s) Dwat	ref	log (Koc) or log(Kd) (@ 20 - 25 C) log(l/kg)	ref	Henry's Law Constant (@ 20 - 25 C) (atm-m3/mol)	(unitless)	ref	Vapor Pressure (@ 20 - 25 C) (mm Hg)	ref	Solubility (@ 20 - 25 C) (mg/L)	ref	acid pKa	base pKb	ref
71-43-2	Benzene	A	78.1	5	9.30E-02	A	1.10E-05	A	1.58	A	5.29E-03	2.20E-01	A	9.52E+01	4	1.75E+03	A			
100-41-4	Ethylbenzene	A	106.2	5	7.60E-02	A	8.50E-06	A	1.98	A	7.69E-03	3.20E-01	A	1.00E+01	4	1.52E+02	5			
1634-04-4	Methyl t-Butyl Ether	O	88.146	5	7.92E-02	6	9.41E-05	7	1.08	A	5.77E-04	2.40E-02		2.49E+02		4.80E+04	A			
91-20-3	Naphthalene	PAH	128.2	4	7.20E-02	A	9.40E-06	A	3.11	A	1.18E-03	4.90E-02	A	2.30E-01	4	3.29E+01	4			
108-88-3	Toluene	A	92.4	5	8.50E-02	A	9.40E-06	A	2.13	A	6.25E-03	2.60E-01	A	3.00E+01	4	5.15E+02	29			
1330-20-7	Xylene (mixed isomers)	A	106.2	5	7.20E-02	A	8.50E-06	A	2.38	A	6.97E-03	2.90E-01	A	7.00E+00	4	1.98E+02	5			

Site Name: Circle Stop N Shop Site Location: Leesville, SC Completed By: Bill Dunnagan Date Completed: 4/5/2001

Software version: 1.0.1

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RBCA CHEMICAL DATABASE — Toxicity Data

CAS Number	Constituent	Reference Dose (mg/kg/day) Oral RfD_oral	ref	Inhalation RfD_inhal	ref	Slope Factors 1/(mg/kg/day) Oral SF_oral	ref	Inhalation SF_inhal	ref	EPA Weight of Evidence	Is Constituent Carcinogenic ?
71-43-2	Benzene	-		1.70E-03	R	2.90E-02	A	2.90E-02	A	A	TRUE
100-41-4	Ethylbenzene	1.00E-01	A	2.86E-01	A	-		-		D	FALSE
1634-04-4	Methyl t-Butyl Ether	5.00E-03	R	8.57E-01	R	-		-			FALSE
91-20-3	Naphthalene	4.00E-03	A	-		-		-		D	FALSE
108-88-3	Toluene	2.00E-01	A,R	1.14E-01	A,R	-		-		D	FALSE
1330-20-7	Xylene (mixed isomers)	2.00E+00	A,R	2.00E+00	A	-		-		D	FALSE

Site Name: Circle Stop N Shop Site Location: Leesville, SC Completed By: Bill Dunnagan Date Completed: 4/5/2001

Software version: 1.0.1

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RBCA CHEMICAL DATABASE

Miscellaneous Chemical Data

CAS Number	Constituent	Maximum Contaminant Level MCL (mg/L)	reference	Permissible Exposure Limit PEL/TLV (mg/m3)	ref	Relative Absorption Factors Oral	Dermal	Detection Limits Groundwater (mg/L)	ref	Soil (mg/kg)	ref	Half Life (First-Order Decay) (days) Saturated	Unsaturated	ref
71-43-2	Benzene	5.00E-03	52 FR 25690	3.20E+00	OSHA	1	0.5	0.002	C	0.005	S	720	720	H
100-41-4	Ethylbenzene	7.00E-01	56 FR 3526 (30 Jan 91)	4.34E+02	ACGIH	1	0.5	0.002	C	0.005	S	228	228	H
1634-04-4	Methyl t-Butyl Ether	4.00E-02		1.44E+02	ACGIH	1	0.5					360	180	H
91-20-3	Naphthalene	2.50E-02		5.00E+01	OSHA	1	0.05	0.01	C	0.01	S	258	258	H
108-88-3	Toluene	1.00E+00	56 FR 3526 (30 Jan 91)	1.47E+02	ACGIH	1	0.5	0.002	C	0.005	S	28	28	H
1330-20-7	Xylene (mixed isomers)	1.00E+01	56 FR 3526 (30 Jan 91)	4.34E+02	ACGIH	1	0.5	0.005	C	0.005	S	360	360	H

Site Name: Circle Stop N Shop Site Location: Leesville, SC Completed By: Bill Dunnagan Date Completed: 4/5/2001

Software version: 1.0.1

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RBCA SITE ASSESSMENT | Tier 2 Worksheet 9.3

Site Name: Circle Stop N Shop
Site Location: Leesville, SC

Completed By: Bill Dunnagan
Date Completed: 4/5/2001

GROUNDWATER SSTL VALUES

Target Risk (Class A & B) 1.0E-6
Target Risk (Class C) 1.0E-5
Target Hazard Quotient 1.0E+0

■ MCL exposure limit?
☐ PEL exposure limit?

Calculation Option: 2
Groundwater DAF Option: Domenico - No Decay (One-directional vert. dispersion

SSTL Results For Complete Exposure Pathways ("x" If Complete)

CONSTITUENTS OF CONCERN		Representative Concentration	X Groundwater Ingestion			Groundwater Volatilization to Indoor Air		Groundwater Volatilization to Outdoor Air		Applicable SSTL	SSTL Exceeded ?	Required CRF
CAS No.	Name	(mg/L)	Residential: 110 feet	Commercial: (on-site)	Regulatory(MCL): 110 feet	Residential: (on-site)	Commercial: (on-site)	Residential (on-site)	Commercial: (on-site)	(mg/L	"■" If yes	Only if "yes" left
71-43-2	Benzene	1.9E+0	4.3E-3	NA	7.3E-3	NA	NA	NA	NA	7.3E-3	■	2.6E+02
100-41-4	Ethylbenzene	1.2E+0	5.3E+0	NA	1.0E+0	NA	NA	NA	NA	1.0E+0	■	1.0E+00
1634-04-4	Methyl t-Butyl Ether	3.4E+0	2.7E-1	NA	5.8E-2	NA	NA	NA	NA	5.8E-2	■	5.9E+01
91-20-3	Naphthalene	3.6E-1	2.1E-1	NA	3.6E-2	NA	NA	NA	NA	3.6E-2	■	1.0E+01
108-88-3	Toluene	1.4E+1	1.1E+1	NA	1.5E+0	NA	NA	NA	NA	1.5E+0	■	9.0E+00
1330-20-7	Xylene (mixed isomers)	6.8E+0	1.1E+2	NA	1.5E+1	NA	NA	NA	NA	1.5E+1	☐	<1

>Sol Indicates risk-based target concentration greater than constituent solubility

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Software: GSI RBCA Spreadsheet
Version: 1.0.1

Serial: G-371-SNX-738

Tier I Assessment

Circle Stop N Shop
Route 4, Box 172-B
Leesville, SC
Site ID No. 05981

September 22, 2000

172 B

~ 90' ~ 40 years

Submitted to:

Bureau of Underground Storage Tank Management
South Carolina Department of Health and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201

This report has been reviewed by:

Name	William B. Dunnagan, Jr.	937	09-22-00
	Registered Professional	Registration #	Date

Signature William B. Dunnagan Jr. 9-22-00
Date

SCDHEC Certificate # 8

RECEIVED
SEP 28 2000
Bureau of Underground Storage Tank Management

UST PROGRAM DOCKETING # 38 Tech

TIER I ASSESSMENT REPORT OF FINDINGS

I. INTRODUCTION

A. Owner/Operator Information

Name: Mrs. Gail L. Smith
Address: 143 Pioneer Drive, Leesville, SC 29070 532-4780
Telephone: 803-532-9974

B. Property Owner Information

Name: Ms. J.M. Northey
Address: Rt 4, Box 190, Leesville, SC
Telephone: 803-532-6833

C. Contractor Information

Name: Kleen Sites Geoservices, Inc.
Address: 171 Lott Court, West Columbia, SC 29169
Telephone: (803) 791-1996

D. Site Information

Address: US Hwy. 378 / SC Hwy. 391, Leesville, SC

Land Use: The subject property is currently a convenience store where gasoline, diesel fuel and kerosene are sold to the general public.

Future Land Use: Land use is unlikely to change in the immediate future.

E. Site History

Date Release Reported to SCDHEC: 12-27-91

Estimated Quantity of Product Released: Unknown

Cause of Release: Use of a former UST system.

UST #	Product/Gallons	Date Installed	Currently in use (Yes or No)	If not in use, Date Removed
1	Unleaded Gasoline / 3,000	1978	No	12/3/98
2	Regular Gasoline / 3,000	1978	No	12/3/98
3	Unleaded Gasoline / 8,000	1998	Yes	In use

Other Releases at this site? Yes ____ No _x_

II. SITE CHARACTERISTICS

A. Site Geography

Describe the topography of the site and surrounding area: The subject site is located in an area characterized by commercial and residential properties. The subject property is situated on a hill and topography drops off gradually in all directions.

Mean Site Elevation: Site is approximately 490 feet above mean sea level.

Additional Comments: None

B. Exposure Analysis

Describe all potential receptors and preferential pathways within a 1000-foot radius of the site.

Description of Receptor	Distance/Direction from Site
Potential Receptor – Streams	An unnamed tributary is located approximately 1000 feet northeast of the subject property.
Potential Receptor – Water & Sewer Lines	Sanitary sewer and water lines run parallel to US Hwy. 378 / SC Hwy. 391 along the eastern property boundary. Water and sewer service lines extend from the highway across the subject property and into the convenience store building.
Potential Receptor – Drinking Water Wells	A drinking water well that is no longer in use is located approximately 200 feet northwest of the UST pit.

Additional Comments: A sample was collected from the drinking water well located on the Northey property.

C. Utilities Survey

List the utilities on site, and adjacent to the site within a 250 foot radius, that could serve as exposure points or as preferential pathways.

Utility	Onsite or Distance / Direction from site	Depth to Utility
Water Service Line	Onsite. A service line runs from Hwy. 378/391 to the store building.	Approx. 3'
Natural Gas Line	None.	N/A
Sewer Line	Sanitary sewer along Hwy. 378/391. A service line runs from the highway to the store building.	Approx. 3'
Telephone Line	A buried phone line runs across the western edge of the UST pit.	Approx. 1' from ground surface

Additional Comments: Ground water is present at approximately 35 feet below ground surface. Therefore, it is unlikely that onsite utilities could provide a preferential pathway for contaminant migration during high water table conditions.

D. Site Geology

Regional Geology & Hydrogeology

The subject property is located within the Piedmont Physiographic Province of South Carolina near the "fall line" boundary with the Upper Coastal Plain Province. Soils within the Piedmont Physiographic Province are generally the product of intense chemical weathering over geologic time. The resultant soil, commonly called saprolite, often retains relict textures from the parent rock and can be useful during geologic mapping. Weathering of the saprolite becomes less pronounced with increasing depth producing a gradual transition from upper soil horizons into competent bedrock.

Due to the relatively thin horizon of saprolite that covers bedrock lithologies in the Piedmont Physiographic Province, a well defined stratigraphy does not exist for soils in the Saluda County area. The uppermost, water-bearing horizon commonly occurs within this saprolitic horizon, often perched upon the lower confining rock. Ground water was detected within saprolitic soils beneath the Circle Stop N Shop facility at a depth of approximately 35 feet below ground surface.

Site-Specific Geology & Stratigraphy

Split spoon samples collected at the subject site indicated the presence of a brown, fine-grained, silt from surface to approximately 30 feet below grade. A reddish-brown, clayey silt showing the former parent rock gneissic texture (i.e. saprolite) is present down to the final investigation depth of 40 feet below ground surface. Quartz rock fragments were scattered throughout the soil horizon.

E. Soil Boring Data

Drilling Date: 08-03-00

Justification for the location of each soil boring

MW01 (IGWA Well)	UST location
MW02	Downgradient of UST Pit
MW03	Adjacent to fuel dispenser
MW04	Suspected Background location
SB01	UST location
SB02	Fuel dispenser and piping location
SB03	Fuel dispenser and piping location
SB04	Fuel dispenser and piping location
SB05	Fuel dispenser and piping location
SB06	Fuel dispenser and piping location

UST Area Borings

Borehole: MW02 Sampling Date: 08-03-00 Sample Depth: 19 - 21'

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
4 – 6	176	Brown to red, fine-grained clayey silt.	No odor
9 - 11	245	Brown to red, fine-grained clayey silt.	No odor
14 - 16	242	Brown to red, fine-grained silt.	No odor
19 - 21	1034	Brown to red, fine-grained silt.	Petroleum odor
24 - 26	821	Brown to red, fine-grained silt.	Petroleum odor
40 - 42	700	Brown to red, fine-grained silt.	Petroleum odor, damp

Borehole: SB01 Sampling Date: 08-03-00 Sample Depth: 20 - 22'

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
0 – 4	19	Brown to tan, fine-grained, silt.	No odor
4 – 8	217	Brown to tan, fine-grained, silt.	Petroleum odor
8 - 12	234	Brown to tan, fine-grained, silt.	Petroleum odor
12 - 16	603	Alternating layers of purple to tan silt.	Petroleum odor
16 - 20	2200	Alternating layers of purple to tan silt.	Petroleum odor
20 - 24	2312	Light brown, fine-grained silt.	Petroleum odor

Fuel Dispenser and Piping:

Borehole: MW03 Sampling Date: 08-03-00 Sample Depth: none

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
10 – 12	23	Brown to tan, fine-grained, sandy silt.	No odor
20 - 22	54	Gray, fine-grained, sandy silt with quartz rock fragments.	No odor.
30-32	0	Gray, fine-grained, sandy silt with quartz rock fragments.	No odor.
40-42	0	Gray, fine-grained, sandy silt with quartz rock fragments.	No odor, damp.

Borehole: SB02 **Sampling Date: 08-03-00** **Sample Depth: 8 - 10'**

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
0 – 4	223	Red, fine-grained, clayey silt.	Slight petroleum odor
4 – 8	277	Brown to tan, fine-grained, clayey silt.	Slight petroleum odor
8 - 10	332	Brown, fine-grained, silt.	Slight petroleum odor

Borehole: SB03 **Sampling Date: 08-03-00** **Sample Depth: 8 - 10'**

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
0 – 4	116	Red to tan, fine-grained, clayey silt.	Slight petroleum odor
4 – 8	453	Brown, fine-grained, silt.	Petroleum odor
8 - 10	451	Red to tan, fine-grained silt.	Petroleum odor

Borehole: SB04 **Sampling Date: 08-03-00** **Sample Depth: 4 - 8'**

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
0 – 4	76	Red, fine-grained silt.	No odor
4 – 8	423	Tan, fine-grained, silt.	Petroleum odor
8 - 10	0	Fractured rock (quartz & feldspar)	No odor

Borehole: SB05 **Sampling Date: 08-03-00** **Sample Depth: 8 - 10'**

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
0 – 4	262	Tan, fine-grained silt.	Petroleum odor
4 – 8	323	Tan weathered rock w quartz fragments	Petroleum odor
8 - 10	331	Tan to white, partially weathered rock	Slight petroleum odor

Borehole: SB06 **Sampling Date: 08-03-00** **Sample Depth: 8 - 10'**

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
0 – 4	63	Red, fine-grained, clayey silt.	No odor
4 – 8	73	Brown to tan, fine-grained silt	No odor
8 - 10	83	Brown to tan, fine-grained silt	No odor

Background Borings

Borehole: MW04 Sampling Date: 08-03-00 Sample Depth: 20'

Split Spoon Interval (ft.)	Field Screening (ppm)	Lithology (soil type, color, etc.)	Soil Conditions (dry, moist, petroleum odor, etc.)
10	0	Brown, fine-grained, silt.	No odor
20	0	Brown, fine-grained, silt.	No odor
30	0	Brown to tan, fine-grained layered silt	Slight petroleum odor
40	0	Brown to red, fine-grained, clayey silt.	No odor

Soil Analytical Data

Chemical of Concern	SB01	SB02	SB03	SB04	SB05	SB06
Benzene (μg/kg)	3,900	490	360	20	5.5	<5.1
Toluene (μg/kg)	33,000	1,200	730	41	14	<5.1
Ethylbenzene (μg/kg)	7,100	220	100	5.7	<4.4	<5.1
Xylenes (μg/kg)	40,000	650	750	31	9.8	<5.1
Naphthalene (μg/kg)	1,900	55	380	25	5.4	<5.1
Benzo(a)anthracene (μg/kg)	<450	<460	<420	<380	<360	<390
Benzoflouranthene (μg/kg)	<450	<460	<420	<380	<360	<390
Chrysene (μg/kg)	<450	<460	<420	<380	<360	<390
Dibenzanthracene (μg/kg)	<450	<460	<420	<380	<360	<390
Fluorene (μg/kg)	<450	<460	<420	<380	<360	<390
Phenanthrene (μg/kg)	<450	<460	<420	<380	<360	<390
Pyrene (μg/kg)	<450	<460	<420	<380	<360	<390
TPH (EPA 3550) (μg/kg)	31,000	N/A	N/A	N/A	N/A	N/A
TOC (Background boring) (mg/kg)	N/A	N/A	N/A	N/A	N/A	N/A

Horizontal and Vertical Extent of CoC in the soil: Elevated levels of petroleum hydrocarbon contamination were identified in soils around the former UST pit during this Tier 1 Assessment. Lower levels of petroleum hydrocarbon constituents were found adjacent to the fuel dispenser island area.

F. Chemicals of Concern – Ground Water

Well Installation Information

Well #	Installation Date	Development Date	Sampling Date
MW01	03-17-00	03-20-00	03-20-00
MW02	08-03-00	08-07-00	08-07-00
MW03	08-03-00	08-07-00	08-07-00
MW04	08-03-00	08-07-00	08-07-00

Soil Analytical Data for each Monitor Well

Chemical of Concern	MW01 (IGWA)	MW02	MW04
Depth of Sample	19 – 21'	19 – 21'	19 – 21'
Benzene (μg/kg)	<350	2,200	N/A
Toluene (μg/kg)	1,300	15,000	N/A
Ethylbenzene (μg/kg)	780	3,900	N/A
Xylenes (μg/kg)	13,000	21,000	N/A
Total BTEX	15,080	42,100	N/A
Naphthalene (μg/kg)	11,000	1,000	N/A
Benzo(a)anthracene (μg/kg)	<460	<480	N/A
Benzoflouranthene (μg/kg)	<460	<480	N/A
Chrysene (μg/kg)	<460	<480	N/A
Dibenzanthracene (μg/kg)	<460	<480	N/A
Fluorene (μg/kg)	<460	<480	N/A
Phenanthrene (μg/kg)	<460	<480	N/A
Pyrene (μg/kg)	<460	<480	N/A
TPH (Method 3550) (μg/kg)	N/A	N/A	N/A
TOC (mg/kg)	N/A	N/A	<200

Note: N/A-Not Analyzed

Monitor Well and Ground Water Data Summary

Well #	*TOC Elevation (ft.)	Screened Interval (ft.)	Depth to Water (ft.)	Water Table Elevation (ft.)
MW01	99.31	29 – 49	29.36	69.95
MW02	97.68	20 – 40	27.92	69.76
MW03	99.34	20 – 40	28.32	71.02
MW04	100.09	20 – 40	31.09	69.00

* Elevations are based on an assumed benchmark of 100 feet

Dissolved Oxygen & Carbon Dioxide Measurements for each Well

Monitor Well #	MW01	MW02	MW03	MW04
Dissolved Oxygen (mg/l)	3.0	3.7	4.1	4.5
Dissolved CO_2 (mg/l)	<168	<130	<117	135

Ground Water Analytical Data

Chemical of Concern	MW01	MW02	MW03	MW04	Northey Well
Free Product Thickness	NONE	NONE	NONE	NONE	NONE
Benzene (µg/L)	3,600	7,500	25	6,100	<1.0
Toluene (µg/L)	32,000	14,000	110	36,000	<1.0
Ethylbenzene (µg/L)	3,600	1,600	9	2,800	<1.0
Xylenes (µg/L)	17,000	7,200	81	13,000	<2.0
Total BTEX (µg/L)	56,200	30,300	225	57,900	<5.0
MTBE (µg/L)	3,400	720	<5.0	24,000	9.12
EDB (µg/L)	<100	<100	<5.0	<100.0	N/A
Naphthalene (µg/L)	460	320	<5.0	270	4.73
Benzo(a)anthracene (µg/L)	<5.0	<5.4	<5.8	<5.1	N/A
Benzo(b+k)flouranthene (µg/L)	<5.0	<5.4	<5.8	<5.1	N/A
Chrysene (µg/L)	<5.0	<5.4	<5.8	<5.1	N/A
Dibenz(a,h)anthracene (µg/L)	<5.0	<5.4	<5.8	<5.1	N/A
Lead (µg/L)	<0.003	<0.003	0.023	<0.003	N/A
Methane (µg/L)	<26	<26	<26	<26	N/A
Ferrous Iron (mg/L)	0.56	0.091	0.31	0.24	N/A
Nitrates (mg/L)	<0.020	<0.020	0.020	0.093	N/A
Sulfates (mg/L)	22	2.6	<1	4.7	N/A

N/A – Not Analyzed

Additional Comments: The source of ground water contamination appears to be centered around the former onsite gasoline UST.

G. Aquifer Characteristics

Hydraulic Conductivity: 0.009 – 0.49 ft/day

Hydraulic Gradient: 0.02 ft/ft

Porosity: 0.40

Estimated Seepage Velocity: 0.16 – 8.9 ft/yr.

Slug Test Data is provided in Appendix D

III. Tier I Evaluation

Exposure Pathways for Current Land Use

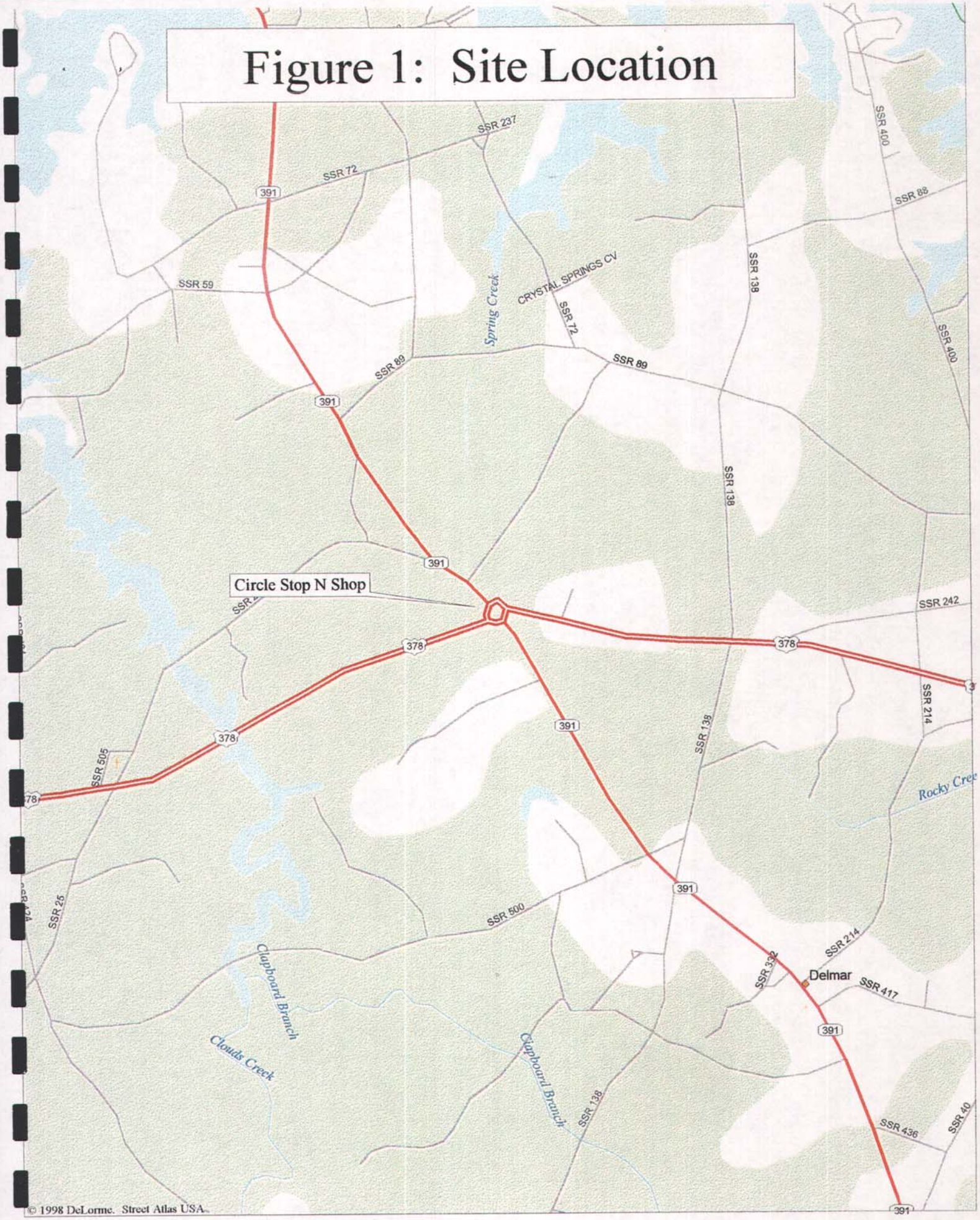
Media (for exposure)	Exposure Route	Pathway Selected for Evaluation	Exposure Point or Reason for Non-Selection	Data Requirements (If pathway selected)
Air	Inhalation	Yes **No**	Contaminants are below ground.	None
	Explosion Hazard	Yes **No**	No structures onsite with basements.	None
Ground Water	Ingestion	Yes **No**	No drinking water or irrigation wells are present onsite.	None
	Dermal Contact	**Yes** No	Drinking water and irrigation wells are allowed by local ordinance.	Sample any wells that may be present in the immediate area.
	Volatile Inhalation	**Yes** No		
Surface Water	Ingestion	Yes **No**	None	None
	Dermal Contact	Yes **No**	None	None
	Volatile Inhalation	Yes **No**	None	None
Surficial Soil	Ingestion	Yes **No**	Contaminated surficial soils are covered by soil and/or asphalt.	Soil samples have already been collected and analyzed.
	Dermal Contact	Yes **No**		
	Volatile Inhalation	Yes **No**	The highest levels of contaminated soils are present a depths of 15-25 feet below ground surface in the UST pit area.	
	Leaching to Ground Water	Yes **No**		
Subsurface Soil	Ingestion	Yes **No**	No onsite excavation pits are present to expose subsurface soils.	Leachability analysis should be performed.
	Dermal Contact	Yes **No**		
	Volatile Inhalation	Yes **No**	Elevated levels of petroleum contaminated soils were detected during the Tier I assessment.	
	Leaching to Ground Water	**Yes** No		

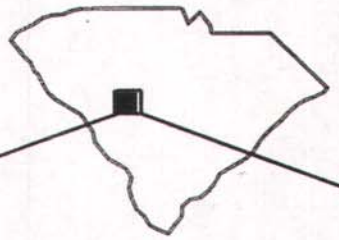
Potential Exposure Pathways for Future Land Use

Media (for exposure)	Exposure Route	Pathway Selected for Evaluation	Exposure Point or Reason for Non-Selection	Data Requirements (If pathway selected)
Air	Inhalation	**Yes** No	Future soil excavation could create organic vapors.	Periodic monitoring using an OVA or CGI.
	Explosion Hazard	**Yes** No		
Ground Water	Ingestion	**Yes** No	Drinking water and irrigation wells are allowed by local ordinance.	Sampling of any wells present.
	Dermal Contact	**Yes** No		
	Volatile Inhalation	**Yes** No		
Surface Water	Ingestion	Yes **No**	None	None
	Dermal Contact	Yes **No**	None	
	Volatile Inhalation	Yes **No**	None	
Surficial Soil	Ingestion	**Yes** No	Future excavation activities in the former UST pit area could expose workers to contaminated soils and petroleum vapors.	Soil data already available. Monitor excavation area with an HNu or OVA.
	Dermal Contact	**Yes** No		
	Volatile Inhalation	**Yes** No		
	Leaching to Ground Water	**Yes** No		
Subsurface Soil	Ingestion	**Yes** No	Future excavation activities in the former UST pit area could expose workers to contaminated soils and petroleum vapors.	Soil data already available. Monitor excavation area with an HNu or OVA.
	Dermal Contact	**Yes** No		
	Volatile Inhalation	**Yes** No		
	Leaching to Ground Water	**Yes** No		

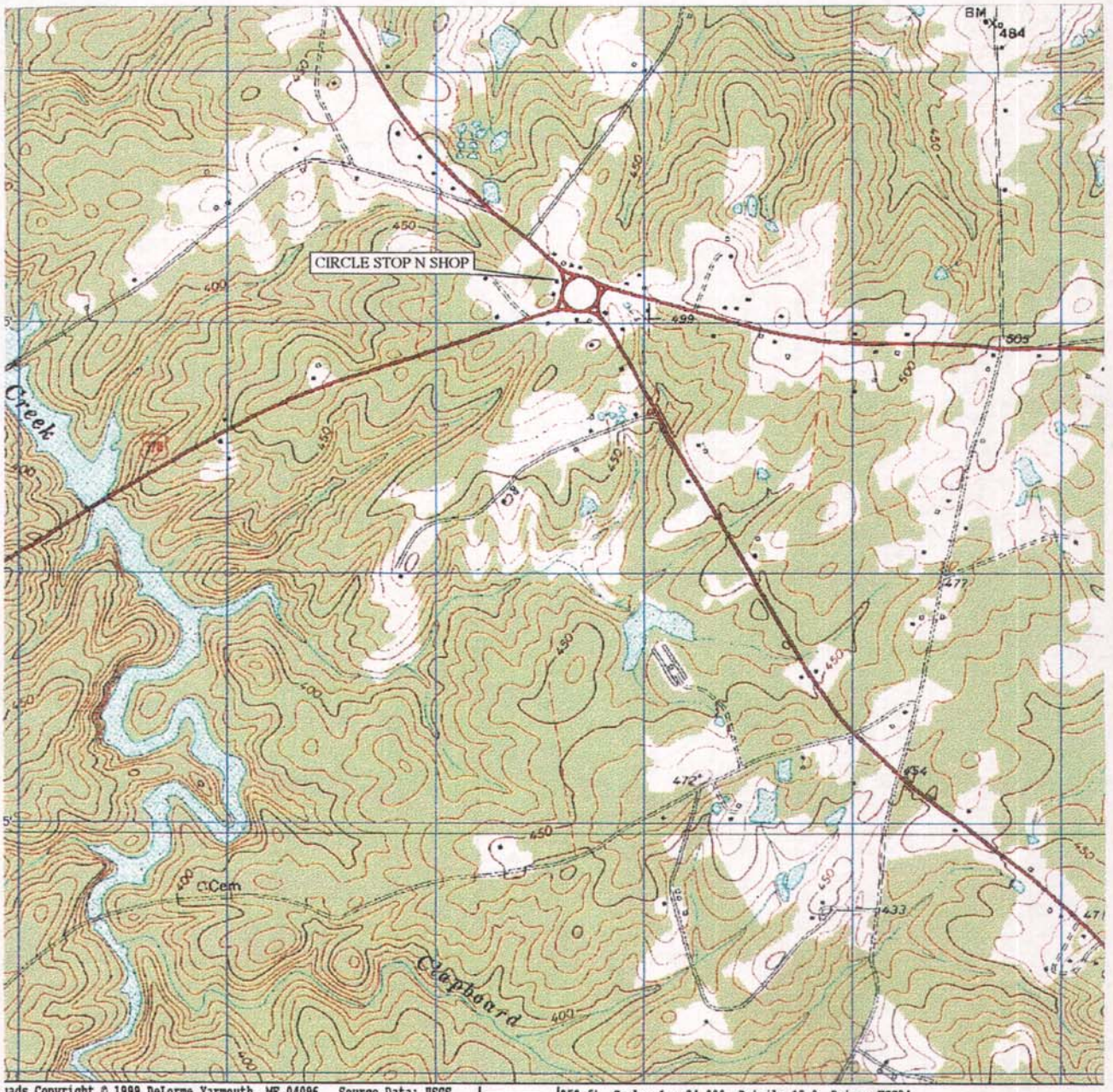
Recommendations for future work: Laboratory analysis of soil samples collected in the area adjacent to the former gasoline UST revealed evidence of elevated levels of hydrocarbon constituents. A dissolved phase hydrocarbon plume was detected in the ground water beneath the northern portion of the subject property as shown in wells MW01, MW02 and MW04. Ground water flow is directed in a northwesterly direction. One drinking water well that is reported to be 95 feet in total depth is present adjacent to Circle Stop N Shop. The well provides water for a residence, owned by Ms. Northey, that is abandoned at the present time. Analysis of a water sample collected from the Northey well revealed the presence of trace amounts of MTBE and naphthalene. A Rapid Assessment would be necessary to completely define the limits of the dissolved phase ground water hydrocarbon plume in both the vertical and horizontal directions

Figure 1: Site Location





DELMAR QUADRANGLE



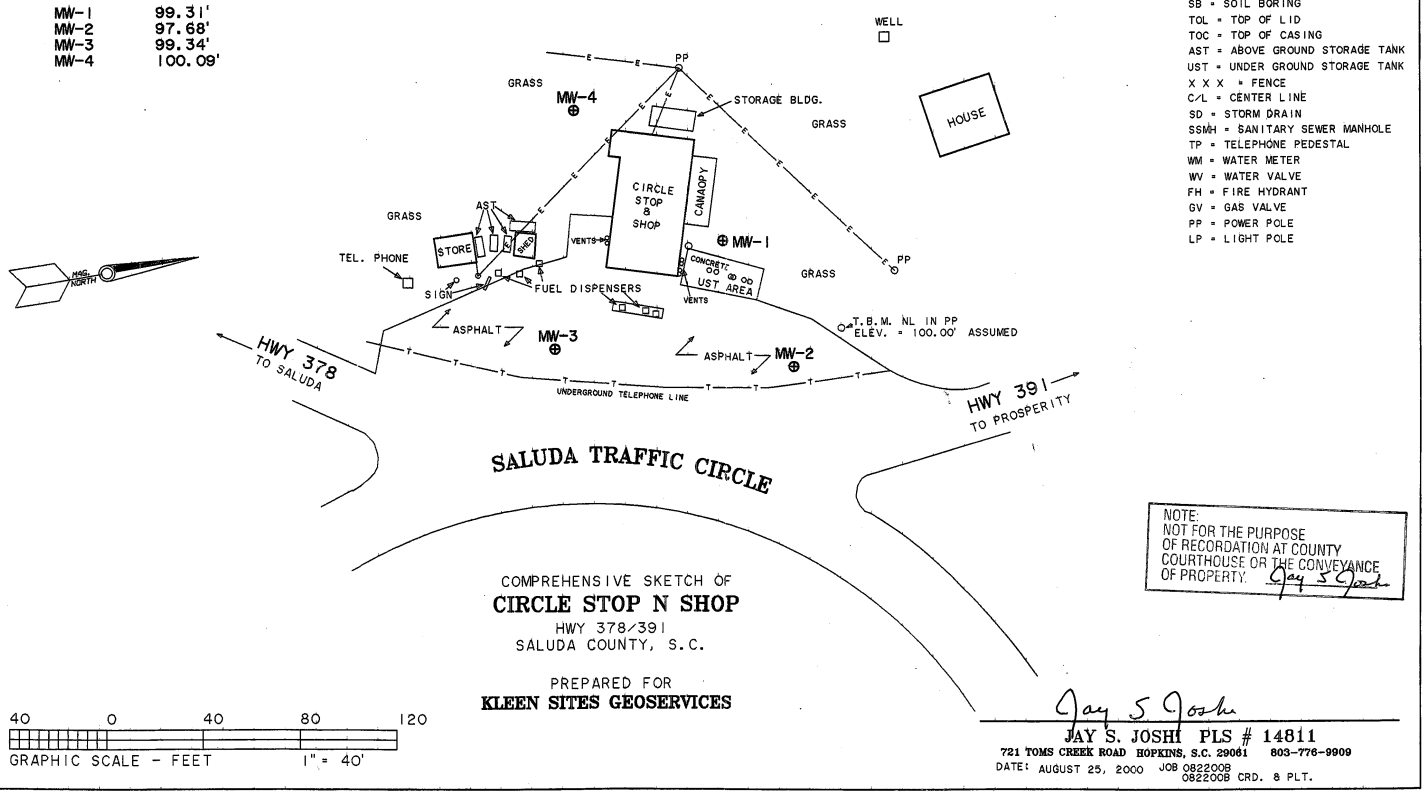
CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 2:
SITE TOPOGRAPHIC
DIAGRAM

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2000\00525\TOPO

WELL	TOC
MW-1	99.31'
MW-2	97.68'
MW-3	99.34'
MW-4	100.09'



LEGEND:

- ⊕ = MONITORING WELL
- SB = SOIL BORING
- TOL = TOP OF LID
- TOC = TOP OF CASING
- AST = ABOVE GROUND STORAGE TANK
- UST = UNDER GROUND STORAGE TANK
- X X X = FENCE
- C/L = CENTER LINE
- SD = STORM DRAIN
- SSMH = SANITARY SEWER MANHOLE
- TP = TELEPHONE PEDESTAL
- WM = WATER METER
- WV = WATER VALVE
- FH = FIRE HYDRANT
- GV = GAS VALVE
- PP = POWER POLE
- LP = LIGHT POLE

NOTE:
NOT FOR THE PURPOSE OF RECORDATION AT COUNTY COURTHOUSE OR THE CONVEYANCE OF PROPERTY.
Jay S Joshi

COMPREHENSIVE SKETCH OF

CIRCLE STOP N SHOP

HWY 378/391
SALUDA COUNTY, S.C.

PREPARED FOR

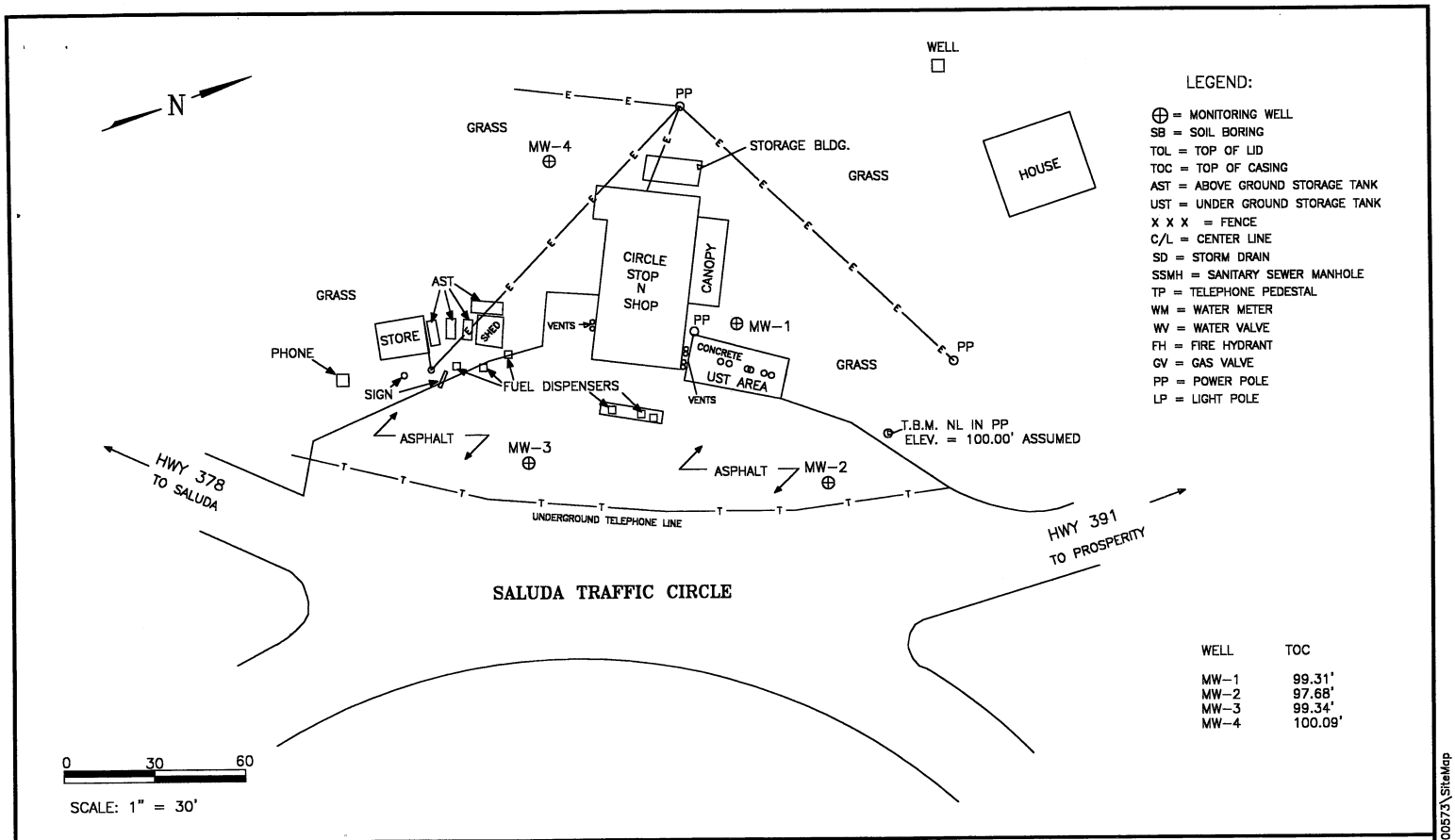
KLEEN SITES GEOSERVICES

40 0 40 80 120
GRAPHIC SCALE - FEET 1" = 40'

Jay S Joshi

JAY S. JOSHI PLS # 14811
721 TOMS CREEK ROAD HOPKINS, S.C. 29061 803-776-9909

DATE: AUGUST 25, 2000 JOB 0822008
0822008 CRD. 8 PLT.

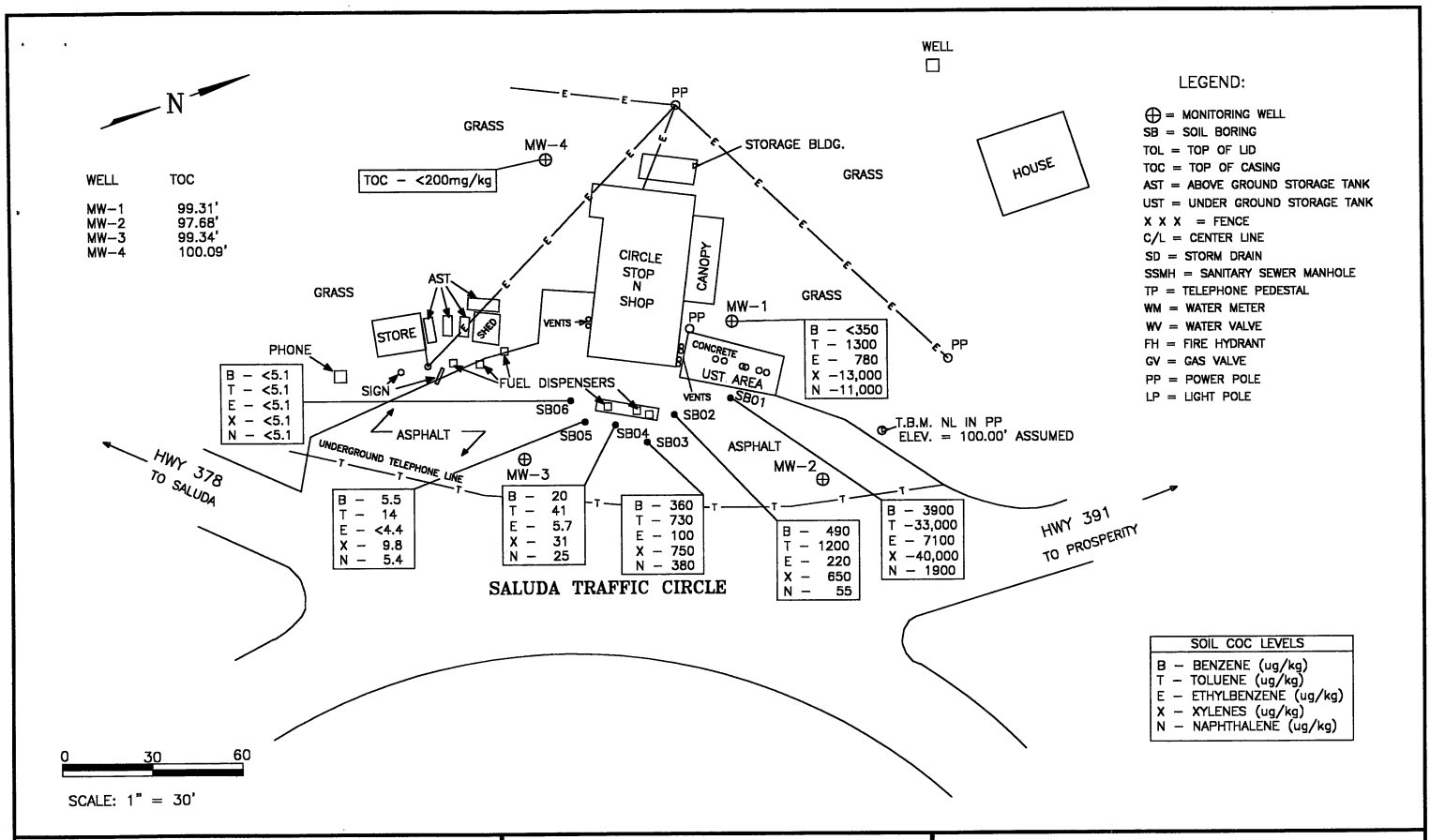


CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 3:
SITE MAP

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2000\00573\SiteMap

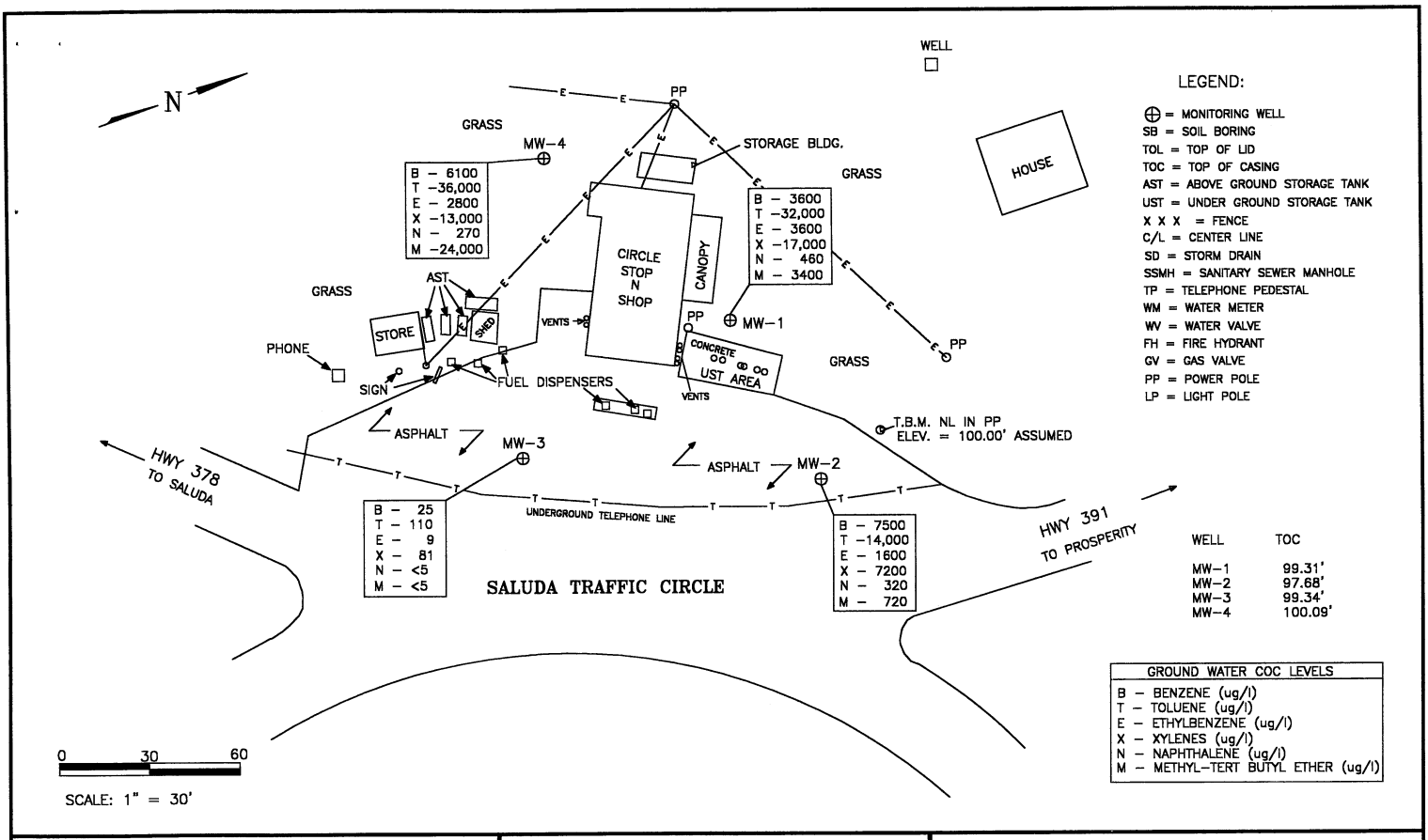


CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 4:
SOIL COC MAP

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2000\005573\SoilCOC



CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 5:
GROUND WATER COC MAP

KLEEN
SITES
GEOSERVICES

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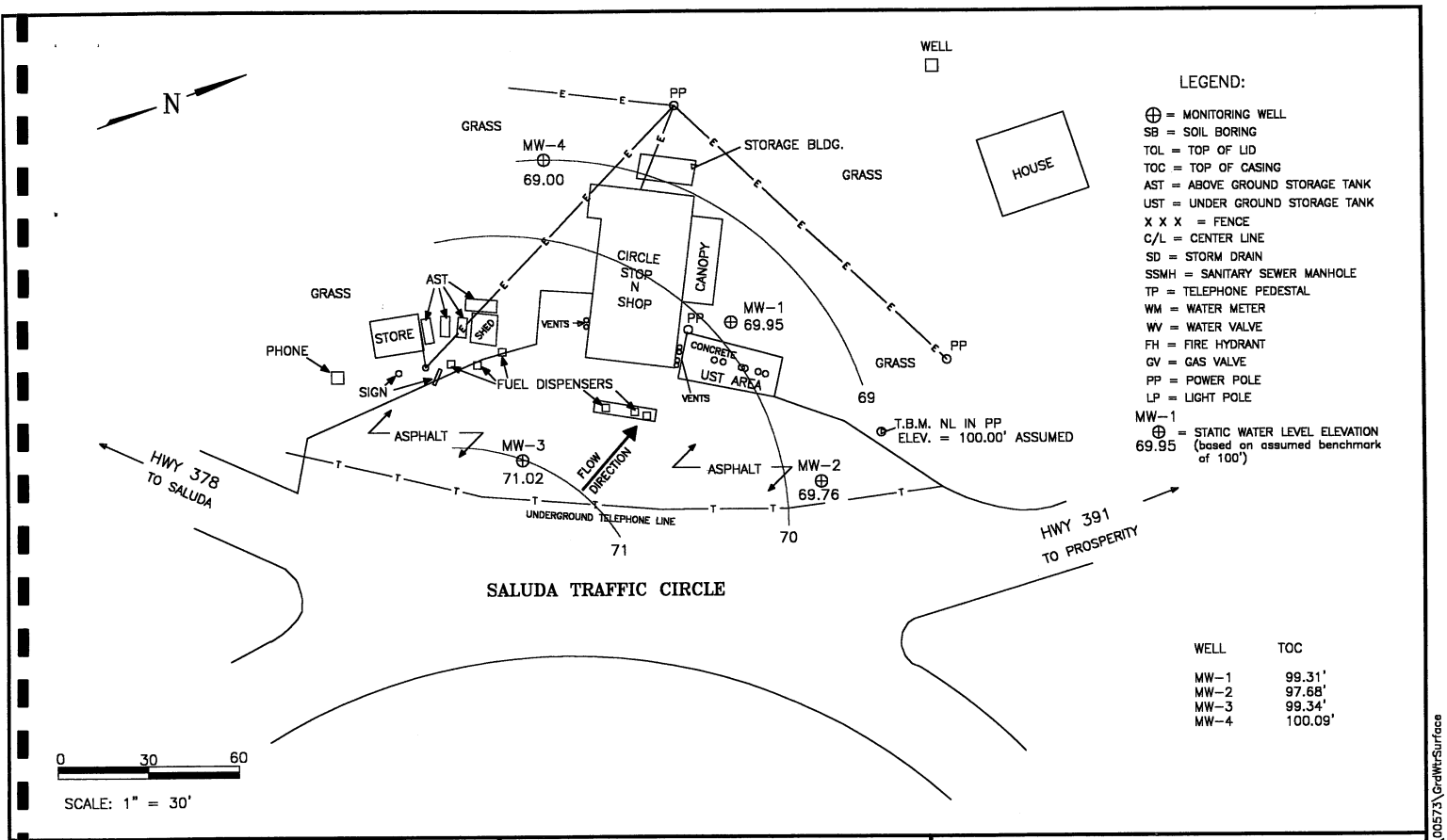


CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY,
SOUTH CAROLINA

FIGURE 6:
GROUND WATER POTENTIOMETRIC SURFACE MAP

KLEEN SITES GEOSERVICES

F:\KSG\CAD\2000\005773\GrdWtrSurface

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW01**
TOTAL DEPTH: **49'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**00525**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**03-17-00**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
		CLAY AND SILT: Red-brown, petroleum odor					Cap and pad
5							
10					>10,000		Concrete Seal
		CLAY AND SILT: Dk. red-brown					
15					567		
		CLAY AND SILT: Dk. red-brown, strong petroleum odor					
20					>10,000		
		SILT: Brown, clayey, petroleum odor					
25					>10,000		Bentonite
		SILT: Brown-red, strong petroleum odor					
▼ 30					>10,000		Sand
		CLAY AND SILT: Brown-red, strong petroleum odor					
35					>10,000		Screened interval -29' to -49'
▽		SILT: Brown, clayey, w/partially weathered rock					
40					>10,000		
		SILT: Brown, clayey, w/partially weathered rock					
45					1657		

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW02**
TOTAL DEPTH: **40**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**00573**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**08-03-00**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
		CLAY AND SILT: Red-brown, no odor					Cap and pad
-5					176		
-10		SILT: Dk. red-brown			245		Concrete Seal
-15					242		Bentonite
-20		SILT: Dk. red-brown, strong petroleum odor			1034		
-25					821		Sand
▼ -30		SILT: Red-brown, strong petroleum odor	Static Water Level				Screened interval -20' to -40'
-35							
▽ -40							

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW03**
TOTAL DEPTH: **40**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**00573**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**08-03-00**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
		SAND AND SILT: Light brown, no odor					Cap and pad
-5							
-10		WEATHERED ROCK: Gray weathered rock with quartz fragments			23		Concrete Seal
-15							Bentonite
-20		WEATHERED ROCK: Gray weathered rock with quartz fragments			54		Sand
-25							
▼ -30		WEATHERED ROCK: Gray weathered rock with quartz fragments, wet	Static Water Level		0		Screened interval -20' to -40'
-35							
▽ -40							

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29169
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW04**
TOTAL DEPTH: **40**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	Circle Stop N Shop	DRILLING CO.:	SAEDACCO
SITE LOCATION:	Leesville, SC	DRILLER:	Robert Miller
JOB NO.:	00573	RIG TYPE:	Truck Mounted
LOGGED BY:	Jason Chiorazzi	METHOD OF DRILLING:	Hollow Stem Auger
PROJECT MANAGER:	Bill Dunnagan	SAMPLING METHODS:	Split Spoon
DATES DRILLED:	08-03-00	HAMMER WT./DROP	140 LB., 30 IN.

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

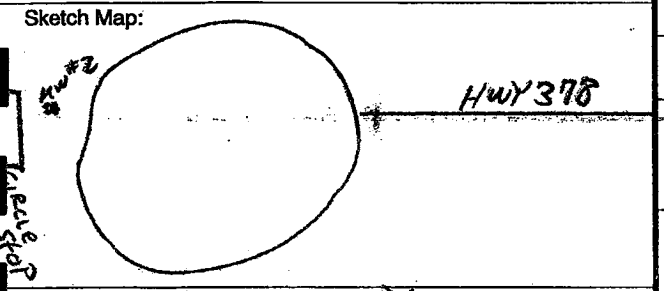
DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
-5		SILT: Light brown, no odor					Cap and pad
-10		SILT: Light brown, no odor			0		Concrete Seal
-15							Bentonite
-20		SILT: Brown to tan, layered appearance, no odor			0		
-25							Sand
▼ -30		CLAY AND SILT: Reddish-brown, clayey silt, petroleum odor	Static Water Level		0		Screened interval -20' to -40'
-35							
▽ -40							

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 20' SOUTH OF HWY 378
Street Address & City of Well Location:

Sketch Map:



2. CUTTING SAMPLES: ☐ Yes ☒ No

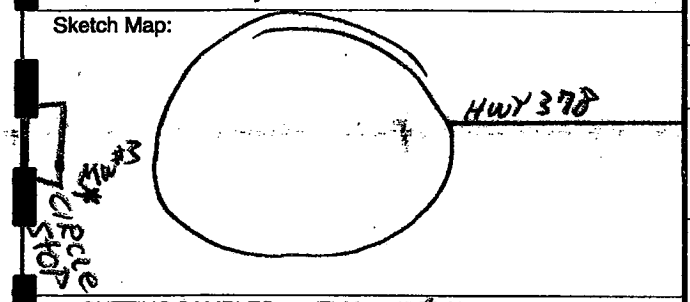
Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 20' SOUTH OF HWY 378
Street Address & City of Well Location:
Sketch Map:



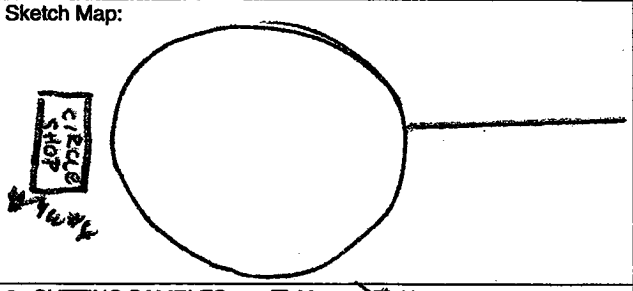
2. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'

D H E C
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 100' South of Hwy 378
Street Address & City of Well Location:
Sketch Map:



2. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW01

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	49.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	29.36 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	19.64 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	3.2 Gallons
		$Vw = (Hw)\ (Dw^2)\ (7.5\ gal/ft^3)\ (0.785)$	
		PURGE VOLUME:	9.6 Gallons
DATE:	08-07-00	KSG PERSONNEL:	JC

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1439	3.2	81.1	16	6.11	Petroleum odor.
1446	6.4	78.3	15	6.22	Petroleum odor.
1450	9.6	78.1	15	6.29	Petroleum odor.
					DO = 3.0

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW02

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	27.92 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	12.08 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	2.0 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	20.0 Gallons
DATE:	08-07-00	KSG PERSONNEL:	JC

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1401	2	85.5	2	6.38	Petroleum odor
1405	4	82.0	2	6.27	Petroleum odor
1408	6	81.8	2	6.30	Petroleum odor
1411	8	78.5	3	6.29	Petroleum odor
1414	10	78.2	3	6.25	Petroleum odor
1419	12	74.7	3	6.26	Petroleum odor
1423	14	74.6	3	6.21	Petroleum odor
1426	16	74.9	3	6.24	Petroleum odor
1429	18	74.7	3	6.19	Petroleum odor
1432	20	74.3	3	6.17	Petroleum odor
					DO = 3.7

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW03

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	28.32 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	11.68 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.9 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	20.0 Gallons
DATE:	08-07-00	KSG PERSONNEL:	JC

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
1128	2	81.6	7	6.19	No odor
1130	4	79.1	5	6.06	
1134	6	76.6	4	6.03	
1136	8	75.7	4	6.01	
1140	10	75.8	4	5.99	
1142	12	75.3	4	6.06	
1146	14	75.8	4	5.93	
1152	16	75.4	4	6.06	
1154	18	75.6	4	6.30	
1157	20	75.3	3	6.32	
					DO = 4.1

KLEEN
SITES
GEOSERVICES

GROUND WATER MONITORING WELL PURGE LOG

WELL NUMBER - MW04

PROJECT:	Circle Stop N Shop	TOTAL WELL DEPTH:	40.00 Feet
STREET:	US Hwy 378/SC Hwy 391	STATIC WATER LEVEL:	31.09 Feet
CITY:	Leesville	WATER HEIGHT (Hw):	8.91 Feet
COUNTY:	Saluda	WELL DIAMETER (Dw):	2 Inches
STATE:	South Carolina	WELL VOLUME (Vw):	1.5 Gallons
		$Vw = (Hw)(Dw^2)(7.5\ gal/ft^3)(0.785)$	
		PURGE VOLUME:	15.0 Gallons
DATE:	08-07-00	KSG PERSONNEL:	JC

TIME	VOLUME PURGED (gallons)	TEMPERATURE (°F)	CONDUCTIVITY (µs/cm)	pH (STU)	NOTES
0934	1.5	77.5	26	5.54	Sweet chemical odor
0939	3.0	72.7	21	5.26	
0944	4.5	71.4	19	5.20	
0948	6.0	70.9	18	5.28	
0956	7.5	71.1	18	5.23	Well goes dry
					DO = 4.5

KLEEN SITES GEOSERVICES, INC.

CHAIN OF CUSTODY RECORD

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

Job Name: CIRCLE STOP N SHOP

Project Manager: BILL DUNNAGAN Phone: 791 1996

Project Number:

Collected By: J CHIONNAZZI

Laboratory: Sherry

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX NAPH	PAH	TPH	TOC					Special Instructions
MW2		8/3	1300	19-21		✓	✓							
[redacted]														
MW4		8/4	830	20'					✓					
SB01		↓	845	20-25'		✓	✓	✓						
SB02			945	8-10'		✓	✓							
SB03			1020	8-10'		✓	✓							
SB04			1045	4-8'		✓	✓							
SB05			1115	8-10'		✓	✓							
SB06		↓	1215	8-10'		✓	✓							

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	8/4/00	1507

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

KLEEN SITES GEOSERVICES, INC.
409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: CIRCLE STOP N SHOP
Project Manager: BILL DUNNAGAN Phone: 791/1996
Project Number:
Collected By: J CHIONNAZZI
Laboratory: SHEALY

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX NAPH	MTBE EDB	NO3 SO4	FERROUS IRON	DISSOLVED CO2	METHANE	PB	DAH	Special Instructions
MW1		8/7	1500		L	✓	✓	✓	✓	✓	✓	✓	✓	
MW2			1435			✓	✓	✓	✓	✓	✓	✓	✓	
MW3			1220			✓	✓	✓	✓	✓	✓	✓	✓	
MW4			1515			✓	✓	✓	✓	✓	✓	✓	✓	

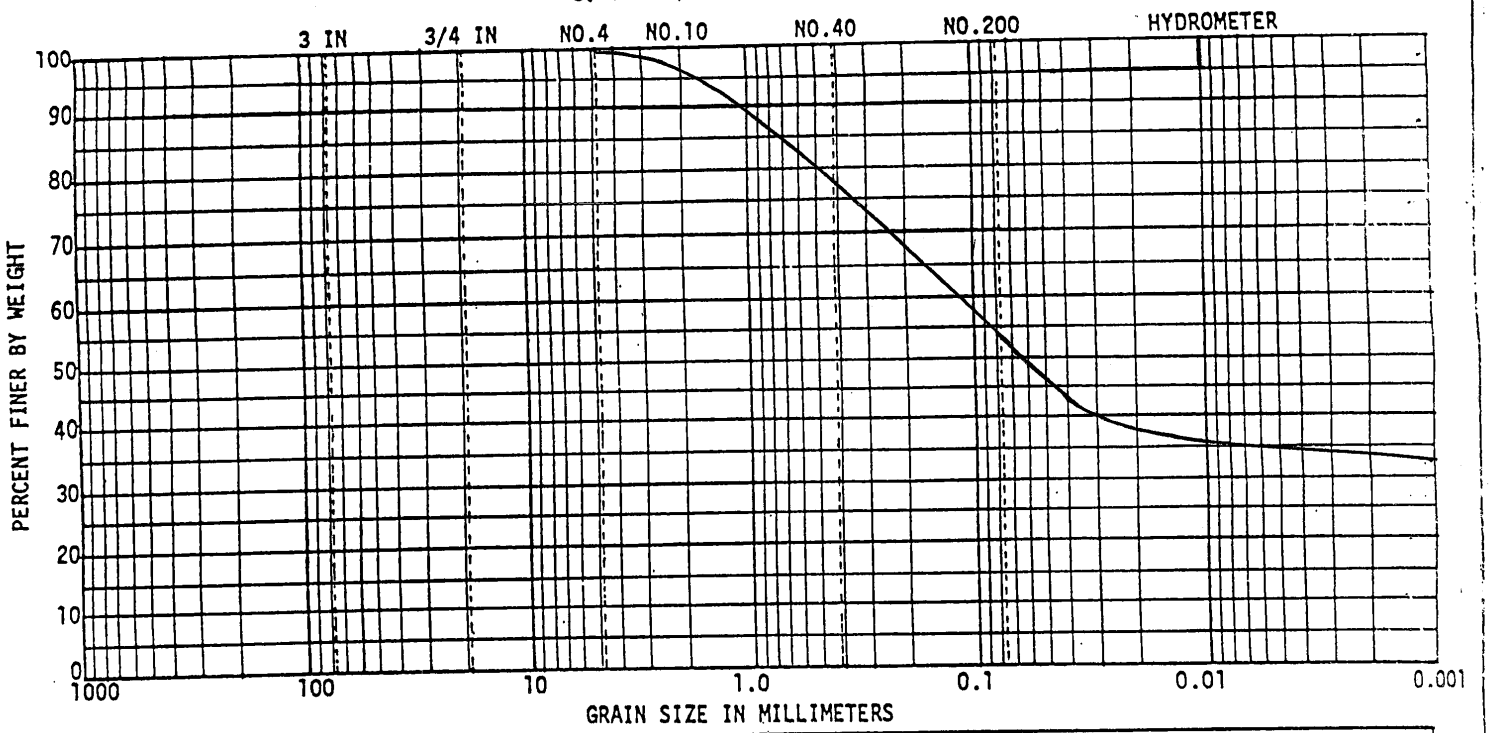
CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
		8/8/00	830

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

Grain Size Analysis



COBBLES	GRAVEL		SAND			SILT OR CLAY
	Coarse	Fine	Coarse	Medium	Fine	

SAMPLE	DEPTH	CLASSIFICATION	NAT WC	LL	PL	PI
SB01	20-25'	Tan Silty Fine to Medium Sandy CLAY				

GRAIN SIZE DISTRIBUTION

CIRCLE STOP N SHOP

KLEEN SITES GEOSERVICES, INC.
LEXINGTON, SC

GEO-SYSTEMS DESIGN & TESTING, INC.
GEOTECHNICAL SERVICES AND MATERIALS TESTING
P.O. Box 2656, West Columbia, South Carolina 29171

KLEEN SITES GEOSERVICES, INC.
409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: CIRCLE STOP N SHOP
Project Manager: BILL DUNNAGAN Phone: 791/996
Project Number: 00573
Collected By: J CHIOMAZZI
Laboratory: SHERRY

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: GRAIN SIZE	Parameter Analysis: HYDROMETER							Special Instructions
SB01		8/4		20-25'	S	1	1							

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	8/1/00	

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

Northey Residential Well
Water Analysis

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: ~~Heights Grocery~~ Circle Stop & Shop

Project Manager: Bill Dunagan Phone: 791 1996

Project Number:

Collected By: JC

Laboratory: Access

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX	Parameter Analysis: MTBE							Special Instructions
DW 1		9/13	1245			P	P							

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
		9/13/00	1435
	FEDEX	9/13/00	1600
FEDEX		9/14/00	9:30

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

APPENDIX D

AQUIFER CALCULATIONS

Site: Circle Stop & Shop
Well: MW03

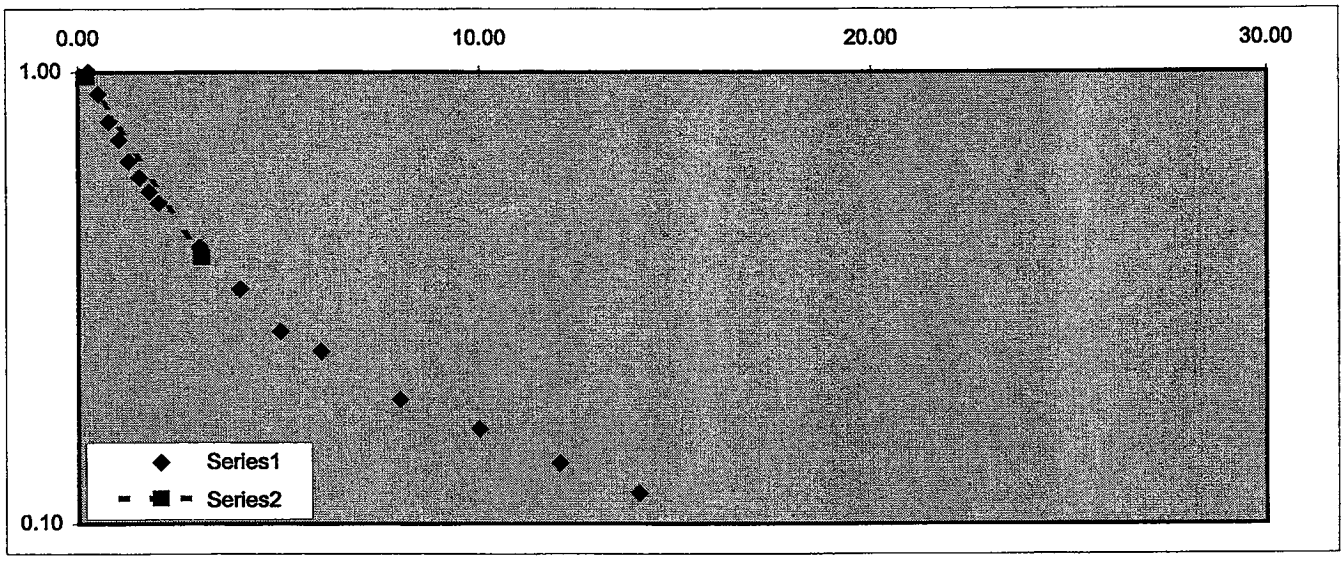
VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	20	screen length (ft)	ln(m-l/rw)=	#NUM!
d=	11.68	depth of screen below water (ft)	(l-d)/rw=	24.984985
rw=	0.333	well radius (ft)	A=	1.6028741
rc=	0.083	casing radius (ft)	B=	0.2468729
m=	20	formation thickness (ft)	tL=	3.112988
Hi=	71.02	static water level (ft above xdcr)	ln(R/rw)=	2.5507846

t1=	0.2	(Hw/H0)1=	0.9772372
t2=	3.06	(Hw/H0)2=	0.389942

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 3.39E-04 ft/min = 1.72E-04 cm/s = 1.72E-06 m/s



Slug Test Data

TOC of Well	Static Water Level	Ground Water Elevation	Elapsed Time (min)	Hw/Ho
99.34	29.86	69.48	0.25	1.0000
	29.70	69.64	0.50	0.8961
	29.52	69.82	0.75	0.7792
	29.41	69.93	1.00	0.7078
	29.30	70.04	1.25	0.6364
	29.22	70.12	1.50	0.5844
	29.16	70.18	1.75	0.5455
	29.11	70.23	2.00	0.5130
	28.95	70.39	3.00	0.4091
	28.83	70.51	4.00	0.3312
	28.73	70.61	5.00	0.2662
	28.69	70.65	6.00	0.2403
	28.61	70.73	8.00	0.1883
	28.57	70.77	10.00	0.1623
	28.53	70.81	12.00	0.1364
	28.50	70.84	14.00	0.1169
	28.46	70.88	16.00	0.0909

Site: Circle Stop & Shop
Well: MW04

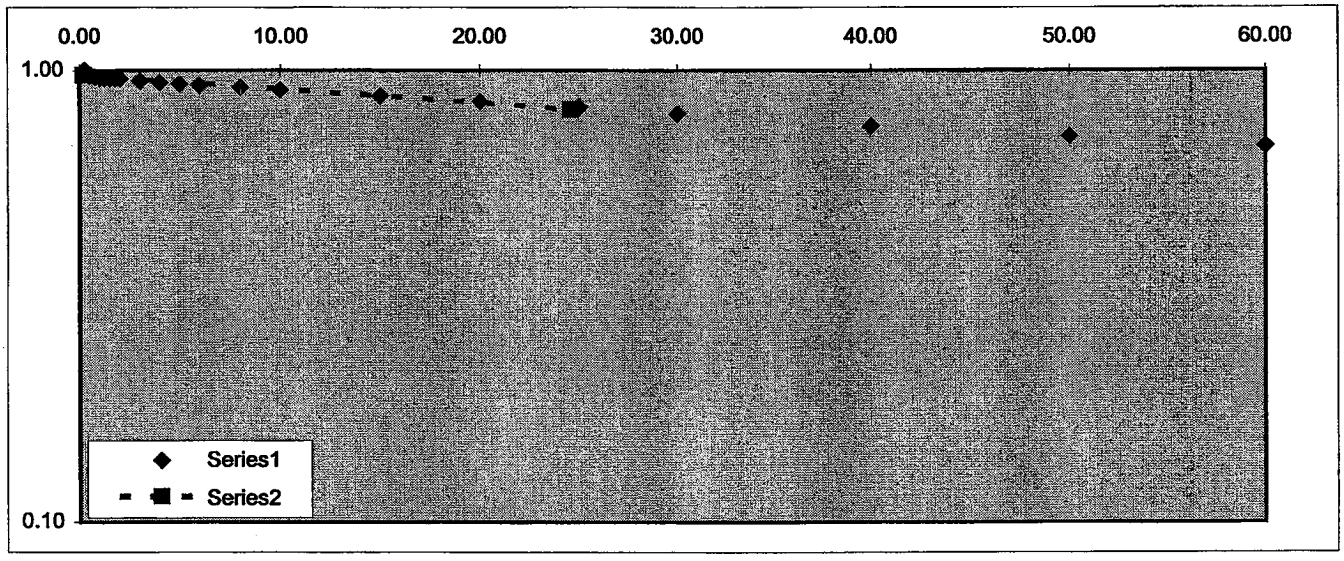
VALUES USED IN BOUWER AND RICE ANALYSIS OF SLUG TEST DATA

l=	20	screen length (ft)	ln(m-l/rw)=	#NUM!
d=	8.91	depth of screen below water (ft)	(l-d)/rw=	33.303303
rw=	0.333	well radius (ft)	A=	1.6028741
rc=	0.083	casing radius (ft)	B=	0.2468729
m=	20	formation thickness (ft)	tL=	139.3171
Hi=	69	static water level (ft above xdcr)	ln(R/rw)=	2.7685155

t1=	0.2	(Hw/H0)1=	0.9772372
t2=	24.58	(Hw/H0)2=	0.8203515

ESTIMATED HYDRAULIC CONDUCTIVITY

k= 6.17E-06 ft/min = 3.14E-06 cm/s = 3.14E-08 m/s



Slug Test Data

TOC of Well	Static Water Level	Ground Water Elevation	Elapsed Time (min)	Hw/Ho
100.09	39.02	61.07	0.25	1.0000
	38.81	61.28	0.50	0.9735
	38.75	61.34	0.75	0.9660
	38.73	61.36	1.00	0.9634
	38.72	61.37	1.25	0.9622
	38.71	61.38	1.50	0.9609
	38.69	61.40	1.75	0.9584
	38.68	61.41	2.00	0.9571
	38.61	61.48	3.00	0.9483
	38.55	61.54	4.00	0.9407
	38.49	61.60	5.00	0.9332
	38.45	61.64	6.00	0.9281
	38.37	61.72	8.00	0.9180
	38.27	61.82	10.00	0.9054
	38.05	62.04	15.00	0.8777
	37.86	62.23	20.00	0.8537
	37.68	62.41	25.00	0.8310
	37.46	62.63	30.00	0.8033
	37.06	63.03	40.00	0.7528
	36.76	63.33	50.00	0.7150
	36.50	63.59	60.00	0.6822

APPENDIX E

SOIL & WATER DISPOSAL MANIFESTS

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. GK3316

2. Page 1 of

09-11-00

3. Generator's Name and Mailing Address
CIRCLE STPO N SHOP
INT 378 & 391
SALUDA COUNTY, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
G & K TANK SERVICES, INC

6. US EPA ID Number

A. Transporter's Phone
800-800-6840

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
PO BOX 1384
SUMTER, SC 29151

10. US EPA ID Number

C. Facility's Phone
800-800-6840

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINATED SOIL	09DR			
b. NON HAZARDOUS PETROELUM CONTAMINATED WATER	01DR			
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
KLEEN SITES GEOSERVICES
409 BURTON ROAD
LEXINGTON, SC 29072

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: Earl Smith
Signature: [signature]
Month Day Year: 09 15 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Richard Smoot
Signature: Richard Smoot
Month Day Year: 09 15 00

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: Kat Keeran
Signature: Kat Keeran
Month Day Year: 09 15 00

GENERATOR — TRANSPORTER — FACILITY

ORIGINAL - RETURN TO GENERATOR

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. GK 3316

2. Page 1 of

09-11-00

3. Generator's Name and Mailing Address
CIRCLE STOP N SHOP
INT 378 & 391
SALUDA COUNTY, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
G & K TANK SERVICES, INC

6. US EPA ID Number

A. Transporter's Phone
800-800-6840

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
PO BOX 1384
SUMTER, SC 29151

10. US EPA ID Number

C. Facility's Phone
800-800-6840

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a. NON HAZARDOUS PETROLEUM CONTAMINATED SOIL	09DR			
b. NON HAZARDOUS PETROELUM CONTAMINATED WATER	01DR			
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
KEEN SITES GEOSERVICES
409 BURTON ROAD
LEXINGTON, SC 29072

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: Gail Smith
Signature: [signature]
Month 9 Day 11 Year 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Richard Smoot
Signature: Richard Smoot
Month 09 Day 15 Year 00

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: Pat Keeven
Signature: [signature]
Month 09 Day 15 Year 00

GENERATOR

TRANSPORTER

FACILITY

TRANSPORTER #2

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

Tons 1 DRUM
CIRCLE STOP N SHOP SALUDA COUNTY

Contaminant NONHAZARDOUS PETROLEUM
CONTAMINATED WATER

This is to cerify the above ~~soil~~ ~~soil~~ has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by [signature]

Date 9/18/00

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

Tons 9 DRUMS
CIRCLE STOP N SHOP SALIUDA COUNTY

Contaminant NON HAZARDOUS PETROLEUM

This is to cerify the above soil has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by Patton

Date 9/18/00

APPENDIX F

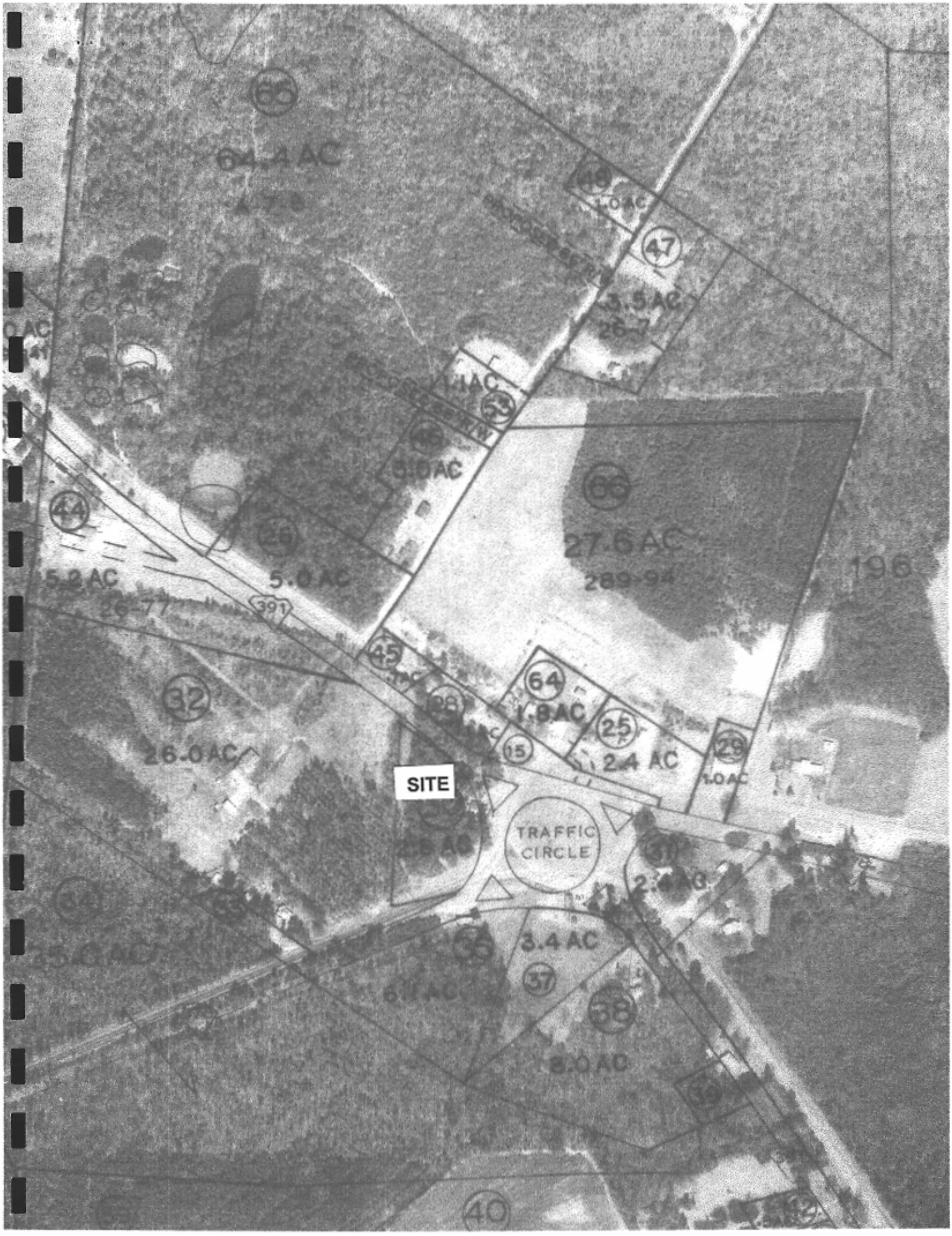
PROPERTY TAX MAP
AND
CITY ORDINANCE INFORMATION

City Ordinance Information

The installation of drinking water wells and irrigation wells is allowed in the area surrounding Circle Stop & Shop.

Tax Map Property Owner Information

Tax Map #	Property Owner
190-30	Circle Stop N Shop Northey, J.M. Route 4, Box 190 Leesville, SC 29070
190-28	Shealy, Paul N. Route 4, Box 215 Leesville, SC 29070
190-32	Kirkland, Randall L. Route 4, Box 174 Leesville, SC 29070
190-36	Boland, Charles P.O. Box 631 Saluda, SC 29138
190-15	Shealy, Herman C. P.O. Box 675 McCormick, SC 29835


66
64.4 AC
47.8
49
1.0 AC
47
3.5 AC
26-7
1.1 AC
53
48
3.0 AC
66
27.6 AC
289-94
196
44
26
5.0 AC
5.2 AC
26-77
391
45
64
1.8 AC
25
2.4 AC
29
1.0 AC
32
26.0 AC
28
15
SITE
TRAFFIC CIRCLE
37
2.4 AC
34
25.0 AC
36
3.4 AC
57
6.1 AC
38
8.0 AC
39
40

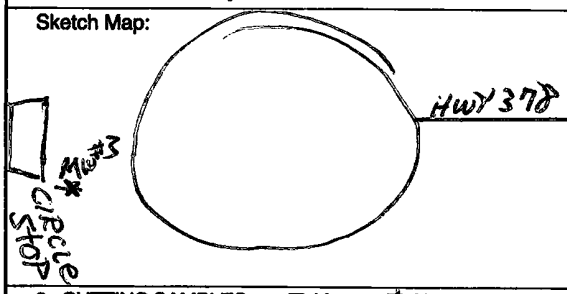
Wilsonville
05981

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 20' SOUTH OF HWY 378
Street Address & City of Well Location:

Sketch Map:



2. CUTTING SAMPLES: ☐ Yes ☒ No

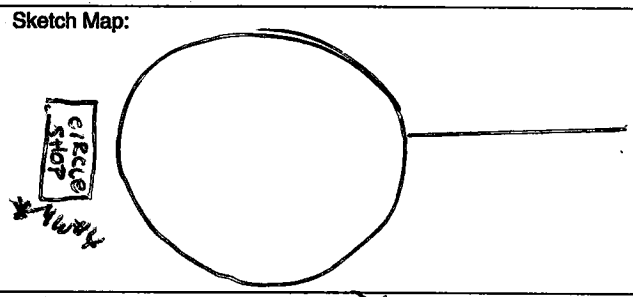
Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 100' South of Hwy 378
Street Address & City of Well Location:
Sketch Map:



2. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☒ No

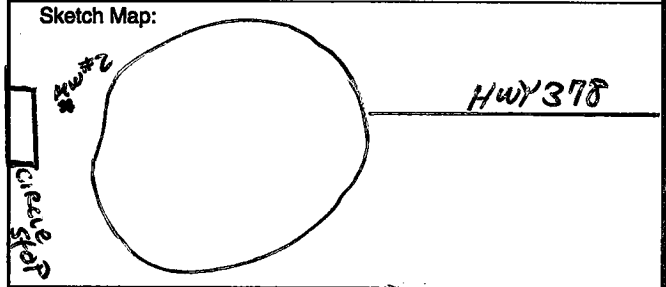
Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 20' SOUTH OF HWY 378
Street Address & City of Well Location:

Sketch Map:



2. CUTTING SAMPLES: ☐ Yes ☒ No

Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	40'

RECEIVED AUG 9 2000 PRIVATE WELL SECTION

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: CIRCLE STOP & SHOP
Address: HWY 378 SALUDA TRAFFIC CIRCLE SALUDA, S.C.
Telephone No.:
Engineer: KLEEN SITES GEOSERVICE, INC.
Address: 171 LOTT COURT West Columbia, S.C. 29169
Telephone No. (803) 791-1996

5. WELL DEPTH (completed) 40' ft. Date Started: 8/3/00 Date Completed: 8/3/00

6. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. USE: ☐ Domestic ☐ Public Supply–Permit No. ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ Monitor Well ☐

8. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 20' ft. depth
in. to ft. depth
Height: Above/Below Surface ft.
Weight lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 20' ft. and 40' ft.
ft. and ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

10. STATIC WATER LEVEL 20' ft. below land surface after 24 hours

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

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

13. ARTIFICIAL FILTER (gravel pack) ☒ Yes ☐ No
Installed from 18' ft. to 40' ft.
Effective size 20/30 Uniformity Coefficient

14. WELL GROUTED? ☒ Yes ☐ No
☐ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other
Depth: From ft. to ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction
Type well disinfected upon completion ☐ Yes ☐ No Type: Amount:

16. 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

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Registered Business Name: SAEDACCO Date: 8/4/00
Address: 10401 JOHN PRICE RD. CHARLOTTE N.C.
Signed: Robert L. Mi[illegible] Cert. No.: 1472
Authorized Representative

DHEC 1903 (10/96) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

KLEEN SITES GEOSERVICES, INC.
ENVIRONMENTAL CONSULTANTS

May 23, 2000

RECEIVED
MAY 26 2000
Bureau of Underground Storage Tank Management

Mr. Charles J. Williams III, Hydrogeologist
South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Re: Request for Reevaluation of SUPERB Deductible Status
Circle Stop N Shop
Saluda County, SC
UST Permit # 05981

Dear Chuck:

This correspondence is being submitted to request that the SCDHEC evaluate the SUPERB deductible status of the above referenced facility. At the present time, the Circle Stop N Shop facility is subject to a $25,000 deductible. However, a petroleum hydrocarbon release was reported at this location in a letter report prepared by Nu-Way Environmental, Inc. dated December 27, 1991. A copy of this letter report is provided as an attachment to this letter. The SCDHEC responded to the reported release by issuing a No Further Action letter dated July 6, 1992. A copy of this letter is also provided as an attachment to this letter.

On behalf of the responsible party, Mrs. Gail Smith, Kleen Sites Geoservices, Inc. requests that this site be reclassified back into the zero deductible category where it originally entered into the SUPERB Fund system. A Standard Limited Assessment (SLA) has been requested by your office for the Circle Stop N Shop location. We also request a delay in implementing this scope of work until a decision on the SUPERB deductible status can be made.

I appreciate you attention to this matter. Should you have questions concerning this request, please contact me at (803) 791-1996 at your earliest convenience.

Sincerely,

Kleen Sites Geoservices, Inc.

Bill Dunnagan

Bill Dunnagan, P.G.
Principal Geologist

UST PROGRAM
DOCKETING # 39 Tech

Attachments

Cc: Mrs. Gail Smith
143 Pioneer Drive, Leesville, SC 29070

• 171 Lott Court, West Columbia, South Carolina 29169 •
(803) 791-1996 (803) 791-4269 (Fax)
ksg1@alltel.net

NU-WAY
ENVIRONMENTAL, INC.

RECEIVED
MAY 26 2000
Bureau of Underground
Storage Tank Management

(803) 957-9175
214 BRUNER ROAD
LEXINGTON, SC 29072

27 December 1991

RECEIVED
DEC 27 1991
GROUND-WATER
PROTECTION

South Carolina Department of Health
and Environmental Control
Groundwater Protection Division
Underground Storage Tank Section
2600 Bull Street
Columbia, South Carolina 29201

Attention: Mr. Chris Doll

Re: Confirmation of an Underground Storage Tank Release/
Request for Evaluation For SUPERB Fund Eligibility
Circle Stop & Shop Exxon
Junction of U.S. Highway 378 & S.C. Highway 391
Leesville, South Carolina
SCDHEC Site # 05981

Dear Mr. Doll:

Nu-Way Environmental, Inc. (NUWAY) has recently completed an internal environmental audit to check for the presence of petroleum-contaminated soils at the Circle Stop & Shop (CSS) facility located in Leesville, S.C. CSS utilizes several underground storage tanks (USTs) for storage of various grades of gasoline; as well as, diesel fuel. During the NUWAY environmental audit, soil samples were collected and submitted for laboratory analysis. As discussed herein, analytical results confirmed the presence of petroleum hydrocarbons within onsite soils. Please accept this letter as confirmation of a release from one or more USTs at the above referenced facility.

The following procedure was utilized to check for soil contamination. Personnel from NUWAY selected borehole locations that were in close proximity to both UST pit areas (see attached figure). A stainless steel hand auger was utilized to advance each borehole down to a depth of approximately 10 feet. Soils were screened for the presence of volatile organic vapors using an organic vapor analyzer (OVA). A boring log describing the soil type and OVA reading at varying depths was generated at each sampling location and is provided herein.

Analytical results confirmed the presence of naphthalene within Sample SA03. All hydrocarbon constituents were reported below instrument detection limits in Sample SA04. Data sheets for each sample analyzed are provided as attachments to this letter.

Upon receipt of the analytical data, CSS personnel were notified that petroleum hydrocarbons within soils at the above referenced facility had been confirmed. On behalf of CSS, NUWAY requests that this facility be evaluated for eligibility in the South Carolina State Underground Petroleum Environmental Response Bank (SUPERB) Fund. Each UST listed within this report is registered with the SCDHEC and annual registration fees have been paid. Should additional information concerning this site be required by your office, please contact either Douglas A. Moore or myself at (803) 957-9175.

Sincerely,

Nu-Way Environmental, Inc.

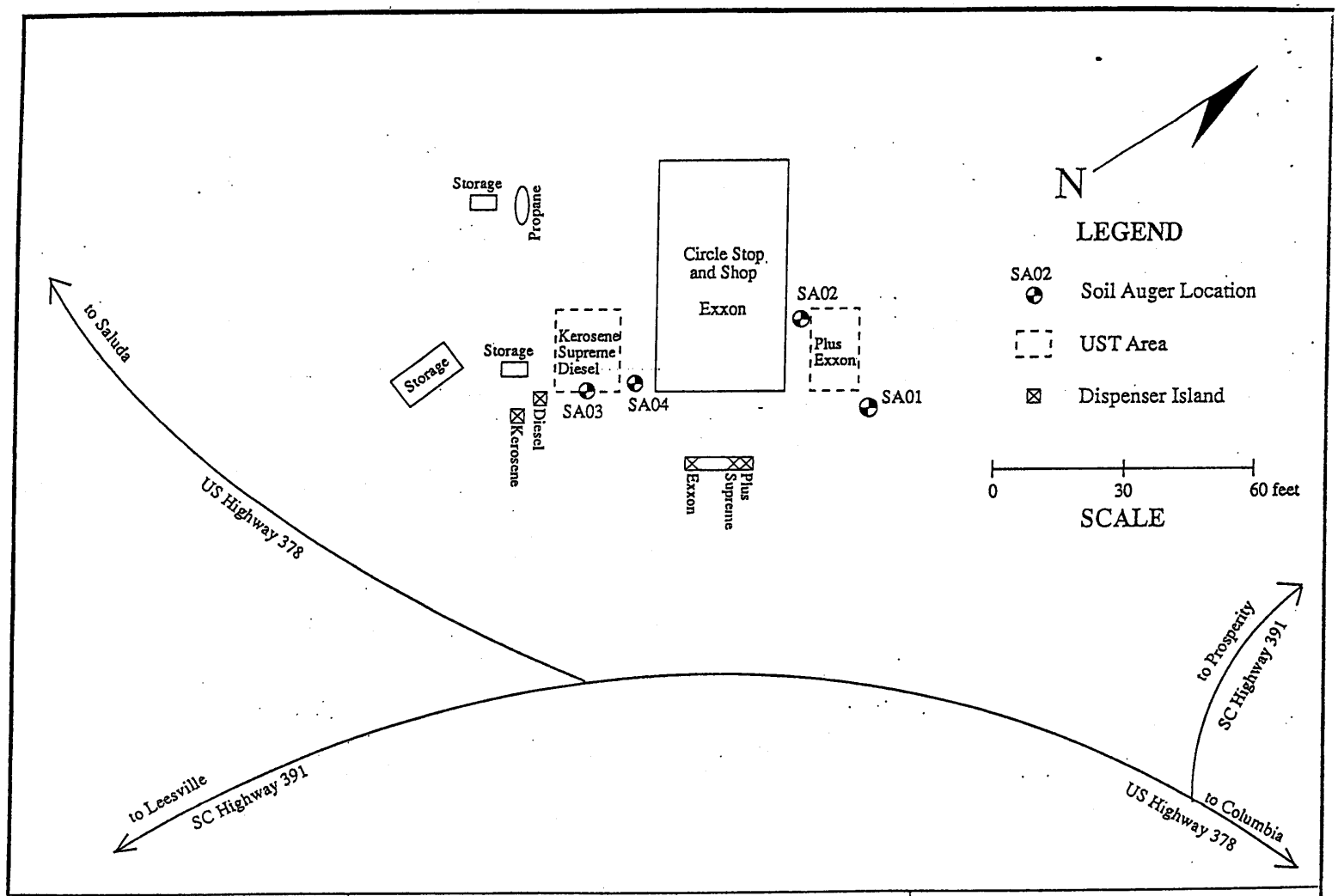
William Dunnagan Jr.

William Dunnagan, Jr., P.G.
Senior Project Geologist.

WBD:tf

Enclosure

cc: Mrs. Gail Smith
Circle Stop & Shop Exxon
143 Pioneer Drive
Leesville, South Carolina 29070



Circle Stop and Shop
US Hwy. 378 & SC Hwy. 391
Leesville, SC

FIGURE
Soil Auger Location Map

NU-WAY ENVIRONMENTAL INCORPORATED
214 Bruner Road • Lexington, SC

Soil Boring Log

Circle Stop & Shop
U.S. Highway 378 & S.C. Highway 391
Leesville, South Carolina

Field Results:

SA01

Date of Boring: 11-26-91

Depth(feet)	OVA Reading(ppm)	Soil Description
1	0.0	CLAY:red,slightly damp,no odor.
3	10.0	CLAY:red,slightly damp,crumbly,no odor.
5	21.0	CLAY:as above,light brown in part
7	13.0	CLAY:as above
10	11.0	CLAY:red,as above,slightly sandy

Laboratory Analysis:

None

Soil Boring Log

Circle Stop & Shop
U.S. Highway 378 & S.C. Highway 391
Leesville, South Carolina

Field Results:

SA02

Date of Boring: 11-26-91

Depth(feet)	OVA Reading(ppm)	Soil Description
1	50.0	CLAY:red,slightly damp,crumbly, no odor
3	100.0	CLAY:red,slightly damp,crumbly, slight odor
5	50.0	CLAY:as above
7	22.0	CLAY:red,red-brown,slightly silty in part,crumbly,dry
9	11.0	CLAY:red,as above

Laboratory Analysis:

None

Soil Boring Log

Circle Stop & Shop
U.S. Highway 378 & S.C. Highway 391
Leesville, South Carolina

Field Results:

SA03

Date of Boring: 11-26-91

Depth(feet)	OVA Reading(ppm)	Soil Description
1	230.0	CLAY:red,slightly damp,crumbly, slight odor
3	1000+	SAND:light brown,bwown,fine to medium grained (UST pit back fill)
5	1000+	SAND:as above
7	1000+	SAND:as above

Laboratory Analysis:

Soil Sample: CSS-SA03

Naphthalene: 713.00 ug/kg

TPH light fuel: <10.00 mg/kg
TPH heavy fuel: <10.00 mg/kg

Benzene: <25.00 ug/kg
Toluene: <25.00 ug/kg
Ethylbenzene: <25.00 ug/kg
Xylene: <50.00 ug/kg

Soil Boring Log

Circle Stop & Shop
U.S. Highway 378 & S.C. Highway 391
Leesville, South Carolina

Field Results:

SA04

Date of Boring: 11-26-91

Depth(feet)	OVA Reading(ppm)	Soil Description
2	0.0	CLAY:red with some brown,sandy in part,slightly damp,no odor
5	125	CLAY:red with some brown,dry, crumbly,slight odor
8	225	CLAY:light red brown,light brown in part,silty,slightly damp, slight odor
11	360	CLAY:as above

Laboratory Analysis:

Soil Sample: CSS-SA04

Naphthalene: <330.00 ug/kg

TPH light fuel: <10.00 mg/kg
TPH heavy fuel: <10.00 mg/kg

Benzene: <25.00 ug/kg
Toluene: <25.00 ug/kg
Ethylbenzene: <25.00 ug/kg
Xylene: <50.00 ug/kg

James H. Carr & Associates, Inc.
Office & Laboratories
P.O. Box 90209
Columbia, SC 29290

12/18/91

Mr. Douglas Moore
Nu-Way
214 Bruner Road
Lexington, SC 29072

Dear Mr. Moore:

The following are the results of the parameters you requested we check on your J91105-C samples listed below.

Parameter	Analyst	Analysis Date	Analysis Time		Results	Lowest Detectable Level	Method #
11/26/91 In House # 12-6495-91 Source CSS-SA03 Location UST							
Naphthalene - Solid	CCS	12/12/91	17:00		713.000 ug/kg	330.000 ug/kg	625.0
TPH light fuel, 5030 prep - solid	AT	12/08/91	23:10	<	10.000 mg/kg	10.000 mg/kg	801.5
TPH heavy fuel, 3550 prep - solid	AL	12/10/91	11:40	<	10.000 mg/kg	10.000 mg/kg	801.5
Benzene - solid	AT	12/08/91	18:24	<	25.000 ug/kg	25.000 ug/kg	624
Toluene - solid	AT	12/08/91	18:24	<	25.000 ug/kg	25.000 ug/kg	624
Ethylbenzene - solid	AT	12/08/91	18:24	<	25.000 ug/kg	25.000 ug/kg	624
Xylene - solid	AT	12/08/91	18:24	<	50.000 ug/kg	50.000 ug/kg	624.
Comments:							
BTEX run began at 23:08.							
11/26/91 In House # 12-6496-91 Source CSS-SA04 Location GAS,NER,DS							
Naphthalene - Solid	CCS	12/12/91	11:52	<	330.000 ug/kg	330.000 ug/kg	625.0
TPH light fuel, 5030 prep - solid	AT	12/08/91	23:40	<	10.000 mg/kg	10.000 mg/kg	801.5
TPH heavy fuel, 3550 prep - solid	AL	12/10/91	23:55	<	10.000 mg/kg	10.000 mg/kg	801.5
Benzene - solid	AT	12/08/91	18:29	<	25.000 ug/kg	25.000 ug/kg	624
Toluene - solid	AT	12/08/91	18:29	<	25.000 ug/kg	25.000 ug/kg	624
Ethylbenzene - solid	AT	12/08/91	18:29	<	25.000 ug/kg	25.000 ug/kg	624
Xylene - solid	AT	12/08/91	18:29	<	50.000 ug/kg	50.000 ug/kg	624.
Comments:							
BTEX run began at 23:37.							

Laboratory ID # 40111
Very truly yours,

James H. Carr, Jr.
Chemist

South Carolina
DHEC
Department of Health and Environmental Control
2600 Bull Street, Columbia, SC 29201

Commissioner: Michael D. Jarrett

Board: William E. Applegate, III, Chairman
John H. Burriss, Vice Chairman
Richard E. Jabbour, DDS, Secretary
Toney Graham, Jr., MD
Sandra J. Molander
John B. Pate, MD
Robert J. Stripling, Jr.

Promoting Health, Protecting the Environment

Date July 6, 1992

Name Mrs. Gail Smith
Address Circle Stop & Shop Exxon
143 Pioneer Drive
Leesville, SC 29070

GWPD Site ID# 05981
Facility Name Circle Stop & Shop Exxon
Report dated 27 December 1991
EQC District 5

Dear Tank Owner:

The South Carolina Department of Health and Environmental Control has received the referenced closure/assessment report. The report documents the analytical results of soil/ground-water samples obtained during the underground storage tank (UST) system closure/assessment which took place on 27 December 1991.

Based upon the report, this office will not require further action on this site at this time. If, however, any contamination becomes evident which could be attributed to the UST system, this office will, under authority established in the South Carolina Underground Storage Tank Control Regulations R.61-92 Part 280.52/280.73, require investigative and/or remedial activities.

On all correspondence related to this site, please reference the **GWPD Site ID Number.** Questions should be addressed to the Ground-Water Protection Division at (803) 734-5331.

Sincerely,

Michael D. Davis

Michael D. Davis, Manager
Underground Storage Tank Section
Ground-Water Protection Division
Bureau of Drinking Water Protection

cc: District EQC

NFA 920515

recycled paper

BOARD:
Elizabeth M. Hagood
Chairman

Edwin H. Cooper, III
Vice Chairman

Steven G. Kisner
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment

CASE Report Review

BOARD:
Henry C. Scott

Paul C. Aughtry, III

Glenn A. McCall

Coleman F. Buckhouse, MD

FEB 08 2007

CHRIS L BOGGS
SEI ENVIRONMENTAL INC
130 PENMARC DR
SUITE 108
RALEIGH NC 27603

Re: Circle Stop N Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received February 5, 2007
Saluda County

Dear Mr. Boggs:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. The overall CoC reduction has been calculated to be 97.06% (see enclosed sheets). The Program requests that SEI make a decision as to which alternative remediation technology to utilize at this site and submit an amended Corrective Action Plan (CAP) with the next CASE Report.

The next Corrective Action System Evaluation (CASE) report for the April 2007 quarterly sampling event and amended CAP are due on or before May 4, 2007. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CoC reduction calculation sheets

cc: Technical File

DHEC/UST/STU/020607

UST PROGRAM
DOCKETING # 4

05981 Circle Stop N Shop 1/15/07 sampling

Enter Initial, SSTL and subsequent CoC Reduction: 97.0623 %

Well		Benzene	Toluene	Ethylbenzene	Xylene	MtBE	Naphthalene	EDB	Totals
MW-1	Initial	2300	29000	3300	18900	2100	710	0	56310
	SSTL	65	24700	3300	18900	43	27	0	47035
	Initial > SSTL	2235	4300	0	0	2057	683	0	9275
	Subsequent	5	5	5	15	158	106	0	294
	Subsequent > SSTL	0	0	0	0	115	79	0	194
MW-2	Initial	10000	26000	2600	9400	1300	520	0	49820
	SSTL	120	24700	2600	9400	43	27	0	36890
	Initial > SSTL	9880	1300	0	0	1257	493	0	12930
	Subsequent	16700	37800	2720	14800	8650	1000	0	81670
	Subsequent > SSTL	16580	13100	120	5400	8607	973	0	44780
MW-3	Initial	85	93	5	102	5	5	0	295
	SSTL	85	93	5	102	5	5	0	295
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	10.5	6.8	1	3	1	2	0	24.3
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-4	Initial	5500	47000	3900	17900	6400	590	0	81290
	SSTL	110	24700	3900	17900	43	27	0	46680
	Initial > SSTL	5390	22300	0	0	6357	563	0	34610
	Subsequent	3060	31800	3170	17600	500	1000	0	57130
	Subsequent > SSTL	2950	7100	0	0	457	973	0	11480
MW-5	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-6	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	1	0	8
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-7	Initial	226000	301000	280000	278000	5110000	2000	0	6197000
	SSTL	120	24700	2600	9400	43	27	0	36890
	Initial > SSTL	225880	276300	277400	268600	5109957	1973	0	6160110
	Subsequent	3700	16900	4370	28200	500	5670	0	59340
	Subsequent > SSTL	3580	0	1770	18800	457	5643	0	30250
MW-8	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-9R	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	1	0	8
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-10R	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	23.8	1	4.6	18.8	21.4	4.5	0	74.1
	Subsequent > SSTL	18.8	0	0	3.8	16.4	0	0	39
MW-11	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0

Well		Benzene	Toluene	Ethylbenzene	Xylene	MtBE	Naphthalene	EDB	Mass > SSTL
MW-12	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-13	Initial	7400	14000	2500	7700	69000	290	0	100890
	SSTL	110	14000	2500	7700	43	27	0	24380
	Initial > SSTL	7290	0	0	0	68957	263	0	76510
	Subsequent	9510	18200	2000	7260	77600	4000	0	118570
	Subsequent > SSTL	9400	4200	0	0	77557	3973	0	95130
MW-14	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	4.6	4.2	32.5	1	27.1	0	70.4
	Subsequent > SSTL	0	0	0	17.5	0	22.1	0	39.6
MW-15	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-17	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-18	Initial	5	7	5	139	2300	24	0	2480
	SSTL	5	7	5	139	2300	24	0	2480
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	50	50	50	150	4890	100	0	5290
	Subsequent > SSTL	45	43	45	11	2590	76	0	2810
MW-24	Initial	5	5	5	15	32	5	0	67
	SSTL	5	5	5	15	32	5	0	67
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	9.3	1	1	3	191	2	0	207.3
	Subsequent > SSTL	4.3	0	0	0	159	0	0	163.3
MW-25	Initial	5	5	5	15	9	5	0	44
	SSTL	5	5	5	15	9	5	0	44
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-26	Initial	5	5	5	15	110	5	0	145
	SSTL	5	5	5	15	43	5	0	78
	Initial > SSTL	0	0	0	0	67	0	0	67
	Subsequent	1.2	6.3	1	4.3	33.9	2	0	48.7
	Subsequent > SSTL	0	1.3	0	0	0	0	0	1.3
WSW-1	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	5	5	5	15	5	5	0	40
	Subsequent > SSTL	0	0	0	0	0	0	0	0
WSW-2	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	5	1	3	1	5	0	16
	Subsequent > SSTL	0	0	0	0	0	0	0	0

05981 Circle Stop N Shop

Total Concentration Reduction

Total Initial Conc. :	6488821	µg/L
Total Subseqent Conc. :	322853.8	µg/L
Total SSTL Conc. :	195319	µg/L
Initial > SSTL :	6293502	µg/L
Subsequent > SSTL :	184887.2	µg/L

Total Reduction: 97.0623 %

Individual Constituent Reductions

CoC	Initial	Subseq.	Initial >SSTL	Subseq. > SSTL	CoC % Reduction
Benzene	251365	33085.8	250675	32578.1	87.00384961
Toluene	417175	104793.7	304200	24444.3	91.96439842
Ethylbenzene	292385	12341.8	277400	1935	99.30245133
Xylenes	332366	68131.6	268600	24232.3	90.97829486
MtBE	5191316	92561.3	5188652	89958.4	98.26624719
Naphthalene	4214	11939.6	3975	11739.1	-195.3232704
EDB	0	0	0	0	non-SSTL CoC

BOARD:
Elizabeth M. Hagood
Chairman

Edwin H. Cooper, III
Vice Chairman

Steven G. Kisner
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

Promoting and protecting the health of the public and the environment

BOARD:
Henry C. Scott

Paul C. Aughtry, III

Glenn A. McCall

Coleman F. Buckhouse, MD

FEB 08 2007

STEVE AND JOAN BOOZER
CIRCLE STOP N SHOP
3287 COLUMBIA HWY
LEESVILLE SC 29070-7216

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received February 5, 2007
Saluda County

Dear Mr. and Mrs. Boozer:

The Underground Storage Tank Program (UST) has reviewed the referenced report. SEI Environmental, Inc. is currently conducting corrective action activities in response to groundwater contamination at the referenced facility. The current overall Chemicals of Concern (CoC) reduction has been calculated to be 97.06%. The next sampling will be conducted in approximately three months.

On all correspondence regarding this site, please reference the UST Permit **#05981**. Please feel free to contact me at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov if you have questions or need additional information.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE report

cc: Technical File(w/o enc)

DHEC/UST/STU/020607

KLEEN SITES GEOSERVICES, INC.

ENVIRONMENTAL CONSULTANTS

April 17, 2000

Mr. Charles J. Williams III, Hydrogeologist
South Carolina Department of Health and Environmental Control
State Lead and Field Services Section
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201-1708

RECEIVED
APR 19 2000
Bureau of Underground Storage Tank Management

Re: Submittal of Initial Ground Water Assessment Report
Circle Stop N Shop, Saluda County, SC
Site ID# 05981, CP# 09653

Dear Chuck:

Kleen Sites Geoservices, Inc. (KSG) personnel have completed Initial Ground Water Assessment activities at the above referenced facility. I have enclosed one copy of the Initial Ground Water Assessment Report for your review. Should you have questions concerning information provided within the enclosed report, please contact me at (803) 791-1996 at your earliest convenience.

Sincerely,

Kleen Sites Geoservices, Inc.

Bill Dunnagan

Bill Dunnagan, P.G.
Principal Geologist

Enclosure

UST PROGRAM
DOCKETING # 40 Tech

• 409 Burton Road Lexington, South Carolina 29072 •
(803) 957-7988 (803) 957-4076 (Fax)
ksg1@alltel.net

INITIAL GROUND WATER ASSESSMENT REPORT

RECEIVED
APR 1 9 2000
Bureau of Underground Storage Tank Management

Circle Stop N Shop
Route 4, Box 172-B
Saluda County
Leesville, South Carolina
Site ID No. 05981

April 13, 2000

Prepared For:

South Carolina Department of Health and Environmental Control
Bureau of Underground Storage Tank Management
2600 Bull Street
Columbia, South Carolina 29201

Prepared By:

Kleen Sites Geoservices, Inc.
UST Site Rehabilitation Contractor #8
171 Lott Court
West Columbia, South Carolina 29169
(803) 791-1996

INITIAL GROUND-WATER ASSESSMENT REPORT

Facility Name:	Circle Stop N Shop
Site ID Number:	05981
Owner's Name:	Gail L. Smith
Address:	143 Pioneer Dr., Leesville, South Carolina, 29070
Phone Number:	803-532-9974
Contractor:	Kleen Sites Geoservices, Inc. SCDHEC UST Certification #8
Address:	171 Lott Court, West Columbia, South Carolina, 29169
Phone Number:	(803) 791-1996
Well Driller	SAEDACCO Robert Miller / SC Certification # 1472

Receptor and Site Data

Please place a check in the appropriate answer block for each question:

Receptor Survey Questions	No	Yes *
Is there a drinking water supply well (public or private, please indicate) or surface water supply intake within 1,000 feet of the UST?		√
Are irrigation or other non-drinking water wells located within 1,000 feet of the UST?	√	
Are there other potential receptors (i.e., utilities, surface waters, wetlands) less than 500 feet from the UST?	√	

If "yes" provide additional information: A drinking water well, which is no longer being used, is located approximately 200 feet north of the UST pit area.

INITIAL GROUND-WATER ASSESSMENT REPORT

Is the current use of the site and surrounding properties commercial, residential, agricultural or industrial? The site location is in a rural area having a mixture of residential and commercial uses.

Site ID Number:	05981
Soil and Monitoring Well Data:	
Primary Soil Type:	Red to brown, clayey silt.
Well Installation Method and Date:	Hollow stem auger – Installed 03-17-00
Development Method:	Purged 10 well volumes manually using a bailer.
Soil Sample Depth	Soil sample collected from 19 – 21 feet below ground surface

SOIL ANALYTICAL DATA

Chemical of Concern	19 – 21'
Benzene (µg/kg)	<350
Toluene (µg/kg)	1300
Ethylbenzene (µg/kg)	780
Xylenes (µg/kg)	13000
Naphthalene (µg/kg)	11000
Benzo(a)-anthracene (µg/kg)	<460
Benzo(b+k)-fluoranthene (µg/kg)	<460
Chrysene (µg/kg)	<460
Dibenz(a,h)-Anthracene (µg/kg)	<460

INITIAL GROUND-WATER ASSESSMENT REPORT

Site ID Number:	05981
Ground-Water Data:	
Depth to Ground Water	27.55
Well Purging/Sampling Method:	Purged 10 well volumes and collected a sample using a disposable Teflon bailer.
Date Sampled:	03-20-00
Free Product Thickness:	None
Soil/Water Disposal Method	Three 55-gallon drums of soil and one 55-gallon drum of water were transported to G&K Tank Services, Sumter, SC for final disposal.

GROUND WATER ANALYTICAL DATA

Chemical of Concern	MW01
Benzene (µg/l)	1400
Toluene (µg/l)	3900
Ethylbenzene (µg/l)	470
Xylenes (µg/l)	3500
MTBE (µg/l)	610
Naphthalene (µg/l)	87
Benzo(a)-anthracene (µg/l)	<5.0
Benzo(b+k)-fluoranthene (µg/l)	<5.0
Chrysene (µg/l)	<5.0
Dibenz(a,h)-Anthracene (µg/l)	<5.0

Appendices

The appendices required for this report are as follows:

Appendix A – Soil Lithology Log

Appendix B – Laboratory Data

Appendix C – Site Maps

Appendix D – Disposal Manifests

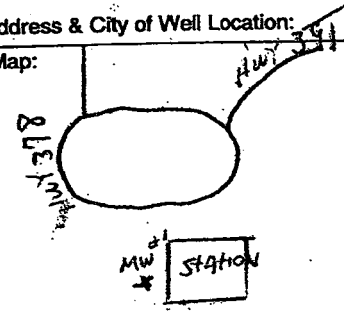
Report Completed By: William Dunn

Date: 4-13-00

D H E C
PROMOTE · PROTECT · PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 50' west of Hwy 378
Street Address & City of Well Location:
Sketch Map:



2. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
ORANGE SILT	0	49'
*Indicate Water Bearing Zones (Use a 2nd sheet if needed)		

3. REMARKS:

4. OWNER OF WELL: CIRCLE STOP & SHOP
Address: HWY 378 & HWY 391
Telephone No.: SALUDA, S.C.
Engineer: KLEEN SITES GEOSERVICES, INC.
Address: 409 BURTON RD.
Telephone No.: LEXINGTON, S.C. (803) 791-1996

5. WELL DEPTH (completed) 49' ft. Date Started: 3/17/00 Date Completed: 3/17/00

6. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. USE: ☐ Domestic ☐ Public Supply–Permit No. ____ ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ Monitor Well ☐ ____

8. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 29' ft. depth
____ in. to ____ ft. depth
Height: Above/Below Surface ____ ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 29' ft. and 49' ft.
____ ft. and ____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

10. STATIC WATER LEVEL 39' ft. below land surface after 24 hours

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

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

13. ARTIFICIAL FILTER (gravel pack) ☒ Yes ☐ No
Installed from 27' ft. to 49' ft.
Effective size 20/30 Uniformity Coefficient ____

14. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other ____
Depth: From 0 ft. to 27' ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
____ Type well disinfected upon completion ☐ Yes ☐ No Type: ____ Amount: ____

16. 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

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Registered Business Name: SAEDACCO Date: 3/17/00
Address: 10401 JOHN PRICE RD. CHARLOTTE, NC
Signed: Robert L. [signature] Cert. No.: 1472
Authorized Representative

DHEC 1903 (10/96) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

Kleen Sites Geoservices, Inc.
171 Lott Court
West Columbia, SC 29072
(803) 791-1996

FIELD BOREHOLE LOG

BOREHOLE NO.: **MW01**
TOTAL DEPTH: **49'**

PROJECT INFORMATION		DRILLING INFORMATION	
PROJECT:	**Circle Stop N Shop**	DRILLING CO.:	**SAEDACCO**
SITE LOCATION:	**Leesville, SC**	DRILLER:	**Robert Miller**
JOB NO.:	**00525**	RIG TYPE:	**Truck Mounted**
LOGGED BY:	**Jason Chiorazzi**	METHOD OF DRILLING:	**Hollow Stem Auger**
PROJECT MANAGER:	**Bill Dunnagan**	SAMPLING METHODS:	**Split Spoon**
DATES DRILLED:	**03-17-00**	HAMMER WT./DROP	**140 LB., 30 IN.**

NOTES: SC DHEC Site ID# 05981

▽ Water level during drilling
▼ Water level in completed well

DEPTH	SOIL SYMBOLS	SOIL DESCRIPTION	SAMP. #	Blows / ft.	PID ppm	BORING COMPLETION	WELL DESCRIPTION
		CLAY AND SILT: Red-brown, petroleum odor					Cap and pad
-5							
-10					>10,000		Concrete Seal
		CLAY AND SILT: Dk. red-brown					
-15					567		
		CLAY AND SILT: Dk. red-brown, strong petroleum odor					
-20					>10,000		
		SILT: Brown, clayey, petroleum odor					
-25					>10,000		Bentonite
▼		SILT: Brown-red, strong petroleum odor					
-30					>10,000		Sand
		CLAY AND SILT: Brown-red, strong petroleum odor					
-35					>10,000		Screened interval -29' to -49'
▽		SILT: Brown, clayey, w/partially weathered rock					
-40					>10,000		
		SILT: Brown, clayey, w/partially weathered rock					
-45					1657		

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

SC DHEC No. 32010 NC DEHNR No. 329

Client : Kleen Sites Geoservices
171 Lott Court
West Columbia, SC 29169

Attention : Bill Dunnagan
Project Name : Circle Stop & Shop

Description : MW1
Lot Number : BC20011-001 (190660)

Collect Date : 03/20/2000
Collect Time : 1200

Date Received : 03/20/2000

Matrix : Aqueous

Parameters	Prep Method	Analytical Method	Result	Q	Units	PQL	Prep Date/Time	Analysis Date/Time	Analyst
Volatile Organic Compounds by GC/MS									
Benzene		8260B	1400		ug/L	20		03/28/2000 1338	@
Ethylbenzene		8260B	470		ug/L	20		03/28/2000 1338	@
Methyl tertiary butyl ether (MTBE)		8260B	610		ug/L	100		03/28/2000 1338	@
Naphthalene		8260B	87		ug/L	5.0		03/28/2000 2117	@
Toluene		8260B	3900		ug/L	200		03/28/2000 1411	@
Xylenes (total)		8260B	3500		ug/L	20		03/28/2000 1338	@
Surrogates									
1,2-Dichloroethane-d4		8260B	90.0		%	70.0-130		03/28/2000 1338	@
Toluene-d8		8260B	108		%	70.0-130		03/28/2000 1338	@
Bromofluorobenzene		8260B	90.0		%	70.0-130		03/28/2000 1338	@

Footnote(s) @ = SC DHEC Cert. #84009.

PQL = Practical quantitation limit
ND = Not detected at PQL
B = Detected in method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W".

Description	: MW1	Collect Date :	03/20/2000
Lot Number	: BC20011-001 (190660)	Collect Time :	1200
Client	: Kleen Sites Geoservices		
Date Received	: 03/20/2000	Matrix :	Aqueous

Parameters	Prep Method	Analytical Method	Result	Q	Units	PQL	Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GC/MS									
Acenaphthene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Acenaphthylene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Anthracene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Benzo(a)anthracene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Benzo(a)pyrene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Benzo(b)fluoranthene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Benzo(g,h,i)perylene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Benzo(k)fluoranthene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Chrysene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Dibenzo(a,h)anthracene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Fluoranthene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Fluorene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Indeno(1,2,3-c,d)pyrene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Naphthalene		8270C	17		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Phenanthrene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Pyrene		8270C	ND		ug/L	5.0	03/27/2000 1055	03/30/2000 1045	MWK
Surrogates									
2-Fluorobiphenyl		8270C	70.2		%	30.0-130	03/27/2000 1055	03/30/2000 1045	MWK
Nitrobenzene-d5		8270C	72.2		%	30.0-130	03/27/2000 1055	03/30/2000 1045	MWK
Terphenyl-d14		8270C	49.8		%	30.0-130	03/27/2000 1055	03/30/2000 1045	MWK

Footnote(s) @ = SC DHEC Cert. #84009.

PQL = Practical quantitation limit
ND = Not detected at PQL
B = Detected in method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

KLEEN SITES GEOSERVICES, INC.

409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle Stop & Shop

Project Manager: Bill Dunnagan Phone: 791 1996

Project Number:

Collected By: J Chronazzi

Laboratory: Sheney

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	Parameter Analysis: BTEX	Parameter Analysis: Naph MTBE	Parameter Analysis: PAH							Special Instructions
MW1		3/20	1200		L	1	1								

CUSTODY TRANSFERS:

Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	3 20.00	1610

Matrix:
S=Solid
L=Liquid
O=Other

Laboratory Remarks:

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

S DHEC No. 32010 NC DEHNR No. 329

Client : Kleen Sites Geoservices
171 Lott Court
West Columbia, SC 29169

Attention : Bill Dunnagan
Project Name : Circle Stop & Shop

Description : MW1
Lab Number : BC17024-001 (190545)
Date Received : 03/17/2000

Collect Date : 03/17/2000
Collect Time : 1200
Matrix : Solid

Parameters	Prep Method	Analytical Method	Result	Q	Units	PQL	Prep Date/Time	Analysis Date/Time	Analyst
Inorganic non-metals									
% Solids		160.3	71.1		%			03/20/2000 0930	MDC
Volatile Organic Compounds by GC/MS									
Benzene	5035	8260B	ND		ug/kg	350		03/24/2000 1635	DLB
Ethylbenzene	5035	8260B	780		ug/kg	350		03/24/2000 1635	DLB
Naphthalene	5035	8260B	11000		ug/kg	350		03/24/2000 1635	DLB
Toluene	5035	8260B	1300		ug/kg	350		03/24/2000 1635	DLB
Xylenes (total)	5035	8260B	13000		ug/kg	350		03/24/2000 1635	DLB
Surrogates									
1,2-Dichloroethane-d4	5035	8260B	116		%	70.0-130		03/24/2000 1635	DLB
Toluene-d8	5035	8260B	153	@	%	70.0-130		03/24/2000 1635	DLB
Bromofluorobenzene	5035	8260B	185	@	%	70.0-130		03/24/2000 1635	DLB
Semivolatile Organic Compounds by GC/MS									
Acenaphthene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Acenaphthylene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Anthracene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Benzo(a)anthracene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Benzo(a)pyrene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Benzo(b)fluoranthene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Benzo(g,h,i)perylene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Benzo(k)fluoranthene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Chrysene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Dibenzo(a,h)anthracene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Fluoranthene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Fluorene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Indeno(1,2,3-c,d)pyrene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK

Footnote(s) : @ = Surrogates outside of acceptance criteria.

PQL = Practical quantitation limit
ND = Not detected at PQL
B = Detected in method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

Description : MW1
Lot Number : BC17024-001 (190545)
Client : Kleen Sites Geoservices
Date Received : 03/17/2000

Collect Date : 03/17/2000
Collect Time : 1200

Matrix : Solid

Parameters	Prep Method	Analytical Method	Result	Q	Units	PQL	Prep Date/Time	Analysis Date/Time	Analyst
Semivolatile Organic Compounds by GC/MS									
Naphthalene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Phenanthrene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Pyrene		8270C	ND		ug/kg	460	03/24/2000 1330	03/25/2000 1343	MWK
Surrogates									
Terphenyl-d14		8270C	74.3		%	30.0-130	03/24/2000 1330	03/25/2000 1343	MWK
Nitrobenzene-d5		8270C	57.3		%	30.0-130	03/24/2000 1330	03/25/2000 1343	MWK
2-fluorobiphenyl		8270C	63.2		%	30.0-130	03/24/2000 1330	03/25/2000 1343	MWK

Footnote(s). @ = Surrogates outside of acceptance criteria.

PQL = Practical quantitation limit
ND = Not detected at PQL
B = Detected in method blank
J = Estimated result less than the PQL
E = Quantitation of compound exceeded the calibration range
Soils reported on a dry weight basis unless flagged with a "W"

KLEEN SITES GEOSERVICES, INC.
409 Burton Road, Lexington, South Carolina 29072, (803) 957-7988, Fax (803) 957-4076

CHAIN OF CUSTODY RECORD

Job Name: Circle STOP & SHOP
Project Manager: Bill Phone: 791 1996
Project Number:
Collected By: J Chionnazzi
Laboratory: Sherry

KSG Sample #	Lab Sample #	Date	Time	Description	Sample Matrix	BTEX	NMPH	PAH						Special Instructions
MW1		3/17	1200	19'-21'	L									

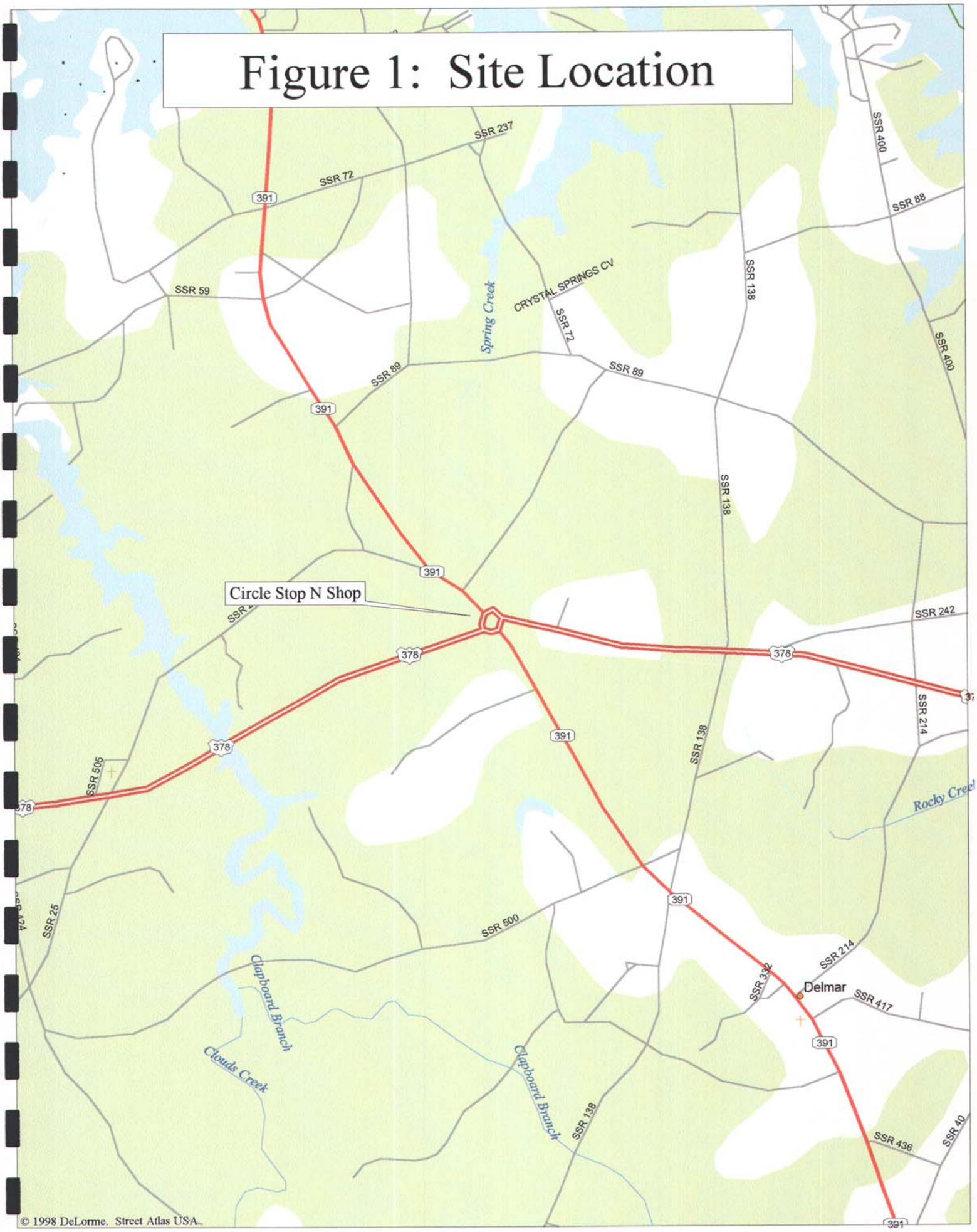
CUSTODY TRANSFERS:

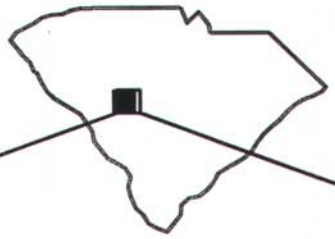
Relinquished by:	Received by:	Date:	Time:
[signature]	[signature]	3-17-00	1530

Matrix:
S=Solid
L=Liquid
O=Other

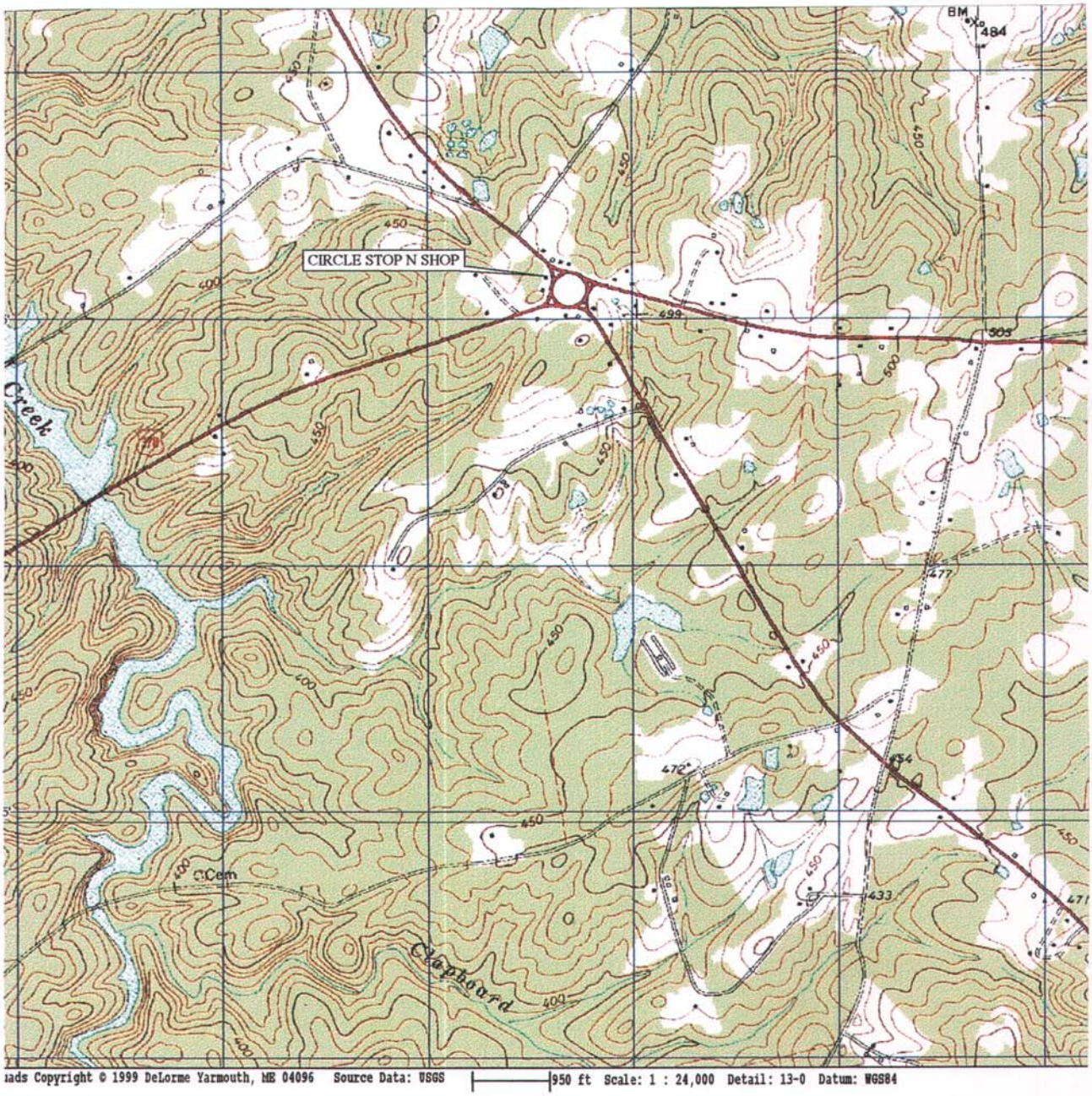
Laboratory Remarks:

Figure 1: Site Location





DELMAR QUADRANGLE

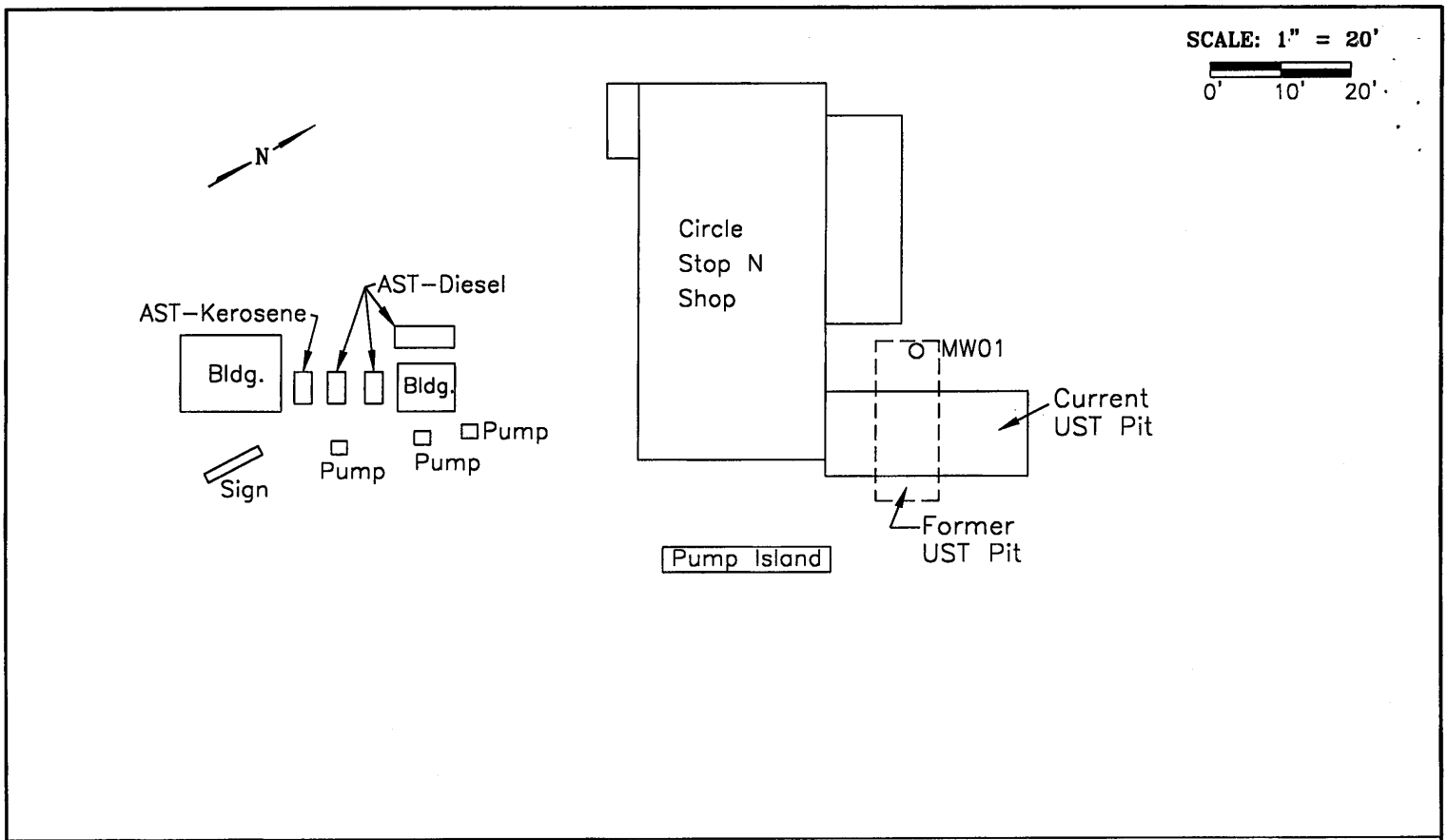


CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 2:
SITE TOPOGRAPHIC
DIAGRAM

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2000\00525\TOPO



Hwy. 378/391

CIRCLE STOP N SHOP HWY 378/391 SALUDA COUNTY SOUTH CAROLINA	FIGURE 3: SITE MAP	KLEEN SITES GEOSERVICES

F:KSG\CAD\2000\00525\Site

NON-HAZARDOUS WASTE MANIFEST

1. Generator's US EPA ID No.

Manifest Document No. GK3038

2. Page 1 of

04-03-00

3. Generator's Name and Mailing Address
CIRCLE STOP N SHOP
HWY 378/391
SALUDA COUNTY, SC

4. Generator's Phone ( )

5. Transporter 1 Company Name
G & K TANK SERVICES

6. US EPA ID Number

A. Transporter's Phone
803-494-4593

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
PO BOX 1384
SUMTER, SC 29151

10. US EPA ID Number

C. Facility's Phone
800-800-6840

11. Waste Shipping Name and Description	12. Containers No.	Type	13. Total Quantity	14. Unit Wt/Vol
a NON HAZARDOUS PETROLEUM CONTAMINATED WATER		DR	01	
b NON HAZARDOUS PETROLEUM CONTAMINATED SOIL		DR	03	
c.				
d.				

D. Additional Descriptions for Materials Listed Above

E. Handling Codes for Wastes Listed Above

15. Special Handling Instructions and Additional Information
KLEEN SITES GEOSERVICES
121 LOTT COURTD
WEST COLUMBIA, SC

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: Lisa S Matthews
Signature: Lisa S Matthews
Month 4 Day 7 Year 00

17. Transporter 1 Acknowledgement of Receipt of Materials

Printed/Typed Name: Tommy Reels
Signature: Tommy Reels
Month 04 Day 07 Year 00

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: Pat Freeman
Signature: Pat Freeman
Month 04 Day 11 Year 00

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

Tons 3 DRUMS

Contaminant NON HAZARDOUS PETROLEUM

CIRCLE STOP N SHOP
SALUDA COUNTY, SC

This is to cerify the above soil has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by Pat Kiesner

Date 4/10/00

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

Tons 55 GALLONS

Contaminant NON HAZARDOUS PETROLEUM CONTAMINATED WATER

CIRCLE STOP N SHOP
SALUDA COUNTY, SC

This is to cerify the above ~~soil~~ ~~xxxx~~ has been processed and disposed of by G & K Tank Services, Inc., in accordance with and exceeding EPA regulations on petroleum contaminated soils.

Certified by Pat Leon

Date 4/10/00

Record Group # 169

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Report On Records Destroyed
Records and Forms Management Unit
(UST Program ONLY)

1. Return this form to:
DHEC Forms Manager-Heritage Building
1777 St. Julian Place
Columbia, SC 29204

The records listed below have been disposed of in accordance with provisions of the Public Records Act, Code of Laws of South Carolina, 1976, Sections 30-1-10 through 30-1-140, as amended, and approved Records Retention Schedules.

2. Signature: [illegible] 3. Date: 11/28/06

Records Officer signature:

4. Record Series Titles	5. Record Series #	6. Inclusive Dates	7. Volume (cubic footage)	8. Date of Destruction
Mon Report	13300	2003-2005	.11	11/28/06
*Documents put in recycle box on date of destruction.			9) .11	Total cubic Feet destroyed

SITE ID # 05981 FACILITY NAME: Circle Stop N Shop

REVIEWED BY J. Podgett

DHEC 0521 (4/1998) Page 1 of 2 [Records Retention schedule #'s 12-300 and 12-331]

UST PROGRAM DOCKETING # 4H Tech

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

NOV 02 2006

CHRIS L BOGGS
SEI ENVIRONMENTAL INC
130 PENMARC DR
SUITE 108
RALEIGH NC 27603

Re: Circle Stop N Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received October 30, 2006
Saluda County

Dear Mr. Boggs:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. The overall CoC reduction has been calculated to be 96.62% (see enclosed sheets). The Program requests that SEI make a decision as to which alternative remediation technology to utilize at this site and submit an amended Corrective Action Plan (CAP) with the next CASE Report.

The next Corrective Action System Evaluation (CASE) report for the January 2007 quarterly sampling event and amended CAP are due on or before March 1, 2006. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CoC reduction calculation sheets

cc: Technical File

UST PROGRAM
DOCKETING # 42 Tech

DHEC/UST/STU/110106

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

NOV 02 2006

STEVE AND JOAN BOOZER
CIRCLE STOP N SHOP
3287 COLUMBIA HWY
LEESVILLE SC 29070-7216

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received October 30, 2006
Saluda County

Dear Mr. and Mrs. Boozer:

The Underground Storage Tank Program (UST) has reviewed the referenced report. SEI Environmental, Inc. is currently conducting corrective action activities in response to groundwater contamination at the referenced facility. The current overall Chemicals of Concern (CoC) reduction has been calculated to be 96.62%. The next sampling will be conducted in approximately three months.

On all correspondence regarding this site, please reference the UST Permit **#05981**. Please feel free to contact me at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov if you have questions or need additional information.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File

DHEC/UST/STU/110106

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

October 13, 2006

Joan Boozer
Circle Stop and Shop
3287 Columbia Highway
Leesville, SC 29070

Re: Closure Sampling Variance
Circle Stop and Shop, 3287 Columbia Highway, Leesville, South Carolina
Underground Storage Tank (UST) Site ID #05981

Dear Ms. Boozer:

The Underground Storage Tank Regulatory Assistance Section of the South Carolina Department of Health and Environmental Control has received your request for a variance on closure sampling at the above-referenced facility. According to Subpart J, Section 280.300 of the Underground Storage Tank Control Regulations, "The Department may vary the application of any provisions of these regulations, when, in its opinion, the applicant has demonstrated that an equivalent degree of protection will be provided to the State's waters. Any variance granted or denied by the Department shall be in writing and shall contain a brief statement of the reasons for the approval or denial."

Based on its review of the available information concerning the site, the Department agrees to grant a variance on the closure sampling requirement. Please note that an inspector from the Department should be on-site to inspect the tank and that you should be prepared to perform additional sampling in the event that the Department inspector directs you to do so. The Department hereby grants a variance on closure sampling at the referenced facility.

Yours truly,

Stacey R. Gardner, Manager
Regulatory Assistance Section
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Regulatory and Technical Files (#05981)
Robin Mack, BLWM – UST
Sonya Utz, BLWM – UST

UST PROGRAM
DOCKETING # 43 Tech

9-11-06

Letter of Request:

Requesting a closure Sampling Variance because there was an open release at the site.

Circle Stop + Shop
3287 Columbia Hwy
Leesville, SC 29070

RECEIVED
SEP 12 2006
UNDERGROUND STORAGE TANK PROGRAM

ATT: Stacey Gardner
From: Joan Boozer
cell 429-7724
604-8109

UST PROGRAM 44 Tech
DOCKETING # _____

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

AUG 25 2006

STEVE AND JOAN BOOZER
CIRCLE STOP N SHOP
3287 COLUMBIA HWY
LEESVILLE SC 29070-7216

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received August 21, 2006
Saluda County

Dear Mr. and Mrs. Boozer:

The Underground Storage Tank Program (UST) has reviewed the referenced report. SEI Environmental, Inc. is currently conducting corrective action activities in response to groundwater contamination at the referenced facility. The current overall Chemicals of Concern (CoC) reduction has been calculated to be 98.29%. The next sampling will be conducted in approximately three months.

On all correspondence regarding this site, please reference the UST Permit **#05981**. Please feel free to contact me at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov if you have questions or need additional information.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

UST PROGRAM
DOCKETING # 45A Tech

cc: Technical File

SCANNED

DHEC/UST/STU/082306

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

AUG 25 2006

CHRIS L BOGGS
SEI ENVIRONMENTAL INC
130 PENMARC DR
SUITE 108
RALEIGH NC 27603

Re: Circle Stop N Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received August 21, 2006
Saluda County

Dear Mr. Boggs:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. . The overall CoC reduction has been calculated to be 98.29% (see enclosed sheets). The Program requests that SEI make a decision as to which alternative remediation technology to utilize at this site and submit an amended Corrective Action Plan (CAP) with the next CASE Report.

The next Corrective Action System Evaluation (CASE) report for the October quarterly sampling event and amended CAP are due on or before December 1, 2006. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CoC reduction calculation sheets

cc: Technical File

DHEC/UST/STU/082306

D H E C
PROMOTE PROTECT PROSPER
C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

AUG 2 2 2006

STEVE AND JOAN BOOZER
CIRCLE STOP N SHOP
3287 COLUMBIA HWY
LEESVILLE SC 29070-7216

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received August 14, 2006
Saluda County

Dear Mr. and Mrs. Boozer:

The Underground Storage Tank Program (UST) has reviewed the referenced report. SEI Environmental, Inc. is currently conducting corrective action activities in response to groundwater contamination at the referenced facility. The current overall Chemicals of Concern (CoC) reduction has been calculated to be 97.32%. The next sampling will be conducted in approximately three months.

On all correspondence regarding this site, please reference the UST Permit **#05981**. Please feel free to contact me at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov if you have questions or need additional information.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

UST PROGRAM
DOCKETING # 45B Tech

cc: Technical File

DHEC/UST/STU/081506

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

AUG 2 2 2006

CHRIS L BOGGS
SEI ENVIRONMENTAL INC
130 PENMARC DR
SUITE 108
RALEIGH NC 27603

Re: Circle Stop N Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received August 14, 2006
Saluda County

Dear Mr. Wood:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. The Program notes that slight increases in benzene, toluene, MtBE and naphthalene concentrations were observed in monitoring well MW-2 and MW-13. The Program also observed a significant increase in MtBE and naphthalene concentrations in monitoring well MW-13. The overall CoC reduction has been calculated to be 97.32% (see enclosed sheets).

SEI should make positive efforts to reverse this trend of increasing contaminant concentrations. Due to the proximity of water supply wells (irregardless of their active or inactive status), contaminant concentrations observed at the site are of concern. Therefore, the Program requests that SEI make a decision as to which alternative remediation technology to utilize at this site and submit an amended Corrective Action Plan (CAP) with the next CASE Report.

The next Corrective Action System Evaluation (CASE) report for the July quarterly sampling event and amended CAP are due on or before September 1, 2006. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CoC reduction calculation sheets

cc: Technical File

DHEC/UST/STU/081506

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

MAY 04 2006

MR CHRIS BOGGS PG
SEI ENVIRONMENTAL INC
6190 REGENCY PKWY STE 308
NORCROSS GA 30071

Re: Circle Stop-N-Shop, 3287 Columbia Highway, Leesville, SC
UST Permit #05981; CA #17203
Bid #SB-21914-03//25/02-EMW
Release reported December 27, 1991
Corrective Action System Evaluation (CASE) report received April 24, 2006
Saluda County

Dear Mr. Boggs:

The Underground Storage Tank (UST) Program has reviewed the referenced report. The Program notes that toluene concentrations exceed effective solubility levels in monitoring wells MW-2 and MW-13, indicating that free-phase product may be present. Please take the necessary steps to address the free-phase product if present. The overall CoC reduction is now 97.38% (see enclosed calculation sheets).

The next CASE for the May 2006 quarterly sampling event is due on or before **July 3, 2006**. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions regarding this correspondence, feel free to contact me by telephone at (803) 896-6398, by fax at (803) 896-6245, or by e-mail at padgetjp@dhec.sc.gov.

Sincerely,

Joel P. Padgett, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Underground Storage Tank Program
Bureau of Land and Waste Management

JPP/jpp
05981.1

enc: CoC reduction calculation sheets

cc: Technical file (w/o enc)

UST PROGRAM DOCKETING # 46 Tech

SCANNED

DHEC/UST/JPP/050406

05981 Stop-N-Shop 2/2/06 sampling

Enter Initial, SSTL and subsequent CoC Reduction: 97.3772 %

Well		Benzene	Toluene	Ethylbenzene	Xylene	MtBE	Naphthalene	EDB	Totals
MW-1	Initial	2300	29000	3300	18900	2100	710	0	56310
	SSTL	65	24700	3300	18900	43	27	0	47035
	Initial > SSTL	2235	4300	0	0	2057	683	0	9275
	Subsequent	1210	8540	2440	13100	1430	400	0	27120
	Subsequent > SSTL	1145	0	0	0	1387	373	0	2905
MW-2	Initial	10000	26000	2600	9400	1300	520	0	49820
	SSTL	120	24700	2600	9400	43	27	0	36890
	Initial > SSTL	9880	1300	0	0	1257	493	0	12930
	Subsequent	16200	33700	2450	14000	6400	1000	0	73750
	Subsequent > SSTL	16080	9000	0	4600	6357	973	0	37010
MW-3	Initial	85	93	5	102	5	5	0	295
	SSTL	85	93	5	102	5	5	0	295
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	2	1	1	3	1	1	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-4	Initial	5500	47000	3900	17900	6400	590	0	81290
	SSTL	110	24700	3900	17900	43	27	0	46680
	Initial > SSTL	5390	22300	0	0	6357	563	0	34610
	Subsequent	2110	22400	3240	17700	500	1000	0	46950
	Subsequent > SSTL	2000	0	0	0	457	973	0	3430
MW-5	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-6	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-7	Initial	226000	301000	280000	278000	5110000	2000	0	6197000
	SSTL	120	24700	2600	9400	43	27	0	36890
	Initial > SSTL	225880	276300	277400	268600	5109957	1973	0	6160110
	Subsequent	9810	20500	2450	10800	200	400	0	44160
	Subsequent > SSTL	9690	0	0	1400	157	373	0	11620
MW-8	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-9R	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	2	2	0	0
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-10R	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	28	1	3	16	29	3	0	80
	Subsequent > SSTL	23	0	0	1	24	0	0	48
MW-11	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0

UST PROGRAM
DOCKETING #

UST PROGRAM
DOCKETING #

Well		Benzene	Toluene	Ethylbenzene	Xylene	MtBE	Naphthalene	EDB	Mass > SSTL
MW-12	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-13	Initial	7400	14000	2500	7700	69000	290	0	100890
	SSTL	110	14000	2500	7700	43	27	0	24380
	Initial > SSTL	7290	0	0	0	68957	263	0	76510
	Subsequent	14300	24900	2710	10600	79400	2000	0	133910
	Subsequent > SSTL	14190	10900	210	2900	79357	1973	0	109530
MW-14	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-15	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-17	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-18	Initial	5	7	5	139	2300	24	0	2480
	SSTL	5	7	5	139	43	24	0	223
	Initial > SSTL	0	0	0	0	2257	0	0	2257
	Subsequent	1	1	1	3	50	2	0	58
	Subsequent > SSTL	0	0	0	0	7	0	0	7
MW-24	Initial	5	5	5	15	32	5	0	67
	SSTL	5	5	5	15	32	5	0	67
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	211	19	0	236
	Subsequent > SSTL	0	0	0	0	179	14	0	193
MW-25	Initial	5	5	5	15	9	5	0	44
	SSTL	5	5	5	15	9	5	0	44
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	16	1	1	3	366	12	0	399
	Subsequent > SSTL	11	0	0	0	357	7	0	375
MW-26	Initial	5	5	5	15	110	5	0	145
	SSTL	5	5	5	15	43	5	0	78
	Initial > SSTL	0	0	0	0	67	0	0	67
	Subsequent	1	5	1	6	39	2	0	54
	Subsequent > SSTL	0	0	0	0	0	0	0	0
WSW-1	Initial	5	5	5	15	6	5	0	41
	SSTL	5	5	5	15	6	5	0	41
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	5	5	5	15	6	5	0	41
	Subsequent > SSTL	0	0	0	0	0	0	0	0
WSW-2	Initial	5	5	5	15	6	5	0	41
	SSTL	5	5	5	15	6	5	0	41
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	5	14
	Subsequent > SSTL	0	0	0	0	0	0	5	5

05981 Stop-N-Shop

Total Concentration Reduction

Total Initial Conc. :	6488823	µg/L
Total Subseqent Conc. :	326863	µg/L
Total SSTL Conc. :	193064	µg/L
Initial > SSTL :	6295759	µg/L
Subsequent > SSTL :	165123	µg/L

Total Reduction: 97.3772 %

Individual Constituent Reductions

CoC	Initial	Subseq.	Initial >SSTL	Subseq. > SSTL	CoC % Reduction
Benzene	251365	43694	250675	43139	82.79086467
Toluene	417175	110065	304200	19900	93.45825115
Ethylbenzene	292385	13313	277400	210	99.92429704
Xylenes	332366	66279	268600	8901	96.68615041
MtBE	5191318	88643	5190909	88282	98.29929594
Naphthalene	4214	4864	3975	4686	-17.88679245
EDB	0	5	0	5	non-SSTL CoC

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JAN 05 2006

MR HARTFORD HIGHT PG
SEI ENVIRONMENTAL INC
6190 REGENCY PKWY STE 308
NORCROSS, GA 30071

Re: Pay For Performance Corrective Action Projects
Proposed Reporting Schedule received December 12, 20051

Dear Mr. Hight:

Thank you for providing the proposed reporting schedule. The schedule has been reviewed by our project managers and is approvable as submitted with one exception.

For the Perry's Grocery project (UST Permit ID# 03426, SEI Project No. 303196) semi-annual sampling and reporting was proposed. Because this corrective action is being augmented with the use of the Potassium Triple Salt, the Department would like to reports submitted on a quarterly basis to better characterize the effect of the new technology.

The UST Program appreciates SEI's efforts to get these projects back on track. We look forward to working with you in the near future to bring these sites to closure. Please feel free to contact me at (803) 896-6585 if you have any questions or need additional information.

Sincerely,

Christopher S. Doll, P.G., Manager
Northeastern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Cc: Technical Files (11585, 03713, 14457, 09322, 03467, 11732, 14839, 06601, 02476, 08327,09160, 14433, 14561, 03439, 05981, 02427, 03426, 14541, 04031, 09319, 03462, 03463, 09370, 08376, 02542, 08551, 02724, 04744, 11756)
Lee Monts, Manager, Southwestern SC Corrective Action Section
Kent Coleman, P. G., Director, Assessment and Corrective Action Division

DHEC/UST/010506

DOCKETING # 47 Tech

D H E C

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C. Earl Hunter, Commissioner

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DEC 19 2005

HARTFORD W HIGHT
SEI ENVIRONMENTAL INC
6190 REGENCY PARKWAY STE 308
NORCROSS GA 30071

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received December 1, 2005
Saluda County

Dear Mr. Hight:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. The Program notes that site-specific target levels (SSTLs) are exceeded significantly in monitoring wells MW-2, MW-4, MW-7 and MW-13. Concentrations of petroleum constituents in monitoring wells MW-2 and MW-13 are near effective solubility, and may indicate the presence of free-phase product. Due to these elevated concentrations, and the proximity of the site to sensitive receptors, the Program requests that SEI submit an amended Corrective Action Plan (CAP) with the next CASE Report.

The next Corrective Action System Evaluation (CASE) report and amended CAP are due on or before March 1, 2006. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at surberjd@dhec.sc.gov.

Sincerely,

John D. Surber, Jr., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File

UST PROGRAM DOCKETING # 48Tech

D H E C
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C. Earl Hunter, Commissioner
Promoting and protecting the health of the public and the environment.

JUL 0 1 2005

WILLIAM WOOD
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DR STE 9
COLUMBIA SC 29223

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received July 26, 2004
Saluda County

Dear Mr. Wood:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. The Program notes that significant increases in benzene concentrations were observed in monitoring wells MW-4 and MW-13, and that significant increases in MtBE concentrations were observed in monitoring well MW-13. Benzene concentrations in monitoring well MW-7 also increased significantly, although less dramatically than in MW-4 and MW-13. The Program also notes that SEI has completely discontinued injecting hydrogen peroxide at the site.

SEI should make positive efforts to reverse this trend of increasing contaminant concentrations. Due to the proximity of water supply wells (irregardless of their active or inactive status), contaminant concentrations observed at the site are of concern. Therefore, the Program requests that SEI make a decision as to which alternative remediation technology to utilize at this site and submit an amended Corrective Action Plan (CAP) with the next CASE Report.

In the referenced CASE Report, SEI requested omission or reduction in sampling frequency for several monitoring wells associated with the referenced site. The Program grants omission from sampling for the following wells: MW-5, MW-11, MW-12, MW-19, MW-20, MW-21 and MW-22. In addition, the following wells may be reduced to a semi-annual sampling schedule: MW-6, MW-8, MW-9R and MW-17. These wells should continue to be gauged quarterly to allow adequate interpretation of groundwater flow at the site. The Program may require sampling of these wells to continue at any time in the future. Please note that all monitoring wells associated with the release must be sampled during the post-remediation verification period.

The next Corrective Action System Evaluation (CASE) report and amended CAP are due on or before October 1, 2005. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at surberjd@dhec.sc.gov.

Sincerely,

UST PROGRAM
DOCKETING # 49 Tech

John D. Surber, Jr., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JUL 0 1 2005

FRANTIS AND GAIL SMITH
CIRCLE STOP N SHOP
143 PIONEER DR
LEESVILLE SC 29070-8403

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received July 26, 2004
Saluda County

Dear Mr. and Mrs. Smith:

The Underground Storage Tank Program (UST) has reviewed the referenced report. SEI Environmental, Inc. is currently conducting corrective action activities in response to groundwater contamination at the referenced facility. Enclosed is a copy of the most recent CASE Report. This information is being sent to you in order to keep you informed of the environmental conditions at the referenced facility. The next sampling will be conducted in approximately three months.

On all correspondence regarding this site, please reference the UST Permit **#05981**. Please feel free to contact me at (803) 896-6649 or (800) 826-5435 (within SC only) if you have questions or need additional information.

Sincerely,

John D. Surber, Jr., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Quarterly Monitoring Report

cc: Technical File (w/out enc)

UST PROGRAM
DOCKETING # 49B Tech

SCANNED

SEI Environmental, Inc.

130 Penmarc Drive, Suite 108
Raleigh, NC 27603
919.832.2535
Fax 919.832.5914

RECEIVED
AUG 28 2007
UNDERGROUND STORAGE TANK PROGRAM

August 24, 2007

Ms. Sonya Utz, Hydrogeologist
South Carolina Department of Health and Environmental Control
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Dear Mr. Surber:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the July 23, 2007, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

Chris L. Boggs, P.G.
Project Manager

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

UST PROGRAM
DOCKETING # 5

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
April 2007 through July 2007

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

PREPARED BY:

SEI ENVIRONMENTAL, INC.
130 Penmarc Drive, Suite 108
Raleigh, North Carolina 27603
UST Site Rehabilitation Contractor No. 354

August 24, 2007

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date: August 24, 2007
Monitoring Report Number: 12
For Period Covering: April 2007 to July 2007
Facility Name : Circle Stop-N-Shop
Street Address: 3287 Columbia Highway
UST Permit Number: 05981
City: Leesville, South Carolina
County: Saluda
Zip Code: 29070-7216
Latitude: N 34°02'28.08"
Longitude W 81°32'53.78"

Submitted by UST Owner/Operator:	Prepared by Consultant/Contractor:
Name: Steve & Joan Boozer	Name: Chris L. Boggs
Company: Property Owners	Company: SEI Environmental, Inc.
Address: 3287 Columbia Highway	Address: 130 Penmarc Drive, Suite 108
City: Leesville State: SC	City: Raleigh State: NC
Zip Code: 29070-7216	Zip Code: 27603
Telephone: (803) 532-4119	Telephone: (919) 832-2535
SEI Project Number: 303064	UST Site Rehabilitation Contractor No. 354

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Chris L. Boggs, P.G.

SC Reg. No. 2101

Signature: _____

Date: _____

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LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a Licensed Geologist registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by AccuTest Laboratories.

1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event
- April 25, 2006 – Groundwater Sampling Event
- July 17, 2006 – Groundwater Sampling Event
- October 17, 2006 – Groundwater Sampling Event
- January 15, 2007 – Groundwater Sampling Event
- April 25, 2007 – Groundwater Sampling Event
- July 23, 2007 – Groundwater Sampling Event

On July 23, 2007, fourteen groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On July 23, 2007, fourteen groundwater samples were collected (MW-1 through MW-4, MW-7, MW-10R, MW-13 through MW-16, MW-18, and MW-23 through MW-26) of the twenty-six existing groundwater monitoring wells. One monitoring well (MW-23) was not located and therefore not sampled. Eight (MW-5, MW-6, MW-8, MW-9R, MW-11, MW-12, MW-19, and MW-20) monitoring wells are only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in

Appendix A is a site map depicting well locations.

Twenty four groundwater monitoring wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was not detected.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient of 0.027 feet per foot between monitoring wells MW-19 and MW-16. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene). Appendix C contains Field Data Information Sheets for Groundwater Sampling.

3.0 LABORATORY ANALYTICAL RESULTS

Chemicals of Concern (CoC) were detected in eleven (MW-1, MW-2, MW-4, MW-7, MW-10R, MW-13, MW-14, MW-18, MW-24, MW-25, and MW-26) of the fourteen monitoring wells sampled at concentrations exceeding their respective SSTL. Figure 4 in Appendix A is a site map presenting monitoring well locations and their CoC concentrations. Table 2 in Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs) have been designated for twenty (MW-1

through MW-18 and MW-24 through MW-26) monitoring wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix D.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

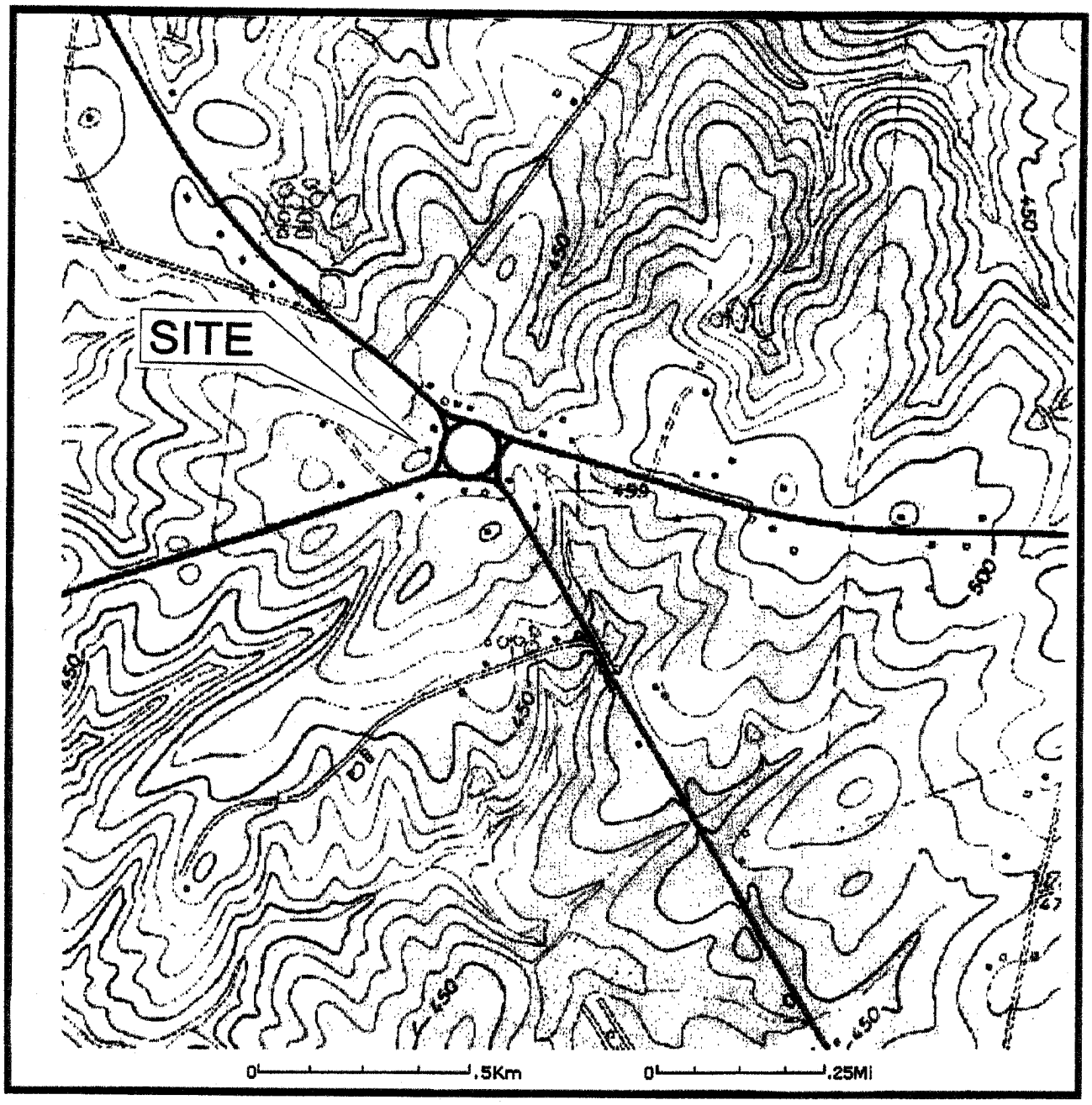
Using the current analytical results, the concentration reduction is 96.72%.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the north-northeast with a hydraulic gradient of 0.027 feet per foot. CoC were detected in eleven of the fourteen monitoring wells sampled above their respective SSTLs. The percent concentration reduction has been calculated at 96.72%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. The next sampling event is scheduled for October 2007.

APPENDIX A
FIGURES

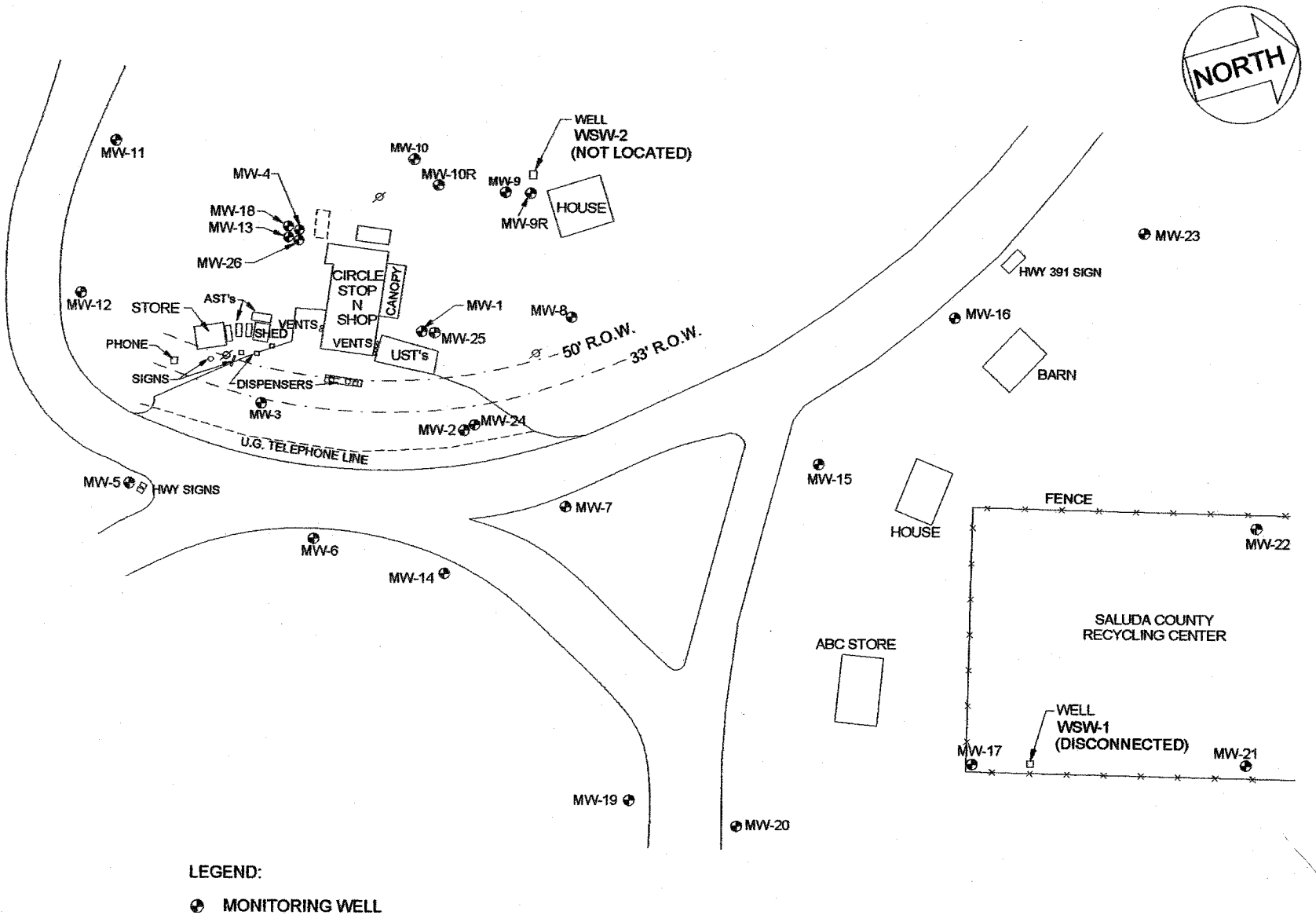
7.5 MINUTE SERIES(TOPOGRAPHIC)



SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064 DWG #	DATE: 10/10/05 DRAWN BY: JCJ



LEGEND:

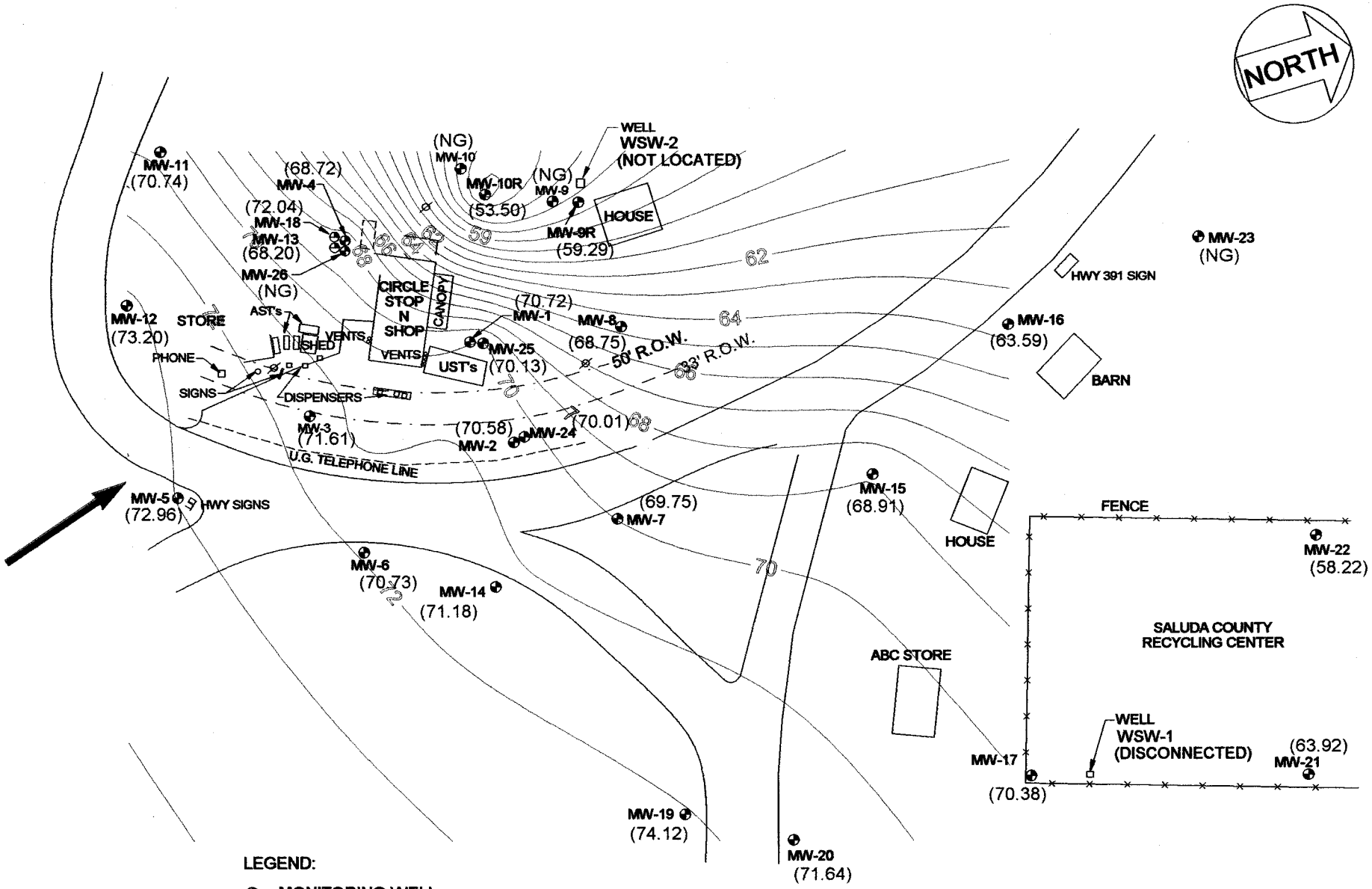
- MONITORING WELL
- POWER POLE

0 40 80 FT.

SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 3/22/05
DWG #CS00642G	DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- POWER POLE

(XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT.
NG = NOT GAUGED
NL = NOT LOCATED

GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

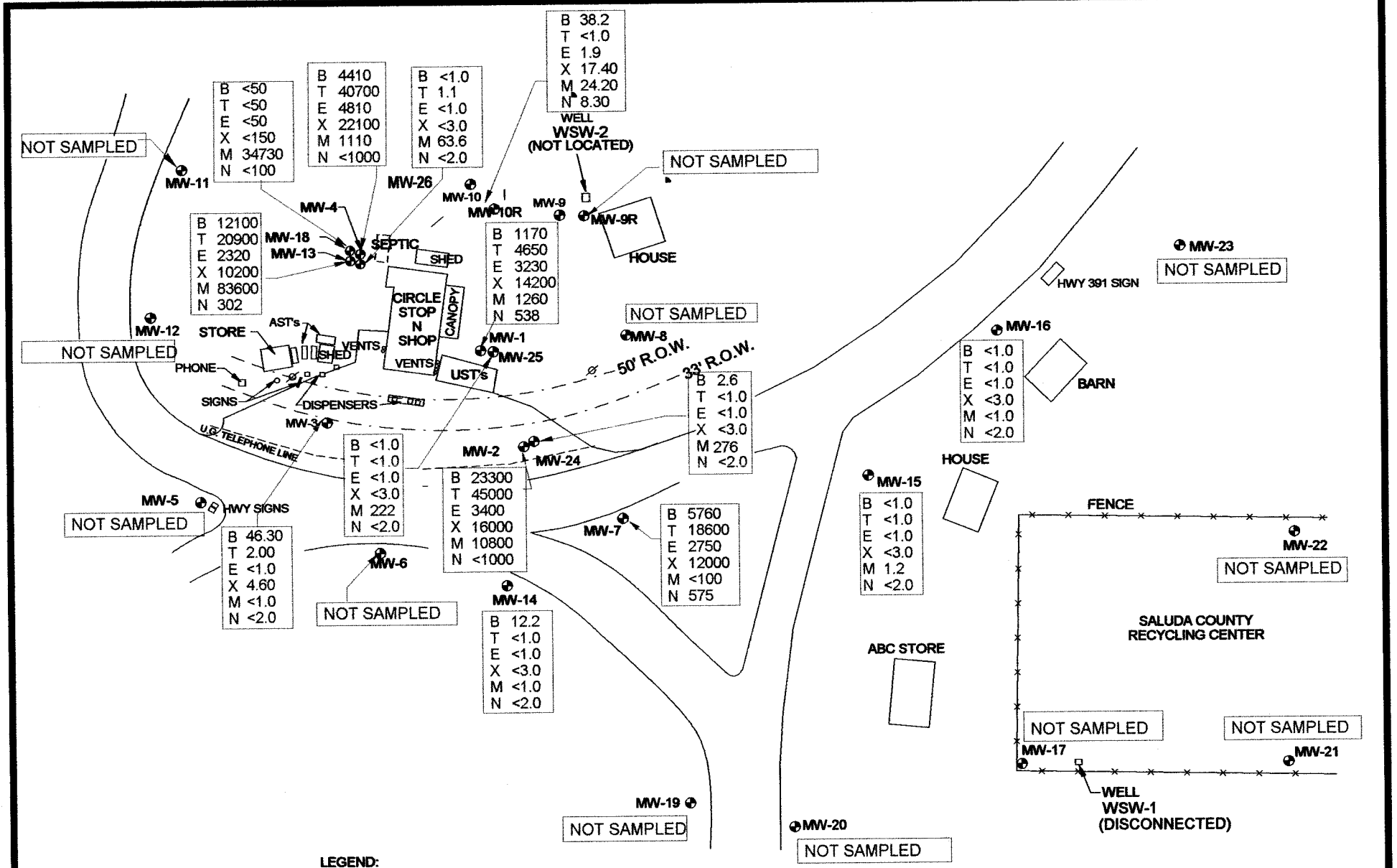
0 40 80 FT.

NOTE: WELLS GAUGED 07/23/07.

SEI Environmental, Inc.

FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ



NOTE: WELLS SAMPLED 7/23/07

SEI Environmental, Inc.

FIGURE 4: GROUNDWATER COC SITE MAP, 1/15/07
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 2/2/06
DWG #CS00644J	DRAWN BY: JCJ

APPENDIX B
TABLES

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-1	08/18/03	21.39			99.59	78.20
	11/17/03	23.34				76.25
	03/11/04	23.96				75.63
	06/30/04	25.22				74.37
	03/21/05	24.12				75.47
	10/14/05	Well Not Located				0.00
	02/02/06	Well Not Located				0.00
	04/25/06	25.11				74.48
	07/17/06	Well Not Located				0.00
	10/17/06	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	04/25/07	25.95				73.64
	07/23/07	28.87				70.72
MW-2	08/18/03	19.82			97.68	77.86
	11/17/03	21.39				76.29
	03/11/04	22.38				75.30
	06/30/04	23.49				74.19
	03/21/05	23.47				74.21
	10/14/05	24.41				73.27
	02/02/06	24.38				73.30
	04/25/06	22.70				74.98
	07/17/06	24.90				72.78
	10/17/06	27.79				69.89
	01/15/07	27.24				70.44
	04/25/07	23.83				73.85
	07/23/07	27.10				70.58
MW-3	08/18/03	18.04			99.53	81.49
	11/17/03	22.14				77.39
	03/11/04	20.98				78.55
	06/30/04	24.08				75.45
	03/21/05	22.05				77.48
	10/14/05	25.35				74.18
	02/02/06	23.48				76.05
	04/25/06	22.45				77.08
	07/17/06	25.65				73.88
	10/17/06	28.73				70.80
	01/15/07	26.40				73.13
	04/25/07	23.43				76.10
	07/23/07	27.92				71.61

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-4	08/18/03	23.31			100.28	76.97
	11/17/03	25.11				75.17
	03/11/04	25.58				74.70
	06/30/04	27.13				73.15
	03/21/05	27.01				73.27
	10/14/05	28.16				72.12
	02/02/06	27.69				72.59
	04/25/06	26.35				73.93
	07/17/06	28.50				71.78
	10/17/06	31.51				68.77
	01/15/07	31.13				69.15
	04/25/07	28.16				72.12
	07/23/07	31.56				68.72
MW-5	08/18/03	15.89			100.88	84.99
	11/17/03	21.84				79.04
	03/11/04	19.61				81.27
	06/30/04	22.30				78.58
	03/21/05	20.70				80.18
	10/14/05	24.40				76.48
	02/02/06	22.43				78.45
	04/25/06	22.03				78.85
	07/17/06	26.59				74.29
	10/17/06	28.67				72.21
	01/15/07	24.90				75.98
	04/25/07	22.90				77.98
	07/23/07	27.92				72.96
MW-6	08/18/03	16.31			97.43	81.12
	11/17/03	19.13				78.30
	03/11/04	18.62				78.81
	06/30/04	21.84				75.59
	03/21/05	19.78				77.65
	10/14/05	23.13				74.30
	02/02/06	21.15				76.28
	04/25/06	20.19				77.24
	07/17/06	23.39				74.04
	10/17/06	26.49				70.94
	01/15/07	24.20				73.23
	04/25/07	21.14				76.29
	07/23/07	26.70				70.73

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-7	08/18/03	19.78			97.26	77.48
	11/17/03	22.14				75.12
	03/11/04	22.38				74.88
	06/30/04	23.78				73.48
	03/21/05	23.31				73.95
	10/14/05	24.75				72.51
	02/02/06	24.29				72.97
	04/25/06	22.62				74.64
	07/17/06	25.10				72.16
	10/17/06	27.99				69.27
	01/15/07	27.24				70.02
	04/25/07	23.74				73.52
	07/23/07	27.28				69.98
MW-8	08/18/03	21.72			98.70	76.98
	11/17/03	24.61				74.09
	03/11/04	24.30				74.40
	06/30/04	26.21				72.49
	03/21/05	25.25				73.45
	10/14/05	24.78				73.92
	02/02/06	26.39				72.31
	04/25/06	24.97				73.73
	07/17/06	27.65				71.05
	10/17/06	30.56				68.14
	01/15/07	Well Not Located				N/A
	04/25/07	Well Not Located				N/A
	07/23/07	29.95				68.75
MW-9R	08/18/03	30.33			99.68	69.35
	11/17/03	32.11				67.57
	03/11/04	33.15				66.53
	06/30/04	34.62				65.06
	03/21/05	36.35				63.33
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	Well Not Located				N/A
	07/17/06	Well Not Located				N/A
	10/17/06	40.84				58.84
	01/15/07	41.35				58.33
	04/25/07	37.09				62.59
	07/23/07	40.39				59.29

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-10R	08/18/03	Well Not Located			100.22	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	42.57				57.65
	02/02/06	44.69				55.53
	04/25/06	Well Not Located				N/A
	07/17/06	44.04				56.18
	10/17/06	46.71				53.51
	01/15/07	48.14				52.08
	04/25/07	45.41				54.81
	07/23/07	46.72				53.50
MW-11	08/18/03	19.96			100.47	80.51
	11/17/03	21.45				79.02
	03/11/04	23.01				77.46
	06/30/04	25.96				74.51
	03/21/05	23.56				76.91
	10/14/05	27.31				73.16
	02/02/06	25.79				74.68
	04/25/06	23.15				77.32
	07/17/06	27.66				72.81
	10/17/06	30.65				69.82
	01/15/07	28.92				71.55
	04/25/07	25.55				74.92
	07/23/07	29.73				70.74
MW-12	08/18/03	17.51			100.62	83.11
	11/17/03	21.51				79.11
	03/11/04	19.95				80.67
	06/30/04	23.62				77.00
	03/21/05	21.06				79.56
	10/14/05	25.18				75.44
	02/02/06	22.43				78.19
	04/25/06	21.78				78.84
	07/17/06	25.40				75.22
	10/17/06	28.55				72.07
	01/15/07	25.85				74.77
	04/25/07	22.55				78.07
	07/23/07	27.42				73.20
MW-13	08/18/03	24.11			100.22	76.11
	11/17/03	26.78				73.44
	03/11/04	26.73				73.49
	06/30/04	27.79				72.43
	03/21/05	28.18				72.04
	10/14/05	28.88				71.34
	02/02/06	32.46				67.76
	04/25/06	27.03				73.19
	07/17/06	29.34				70.88
	10/17/06	32.29				67.93
	01/15/07	31.95				68.27
	04/25/07	28.62				71.60
	07/23/07	32.02				68.20

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-14	08/18/03	15.29			96.30	81.01
	11/17/03	19.35				76.95
	03/11/04	18.18				78.12
	06/30/04	21.22				75.08
	03/21/05	19.20				77.10
	10/14/05	22.55				73.75
	02/02/06	20.69				75.61
	04/25/06	16.69				79.61
	07/17/06	22.84				73.46
	10/17/06	25.92				70.38
	01/15/07	23.53				72.77
	04/25/07	20.61				75.69
	07/23/07	25.12				71.18
MW-15	08/18/03	17.51			94.59	77.08
	11/17/03	20.39				74.20
	03/11/04	20.07				74.52
	06/30/04	21.95				72.64
	03/21/05	21.02				73.57
	10/14/05	23.10				71.49
	02/02/06	22.12				72.47
	04/25/06	20.70				73.89
	07/17/06	23.42				71.17
	10/17/06	26.35				68.24
	01/15/07	24.93				69.66
	04/25/07	21.67				72.92
	07/23/07	25.68				68.91
MW-16	08/18/03	Well Not Located			92.01	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	23.86				68.15
	03/21/05	22.72				69.29
	10/14/05	26.00				66.01
	02/02/06	24.21				67.80
	04/25/06	22.98				69.03
	07/17/06	26.06				65.95
	10/17/06	29.26				62.75
	01/15/07	26.66				65.35
	04/25/07	23.60				68.41
	07/23/07	28.42				63.59
MW-17	08/18/03	14.26			91.65	77.39
	11/17/03	16.51				75.14
	03/11/04	Well Not Located				N/A
	06/30/04	17.42				74.23
	03/21/05	16.85				74.80
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/17/07	20.95				70.70
	04/25/07	Well Closed				N/A
	07/23/07	21.27				70.38

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
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UST Permit Number: 05981
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Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-18	08/18/03	24.82			100.05	75.23
	11/17/03	21.97				78.08
	03/11/04	27.00				73.05
	06/30/04	28.50				71.55
	03/21/05	29.10				70.95
	10/14/05	29.34				70.71
	02/02/06	29.23				70.82
	04/25/06	27.78				72.27
	07/17/06	30.07				69.98
	10/17/06	33.00				67.05
	01/17/07	32.43				67.62
	04/25/07	29.23				70.82
	07/23/07	32.36				67.69
MW-19	08/18/03	11.21			94.32	83.11
	11/17/03	16.22				78.10
	03/11/04	Well Not Located				N/A
	06/30/04	17.47				76.85
	03/21/05	16.31				78.01
	10/14/05	19.44				74.88
	02/02/06	17.88				76.44
	04/25/06	20.15				74.17
	07/17/06	18.69				75.63
	10/17/06	23.09				71.23
	01/15/07	20.20				74.12
	04/25/07	17.06				77.26
	07/23/07	22.28				72.04
MW-20	08/18/03	12.36			94.88	82.52
	11/17/03	17.18				77.70
	03/11/04	Well Not Located				N/A
	06/30/04	18.98				75.90
	03/21/05	16.40				78.48
	10/14/05	20.55				74.33
	02/02/06	18.27				76.61
	04/25/06	19.98				74.90
	07/17/06	20.83				74.05
	10/17/06	24.12				70.76
	01/17/07	20.84				74.04
	04/25/07	18.14				76.74
	07/23/07	23.24				71.64
MW-21	08/18/03	10.17			84.61	74.44
	11/17/03	14.41				70.20
	03/11/04	Well Not Located				N/A
	06/30/04	16.34				68.27
	03/21/05	14.51				70.10
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	18.34				66.27
	04/25/07	Well Closed				N/A
	07/23/07	20.69				63.92

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
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Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-22	08/13/03	10.61			84.71	74.10
	11/17/03	17.79				66.92
	03/11/04	Well Not Located				N/A
	06/30/04	21.31				63.40
	03/21/05	17.42				67.29
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	19.60				65.11
	04/25/07	Well Closed				N/A
	07/23/07	26.49				58.22
MW-23	08/18/03	Well Not Located			92.05	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	Well Not Located				N/A
	02/02/06	24.40				67.65
	04/25/06	Well Not Located				N/A
	07/17/06	25.48				66.57
	10/17/06	Well Not Located				N/A
	01/15/07	Well Not Located				N/A
	04/25/07	24.00				68.05
	07/23/07	Well Not Located				N/A
MW-24	08/18/03	19.76			97.74	77.98
	11/17/03	22.42				75.32
	03/11/04	22.44				75.30
	06/30/04	24.04				73.70
	03/21/05	23.35				74.39
	10/14/05	25.15				72.59
	02/02/06	Well Not Located				N/A
	04/25/06	23.00				74.74
	07/17/06	Well Not Located				N/A
	10/17/06	28.37				69.37
	01/15/07	27.26				70.48
	04/25/07	Well Not Located				N/A
	07/23/07	27.73				70.01
MW-25	08/18/03	21.94			99.63	77.69
	11/17/03	24.49				75.14
	03/11/04	24.44				75.19
	06/30/04	26.08				73.55
	03/21/05	27.75				71.88
	10/14/05	26.70				72.93
	02/02/06	26.72				72.91
	04/25/06	Well Not Located				N/A
	07/17/06	26.68				72.95
	10/17/06	30.03				69.60
	01/15/07	29.05				70.58
	04/25/07	26.42				73.21
	07/23/07	29.5				70.13

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
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Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-26	08/18/03	100+			100.22	N/M*
	11/17/03	90.02				10.20
	03/11/04	100+				N/M*
	06/30/04	100+				N/M*
	03/21/05	100+				N/M*
	10/14/05	100+				N/M*
	02/02/06	100+				N/M*
	04/25/06	100+				N/M*
	07/17/06	100+				N/M*
	07/17/06	100+				N/M*
	01/15/07	100+				N/M*
	04/25/07	100+				N/M*
	07/23/07	100+				N/M*

N/A = Not Applicable
N/M* = Not Measured Due To Depth of Well Exceeding 100 feet. Measuring Tape Ends at 100 feet.
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) ---- where applicable

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-1*	10/01/02 & 12/19/02	**2,300.00**	**29,000.00**	3,300.00	18,900.00	43.00	27.00			53,570.00
	08/18/03	**1,700.00**	1,300.00	2,600.00	13,000.00	**2,200.00**	**1,200.00**			22,000.00
	11/19/03	**1,900.00**	17,000.00	3,100.00	18,000.00	**1,700.00**	**680.00**			42,380.00
	03/11/04	**1,800.00**	14,000.00	3,300.00	16,000.00	**1,600.00**	**1,200.00**			37,900.00
	06/30/04	**1,640.00**	14,200.00	**3,490.00**	**20,200.00**	**1,770.00**	**380.00**			41,680.00
	03/21/05	**1,210.00**	8,540.00	2,440.00	13,100.00	**1,430.00**	<400			26,720.00
	10/14/05	Not Located								0.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**158.00**	**106.00**			264.00
	07/17/06	Not Located								0.00
	10/17/06	Not Located								0.00
	01/15/07	Not Located								0.00
	04/25/07	**954.00**	5,730.00	**3,350.00**	17,700.00	**1,200.00**	**691.00**			29,625.00
	07/23/07	**1,170.00**	4,650.00	3,230.00	14,200.00	**1,260.00**	**538.00**			25,048.00
	SSTL	65.00	24,700.00	3,300.00	18,900.00	43.00	27.00			
	> SSTL	1,105.00	0.00	0.00	0.00	1,217.00	511.00			
MW-2	10/01/02 & 12/19/02	**10,000.00**	**26,000.00**	2,600.00	9,400.00	**1,300.00**	**520.00**			49,820.00
	08/18/03	**9,300.00**	22,000.00	2,200.00	**12,000.00**	**1,900.00**	**5,000.00**			52,400.00
	11/19/03	**12,000.00**	**29,000.00**	**3,000.00**	**15,000.00**	**5,100.00**	**2,500.00**			66,600.00
	03/11/04	**8,400.00**	21,000.00	2,100.00	**12,000.00**	**3,400.00**	**2,500.00**			49,400.00
	06/30/04	**9,890.00**	**29,900.00**	2,460.00	**14,400.00**	**3,510.00**	**1,000.00**			61,160.00
	03/21/05	**9,970.00**	21,800.00	2,060.00	**12,400.00**	**4,620.00**	<1,000			50,850.00
	10/14/05	**11,600.00**	**30,200.00**	2,180.00	**12,800.00**	**5,360.00**	<1,000			62,140.00
	02/02/06	**16,200.00**	**33,700.00**	2,450.00	**14,000.00**	**6,400.00**	<1,000			72,750.00
	04/25/06	**16,800.00**	**34,400.00**	2,290.00	**12,800.00**	**7,010.00**	**4,430.00**			77,730.00
	07/17/06	**21,900.00**	**46,200.00**	**3,150.00**	**16,400.00**	**11,700.00**	<1,000			99,350.00
	10/17/06	**20,200.00**	**49,700.00**	**2,710.00**	**13,400.00**	**12,400.00**	<1,000			98,410.00
	01/15/07	**16,700.00**	**37,800.00**	**2,720.00**	**14,800.00**	**8,650.00**	<1,000			80,670.00
	04/25/07	**13,900.00**	**33,700.00**	**2,310.00**	**14,200.00**	**5,650.00**	<1,000			69,760.00
	07/23/07	**23,300.00**	**45,000.00**	**3,400.00**	**16,000.00**	**10,800.00**	<1000			98,500.00
	SSTL	120.00	24,700.00	2,600.00	9,400.00	43.00	27.00			
	> SSTL	23,180.00	20,300.00	800.00	6,600.00	10,757.00	0.00			
MW-3	10/01/02 & 12/19/02	85.00	93.00	5.00	102.00	5.00	5.00			295.00
	08/18/03	1.60	<5.0	<1.0	<3.0	<1.0	<5.0			1.60
	11/19/03	31.00	<5.0	1.30	9.00	<1.0	<5.0			41.30
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	72.30	4.10	<2.0	19.30	<2.0	<2.0			95.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	75.40	2.80	2.30	12.10	<1.0	<2.0			92.60
	02/02/06	1.60	<1.0	<1.0	<3.0	<1.0	<2.0			1.60
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/17/06	21.20	<1.0	<1.0	4.60	<1.0	<2.0			25.80
	10/17/06	62.30	7.50	1.30	19.10	<1.0	<2.0			90.20
	01/15/07	10.50	6.80	<1.0	<3.0	<1.0	<2.0			17.30
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	46.30	2.00	<1.0	4.60	<1.0	<2.0			52.90
	SSTL	85.00	93.00	5.00	102.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-4	10/01/02 & 12/19/02	**5,500.00**	4,700.00	3,900.00	17,900.00	**6,400.00**	**590.00**			38,990.00
	08/18/03	**1,000.00**	15,000.00	2,900.00	14,000.00	**100.00**	**500.00**			33,500.00
	11/19/03	**1,200.00**	14,000.00	2,700.00	14,000.00	**4,900.00**	**5,000.00**			41,800.00
	03/11/04	**540.00**	8,000.00	1,000.00	8,400.00	**250.00**	**1,200.00**			19,390.00
	06/30/04	**884.00**	20,100.00	2,750.00	16,000.00	**1,000.00**	**1,000.00**			41,734.00
	03/21/05	**4,010.00**	**25,300.00**	3,020.00	16,500.00	<500	<1,000			48,830.00
	10/14/05	**1,450.00**	20,000.00	3,070.00	16,000.00	<500	<1,000			40,520.00
	02/02/06	**2,110.00**	22,400.00	3,240.00	17,700.00	<500	<1,000			45,450.00
	04/25/06	**387.00**	8,780.00	2,240.00	12,200.00	<50	<50			23,607.00
	07/17/06	**1,600.00**	23,900.00	3,850.00	**19,000.00**	<200	<400			48,350.00
	10/17/06	**4,430.00**	47,300.00	3,780.00	**19,000.00**	598.00	<1000			75,108.00
	01/15/07	**3,060.00**	**31,800.00**	3,170.00	**17,600.00**	<500	<1000			55,630.00
	04/25/07	**1,240.00**	**17,200.00**	2,970.00	**1,700.00**	<500	<1000			23,110.00
	07/23/07	**4,410.00**	**40,700.00**	**4,810.00**	**22,100.00**	**1,110.00**	<1000			73,130.00
	SSTL	110.00	24,700.00	3,900.00	17,900.00	43.00	27.00			
	> SSTL	4,300.00	16,000.00	910.00	4,200.00	0.00	0.00			
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	**20.00**	<1.0	<3.0	<1.0	<5.0			20.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-7	10/01/02 & 12/19/02	**226,000.00**	**301,000.00**	**280,000.00**	**278,000.00**	**5,110,000.00**	**2,000.00**			6,197,000.00
	08/18/03	**3,900.00**	23,000.00	6,600.00	**37,000.00**	**500.00**	**2,500.00**			73,500.00
	11/19/03	**5,000.00**	15,000.00	**3,800.00**	**19,000.00**	**100.00**	**770.00**			43,670.00
	03/11/04	**6,200.00**	12,000.00	**3,300.00**	**15,000.00**	**500.00**	**2,500.00**			39,500.00
	06/30/04	**5,340.00**	18,400.00	**2,990.00**	**15,200.00**	**1,000.00**	**1,000.00**			43,930.00
	03/21/05	**7,710.00**	17,200.00	**2,820.00**	**13,400.00**	<500	<1,000			41,130.00
	10/14/05	**4,660.00**	12,600.00	1,730.00	7,610.00	<200	<400			26,600.00
	02/02/06	**9,810.00**	20,500.00	2,450.00	**10,800.00**	<200	<400			43,560.00
	04/25/06	**2,040.00**	5,530.00	715.00	3,190.00	<100	**102.00**			11,577.00
	07/17/06	**3,360.00**	9,310.00	1,520.00	7,050.00	<100	**321.00**			21,561.00
	10/17/06	**7,460.00**	24,700.00	2,920.00	13,700.00	<100	**471.00**			49,251.00
	01/15/07	**3,700.00**	16,900.00	4,370.00	28,200.00	<500	**5,670.00**			58,840.00
	04/25/07	**1,760.00**	5,510.00	960.00	5,170.00	<500	**233.00**			13,633.00
	07/23/07	**5,760.00**	18,600.00	2,750.00	12,000.00	<100	**575.00**			39,685.00
	SSTL	120.00	24,700.00	2,600.00	9,400.00	43.00	27.00			
	> SSTL	5,640.00	0.00	150.00	2,600.00	0.00	548.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/17/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.50	<5.0			1.50
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.70	<2.0			1.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.90	<2.0			1.90
	10/14/05	Not Located								0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	1.40	<2.0			1.40
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	10/14/05	**73.30**	1.60	**5.60**	**57.90**	**38.20**	**10.40**			187.00
	02/02/06	**27.80**	<1.0	2.80	**16.50**	**28.70**	3.00			78.80
	04/25/06	Not Located								0.00
	07/17/06	123.00	8.90	32.20	233.00	29.90	26.80			453.80
	10/17/06	23.80	<1.0	4.60	18.80	21.40	4.50			73.10
	01/15/07	Dry								0.00
	04/25/07	**63.50**	<1.0	1.90	**21.70**	**26.10**	**7.40**			120.60
	07/23/07	**38.20**	<1.0	1.90	**17.40**	**24.20**	**8.30**			90.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	58.50	0.00	0.00	2.40	19.20	3.30			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-13	10/01/02 & 12/19/02	**7,400.00**	14,000.00	2,500.00	7,700.00	**69,000.00**	**290.00**			100,890.00
	08/18/03	**9,500.00**	12,000.00	2,000.00	5,700.00	**7,600.00**	**5,000.00**			41,800.00
	11/19/03	**4,800.00**	6,500.00	1,000.00	5,400.00	**51,000.00**	**2,500.00**			71,200.00
	03/11/04	**9,500.00**	9,500.00	2,200.00	**7,800.00**	**93,000.00**	**1,200.00**			123,200.00
	06/30/04	**2,770.00**	4,000.00	**4,000.00**	**12,000.00**	**77,100.00**	**4,000.00**			103,870.00
	03/21/05	**11,600.00**	**13,900.00**	2,360.00	6,720.00	**104,000.00**	<4,000			138,580.00
	10/14/05	**10,600.00**	**20,500.00**	2,200.00	**8,870.00**	**88,100.00**	<2,000			130,270.00
	02/02/06	**14,300.00**	**24,900.00**	**2,710.00**	**10,600.00**	**79,400.00**	<2,000			131,910.00
	04/25/06	**11,800.00**	**23,400.00**	2,310.00	**10,900.00**	**85,800.00**	**8,420.00**			142,630.00
	07/17/06	**12,300.00**	**22,200.00**	2,300.00	**9,010.00**	**81,000.00**	<4,000			126,810.00
	10/17/06	**10,000.00**	**28,400.00**	2,280.00	**7,010.00**	**76,500.00**	<4,000			124,190.00
	01/15/07	**9,510.00**	**18,200.00**	<2000	**7,260.00**	**77,600.00**	<4,000			112,570.00
	04/25/07	**120.00**	**193.00**	<2000	**<300**	**5,780.00**	<200			6,093.00
	07/23/07	**12,100.00**	**20,900.00**	2,320.00	**10,200.00**	**83,600.00**	**302.00**			129,422.00
	SSTL	110.00	14,000.00	2,500.00	7,700.00	43.00	27.00			
	> SSTL	11,990.00	6,900.00	0.00	0.00	83,557.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	**8.80**	**7.80**	2.20	12.00	**16.00**	<5.0			46.80
	11/19/03	3.70	<5.0	<1.0	3.60	<1.0	<5.0			7.30
	03/11/04	1.20	<5.0	<1.0	<3.0	<1.0	<5.0			1.20
	06/30/04	4.50	<2.0	<2.0	<6.0	<2.0	<2.0			4.50
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	**5.90**	<1.0	<1.0	<3.0	<1.0	<2.0			5.90
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	2.10	<1.0	<1.0	<3.0	<1.0	<1.0			2.10
	07/17/06	**13.00**	<1.0	<1.0	<3.0	<1.0	<2.0			13.00
	10/17/06	**8.90**	<1.0	<1.0	<3.0	<1.0	<2.0			8.90
	01/15/07	**<1.0**	4.60	4.20	32.50	<1.0	27.10			68.40
	04/25/07	**2.70**	<1.0	<1.0	<3.0	<1.0	<2.0			2.70
	07/23/07	**12.20**	<1.0	<1.0	<3.0	<1.0	<2.0			12.20
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	7.20	0.00	0.00	0.00	0.00	0.00			
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	1.30	<5.0	<1.0	<3.0	**9.80**	<5.0			11.10
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0			0.74
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	Not Sampled								0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Not Sampled								0.00
	02/02/06	Well Closed								0.00
	02/02/06	Well Closed								0.00
	04/25/07	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-18	10/01/02 & 12/19/02	5.00	7.00	5.00	139.00	**2,300.00**	24.00			2,480.00
	08/18/03	**370.00**	**9.90**	**6.00**	**180.00**	**520.00**	**40.00**			1,125.90
	11/19/03	**210.00**	**50.00**	**10.00**	110.00	**1,700.00**	**50.00**			2,130.00
	03/11/04	**170.00**	**25.00**	<5.0	54.00	**840.00**	**25.00**			1,114.00
	06/30/04	3.50	<2.0	<2.0	15.60	**4,420.00**	<2.0			4,439.10
	03/21/05	**121.00**	<50	<50	<150	**1,970.00**	<100			2,091.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	**3,270.00**	<2.0			3,270.00
	02/02/06	<50	<50	<50	<150	<50	<100			0.00
	04/25/06	<50	<50	<50	<150	**4,160.00**	<50			4,160.00
	07/17/06	<50	<50	<50	<150	**4,480.00**	<100			4,480.00
	10/117/06	<50	<50	<50	<150	**4,930.00**	<100			4,930.00
	01/15/07	<50	<50	<50	<150	**4,890.00**	<100			4,890.00
	04/25/07	<50	<50	<50	<150	**3,060.00**	<100			3,060.00
	07/23/07	<50	<50	<50	<150	**4,730.00**	<100			4,730.00
	SSTL	5.00	7.00	5.00	139.00	43.00	24.00			
	> SSTL	0.00	0.00	0.00	0.00	4,687.00	0.00			
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-23	02/02/06	76.40	2.60	<1.0	3.00	244.00	<2.0			326.00
	04/25/06	Not Located								0.00
	07/17/06	1.50	<1.0	<1.0	<3.0	209.00	<2.0			210.50
	10/17/06	Not Located								
	04/25/07	4.70	<1.0	<1.0	<3.0	253.00	<2.0			257.70
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-24*	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	32.00	<5.0			32.00
	08/18/03	4.80	<5.0	<1.0	<3.0	**70.00**	<5.0			74.80
	11/19/03	**34.00**	<5.0	<1.0	5.60	**82.00**	<5.0			121.60
	03/11/04	**30.00**	<5.0	<1.0	<3.0	**54.00**	<5.0			84.00
	06/30/04	**63.40**	<2.0	<2.0	10.20	**186.00**	1.20			260.80
	03/21/05	**154.00**	<5.0	<5.0	**15.60**	**233.00**	<10			402.60
	10/14/05	<1.0	<1.0	<1.0	<3.0	**211.00**	**19.00**			230.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**170.00**	**60.50**			230.50
	07/17/06	Not Located								0.00
	10/17/06	6.20	<5.0	<1.0	<3.0	**198.00**	<5.0			204.20
	01/15/07	9.30	<1.0	<1.0	<3.0	**191.00**	<2.0			200.30
	04/25/07	Not Located								0.00
	07/23/07	2.60	<1.0	<1.0	<3.0	**276.00**	<2.0			278.60
	SSTL	5.00	5.00	5.00	15.00	32.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	138.00	55.50			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	9.00	<5.0			9.00
	08/18/03	**170.00**	<5.0	1.40	**110.00**	**140.00**	**42.00**			463.40
	11/19/03	**42.00**	<5.0	<1.0	**47.00**	**44.00**	**6.00**			139.00
	03/11/04	**82.00**	**7.60**	2.90	**120.00**	**62.00**	**11.00**			285.50
	06/30/04	**147.00**	4.50	0.52	**113.00**	**304.00**	**15.30**			584.32
	03/21/05	**82.20**	<5.0	<5.0	**17.10**	**275.00**	<10			374.30
	10/14/05	**32.60**	<5.0	<5.0	<15	**254.00**	**99.90**			386.50
	02/02/06	**15.80**	<1.0	<1.0	<3.0	**366.00**	**12.00**			393.80
	04/25/06	Not Located								0.00
	07/17/06	<1.0	>1.0	<1.0	<3.0	**185.00**	<2.0			185.00
	10/17/06	<1.0	>1.0	<1.0	<3.0	**147.00**	<2.0			147.00
	01/15/07	<1.0	>1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	3.90	<1.0	4.00	**19.50**	<2.0			27.40
	07/23/07	<1.0	<1.0	<1.0	<3.0	**222.00**	<2.0			222.00
	SSTL	5.00	5.00	5.00	15.00	9.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	213.00	0.00			
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	110.00	<5.0			110.00
	08/18/03	**150.00**	**620.00**	**160.00**	**830.00**	**930.00**	**250.00**			2,940.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	**59.00**	<5.0			59.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.10	<5.0			3.10
	06/30/04	1.20	**7.50**	0.69	5.50	**208.00**	<2.0			222.89
	03/21/05	<2.0	<2.0	<2.0	<6.0	**80.90**	<4.0			80.90
	10/14/05	1.60	**5.60**	<1.0	3.50	**73.10**	<2.0			83.80
	02/02/06	1.30	**5.50**	<1.0	6.10	38.80	<2.0			51.70
	04/25/06	1.10	4.80	<1.0	4.70	**77.70**	**7.50**			95.80
	07/17/06	1.00	4.20	<1.0	4.20	**78.80**	<2.0			88.20
	10/17/06	1.10	**6.00**	<1.0	5.20	**93.70**	<2.0			106.00
	01/15/07	1.20	**6.30**	<1.0	4.30	**33.90**	<2.0			45.70
	04/25/07	1.10	**5.80**	<1.0	6.40	**53.20**	<2.0			66.50
	07/23/07	<1.0	1.10	<1.0	<3.0	**63.60**	<2.0			64.70
	SSTL	5.00	5.00	5.00	15.00	43.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	20.60	0.00			
TOTAL MASS										**346,662.20**
TOTAL SSTL MASS		**685**	**112,970**	**14,980**	**63,751**	**402**	**234**		**193,022**	
INITIAL MASS ABOVE SSTL									**6,295,759**	
CURRENT MASS ABOVE SSTL									**206,469.70**	
PERCENT TOTAL MASS REDUCTION ABOVE SSTL									**96.72**	

- Reported in parts per billion (µg/l)
- SSTL: Site Specific Target Level
- NE = Not Established
- **Bold** denotes concentrations over respective SSTL & RBSL

- * = SSTL Data for Concentration Reduction Calculation for Monitoring WellS MW-1
04/26/06 Sampling Date Due to Inability to Locate Said Monitoring Wells During Current Sampling Event.

APPENDIX C
Field Data Information Sheets for Groundwater Sampling

SEI Environmental

Site Name: Circle Stop N Stop WO# 303064 Date:

Well ID	Total Depth (feet)	Well Dia. (in)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes	Gauge Elev.
MW-1	49	2			28.87		70.78
MW-2	40	2			27.10		70.58
MW-3	40	2			27.92		71.61
MW-4	40	2			31.56		68.72
MW-5	45	2			27.92	Gauge Only	72.96
MW-6	40	2			26.70		70.73
MW-7	34	2			27.28		69.98
MW-8	40	2			29.95		68.75
MW-9R	67	2			40.39		59.29
MW-10R		2			46.72	53.50	Scott + Hans
MW-11	40	2			29.73	Gauge Only 70.74	7/23/07
MW-12	40	2			27.42	Gauge Only 73.20	
MW-13	62	2			32.02	68.20	
MW-14	40	2			25.12		71.18
MW-15	35	2			25.68		68.91
MW-16	35	2			28.42		63.59
MW-17	37	2			21.27	Gauge Only	70.38
MW-18	102	2			32.36		67.69
MW-19	37	2			22.28	Gauge Only	72.04
MW-20	40	2			23.24	Gauge Only	71.64
MW-21	41	2			20.69	Gauge Only	63.92
MW-22	46	2			26.49	Gauge Only	58.22
MW-23		2				Gone	
MW-24	70	2			27.73		70.01
MW-25	65	2			29.50		70.13
MW-26	100+	2			?	Too Deep for tape	

Purging is only necessary if water table is not across the screen interval. (Usually DMW-1 only).

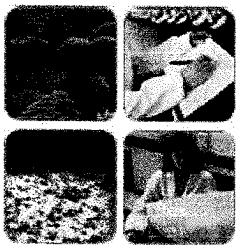
Analysis: EPA Method 8260B BTEX, MTBE and Naphthalene

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

08/08/07



Technical Report for

SEI-Columbia, SC

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC

303064

Accutest Job Number: F51255

Sampling Date: 07/23/07

Report to:

SEI Environmental-Raleigh

cboggs@sei-environmental.com

ATTN: Chris Boggs

Total number of pages in report: 24

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Test results relate only to samples analyzed.

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Sample Summary

SEI-Columbia, SC

Job No: F51255

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F51255-1	07/23/07	11:54 SS	07/24/07	AQ	Ground Water	MW-10R
F51255-2	07/23/07	11:55 SS	07/24/07	AQ	Ground Water	MW-9R
F51255-3	07/23/07	12:05 SS	07/24/07	AQ	Ground Water	MW-8R
F51255-4	07/23/07	12:10 SS	07/24/07	AQ	Ground Water	MW-25
F51255-5	07/23/07	12:15 SS	07/24/07	AQ	Ground Water	MW-1
F51255-6	07/23/07	12:20 SS	07/24/07	AQ	Ground Water	MW-2
F51255-7	07/23/07	12:25 SS	07/24/07	AQ	Ground Water	MW-24
F51255-8	07/23/07	12:30 SS	07/24/07	AQ	Ground Water	MW-7
F51255-9	07/23/07	12:35 SS	07/24/07	AQ	Ground Water	MW-3
F51255-10	07/23/07	12:45 SS	07/24/07	AQ	Ground Water	MW-26
F51255-11	07/23/07	12:50 SS	07/24/07	AQ	Ground Water	MW-4
F51255-12	07/23/07	12:55 SS	07/24/07	AQ	Ground Water	MW-13
F51255-13	07/23/07	13:00 SS	07/24/07	AQ	Ground Water	MW-18

Sample Summary
(continued)

SEI-Columbia, SC

Job No: F51255

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F51255-14	07/23/07	13:10 SS	07/24/07	AQ	Ground Water	MW-6
F51255-15	07/23/07	13:15 SS	07/24/07	AQ	Ground Water	MW-14
F51255-16	07/23/07	13:20 SS	07/24/07	AQ	Ground Water	MW-15
F51255-17	07/23/07	13:25 SS	07/24/07	AQ	Ground Water	MW-16

Sample Results

Report of Analysis

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-10R		
Lab Sample ID:	F51255-1	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020475.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	38.2	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	1.9	1.0	ug/l	
1330-20-7	Xylene (total)	17.4	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	24.2	1.0	ug/l	
91-20-3	Naphthalene	8.3	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	110%		76-127%
2037-26-5	Toluene-D8	90%		86-112%
460-00-4	4-Bromofluorobenzene	95%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-25		
Lab Sample ID:	F51255-4	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020476.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2	N0020491.D	5	07/26/07	MM	n/a	n/a	VN873

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	222 [a]	5.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	110%	95%	76-127%
2037-26-5	Toluene-D8	91%	93%	86-112%
460-00-4	4-Bromofluorobenzene	97%	100%	84-120%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	F51255-5	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020480.D	100	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1170	100	ug/l	
108-88-3	Toluene	4650	100	ug/l	
100-41-4	Ethylbenzene	3230	100	ug/l	
1330-20-7	Xylene (total)	14200	300	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1260	100	ug/l	
91-20-3	Naphthalene	538	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	95%		76-127%
2037-26-5	Toluene-D8	94%		86-112%
460-00-4	4-Bromofluorobenzene	98%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F51255-6	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020482.D	500	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	23300	500	ug/l	
108-88-3	Toluene	45000	500	ug/l	
100-41-4	Ethylbenzene	3400	500	ug/l	
1330-20-7	Xylene (total)	16000	1500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	10800	500	ug/l	
91-20-3	Naphthalene	ND	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	94%		87-116%
17060-07-0	1,2-Dichloroethane-D4	90%		76-127%
2037-26-5	Toluene-D8	91%		86-112%
460-00-4	4-Bromofluorobenzene	98%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-24		
Lab Sample ID:	F51255-7	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020483.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2	N0020502.D	5	07/27/07	MM	n/a	n/a	VN874

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	2.6	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	276 [a]	5.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	91%	109%	76-127%
2037-26-5	Toluene-D8	92%	93%	86-112%
460-00-4	4-Bromofluorobenzene	95%	106%	84-120%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	F51255-8	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020479.D	100	07/26/07	MM	n/a	n/a	VN873
Run #2	N0020501.D	200	07/27/07	MM	n/a	n/a	VN874

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	5760	100	ug/l	
108-88-3	Toluene	18600 [a]	200	ug/l	
100-41-4	Ethylbenzene	2750	100	ug/l	
1330-20-7	Xylene (total)	12000	300	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/l	
91-20-3	Naphthalene	575	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	100%	87-116%
17060-07-0	1,2-Dichloroethane-D4	95%	109%	76-127%
2037-26-5	Toluene-D8	94%	91%	86-112%
460-00-4	4-Bromofluorobenzene	96%	102%	84-120%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	F51255-9	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020484.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	46.3	1.0	ug/l	
108-88-3	Toluene	2.0	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	4.6	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		87-116%
17060-07-0	1,2-Dichloroethane-D4	91%		76-127%
2037-26-5	Toluene-D8	92%		86-112%
460-00-4	4-Bromofluorobenzene	95%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-26		
Lab Sample ID:	F51255-10	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020487.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	1.1	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	63.6	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		87-116%
17060-07-0	1,2-Dichloroethane-D4	113%		76-127%
2037-26-5	Toluene-D8	90%		86-112%
460-00-4	4-Bromofluorobenzene	99%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F51255-11	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020481.D	500	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	4410	500	ug/l	
108-88-3	Toluene	40700	500	ug/l	
100-41-4	Ethylbenzene	4810	500	ug/l	
1330-20-7	Xylene (total)	22100	1500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1110	500	ug/l	
91-20-3	Naphthalene	ND	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%		87-116%
17060-07-0	1,2-Dichloroethane-D4	94%		76-127%
2037-26-5	Toluene-D8	92%		86-112%
460-00-4	4-Bromofluorobenzene	96%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-13		
Lab Sample ID:	F51255-12	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020478.D	100	07/26/07	MM	n/a	n/a	VN873
Run #2	N0020500.D	1000	07/27/07	MM	n/a	n/a	VN874

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	12100 [a]	1000	ug/l	
108-88-3	Toluene	20900 [a]	1000	ug/l	
100-41-4	Ethylbenzene	2320	100	ug/l	
1330-20-7	Xylene (total)	10200	300	ug/l	
1634-04-4	Methyl Tert Butyl Ether	83600 [a]	1000	ug/l	
91-20-3	Naphthalene	302	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%	99%	87-116%
17060-07-0	1,2-Dichloroethane-D4	97%	108%	76-127%
2037-26-5	Toluene-D8	94%	90%	86-112%
460-00-4	4-Bromofluorobenzene	95%	107%	84-120%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	F51255-13	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020477.D	50	07/26/07	MM	n/a	n/a	VN873
Run #2	N0020492.D	100	07/26/07	MM	n/a	n/a	VN873

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	50	ug/l	
108-88-3	Toluene	ND	50	ug/l	
100-41-4	Ethylbenzene	ND	50	ug/l	
1330-20-7	Xylene (total)	ND	150	ug/l	
1634-04-4	Methyl Tert Butyl Ether	4730 [a]	100	ug/l	
91-20-3	Naphthalene	ND	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	96%	87-116%
17060-07-0	1,2-Dichloroethane-D4	106%	91%	76-127%
2037-26-5	Toluene-D8	89%	95%	86-112%
460-00-4	4-Bromofluorobenzene	97%	95%	84-120%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-15		
Lab Sample ID:	F51255-16	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020489.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.2	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%		87-116%
17060-07-0	1,2-Dichloroethane-D4	112%		76-127%
2037-26-5	Toluene-D8	90%		86-112%
460-00-4	4-Bromofluorobenzene	98%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	F51255-15	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020488.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	12.2	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		87-116%
17060-07-0	1,2-Dichloroethane-D4	110%		76-127%
2037-26-5	Toluene-D8	90%		86-112%
460-00-4	4-Bromofluorobenzene	98%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@66989 09:41 08-Aug-2007

Report of Analysis

Client Sample ID:	MW-16		
Lab Sample ID:	F51255-17	Date Sampled:	07/23/07
Matrix:	AQ - Ground Water	Date Received:	07/24/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0020490.D	1	07/26/07	MM	n/a	n/a	VN873
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	91%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

22705

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F51255
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI ENVIRONMENTAL INC
ADDRESS: 5100 REAGAN DR. STE.5
CITY: CHARLOTTE STATE: NC ZIP: 28206
SEND REPORT TO: DILLANE CRAWLEY
PHONE #: 704-596-8624

FACILITY INFORMATION

PROJECT NAME: CIRCLE STOP N SHOP
LOCATION: HWY 378 & 391 LEXINGTON, SC
PROJECT NO.:
FAX #: 704-596-8605

ANALYTICAL INFORMATION

8260B FOR BTEX, + MTBE, NAPTH.

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	8260B				LAB USE ONLY
1	MW-10R	7/23/07	11:54	HP,SS	GW	3	X	X	X			
2	MW-9R		11:55					X	X			
3	MW-8		12:05					X	X			
4	MW-25		12:10					X	X			
5	MW-1		12:15					X	X			
6	MW-2		12:20					X	X			
7	MW-24		12:25					X	X			
8	MW-7		12:30					X	X			
9	MW-3		12:35					X	X			
10	MW-26		12:45					X	X			
11	MW-4		12:50					X	X			

DATA TURNAROUND INFORMATION

- [x] STANDARD
- [ ] 48 HOUR RUSH
- [ ] 24 HOUR EMERGENCY
- [ ] OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] STANDARD
- [ ] COMMERCIAL "B"
- [ ] DISK DELIVERABLE
- [ ] STATE FORMS
- [ ] OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. HP	7/23/07 1700	1. FX	2. FX	7-24-07 9:00	2. Jorge Corral
3.		3.	4.		4.
5.		5.			

SEAL # | PRESERVE WHERE APPLICABLE ☐ | ON ICE ☐ | TEMPERATURE 1.2 C

F51255: Chain of Custody
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ACCUTEST Laboratories

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F51255
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI ENVIRONMENTAL INC
ADDRESS: 5100 REAGAN DR. STE 5
CITY: CHARLOTTE STATE: NC ZIP: 28206
SEND REPORT TO: DUANE CRAWLEY
PHONE #: 704-596-8604

FACILITY INFORMATION

PROJECT NAME: CIRCLE STOP N SHOP
LOCATION: HWY 378 & 391 LEXINGTON, SC
PROJECT NO.:
FAX #: 704-596-8605

ANALYTICAL INFORMATION

BTEX, MTBE, NAPTH.

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION ICE	HNO3	H2SO4	NaOH	NONE	BTEX	MTBE, NAPTH.	LAB USE ONLY
12	MW-13	7/23/07	12:55	HP,SS	GW	3	X					X	X	
13	MW-18		13:00									X	X	
14	MW-6		13:10									X	X	
15	MW-14		13:15									X	X	
16	MW-15		13:20									X	X	
17	MW-16		13:25									X	X	

DATA TURNAROUND INFORMATION

☒ STANDARD
☐ 48 HOUR RUSH
☐ 24 HOUR EMERGENCY
☐ OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

☐ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. HP	7/23/07 1700	1. FX	2. FX	7-24-07 9:00	2. Jorge Corral
3.		3.	4.		4.
5.		5.			

SEAL #: PRESERVE WHERE APPLICABLE ☐ ON ICE ☐ TEMPERATURE ____ C

F51255: Chain of Custody
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ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F51255 CLIENT: SEI PROJECT: CIRCLE stop NShop

DATE/TIME RECEIVED: 7-24-07 09:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 1.2

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8536 3067 9900

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [ ] TRIP BLANK PROVIDED
- [x] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [ ] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [ ] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OR LAB FILTERED METALS ? Ø

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE Jmc 7-24-07 TECHNICIAN SIGNATURE/DATE ASBD 10/03/06

3.1 3

F51255: Chain of Custody
Page 3 of 4

Job Change Order: F51255_7/25/2007

Requested Date:	7/25/2007	**Received Date:**	7/24/2007
Account Name:	SEI-Columbia, SC	**Due Date:**	8/3/2007
Project Description:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville,	**Deliverable:**	COMMB
CSR:	HW	**TAT (Days):**	7

Sample #: F51255--2 **Change:** Per clients request please cancel analysis on this sample

Sample #: F51255--14 **Change:** Per clients request please cancel analysis on this sample

Sample #: F51255--3 **Change:** Per clients request please cancel analysis on this sample

Above Changes Per: Scott Lucas- SEI **Date:** 7/25/2007

To Client: This Change Order is confirmation of the revisions, previously discussed with the Accutest Client Service Representative.

Page 1 of 1

F51255: Chain of Custody
Page 4 of 4

05981

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 28 2005

MR BILL WOOD
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DR STE 9
COLUMBIA SC 29223

Re: SEI Environmental Pay For Performance Projects
Meeting on March 23, 2005

Dear Mr. Wood:

On behalf of Lee Monts and the staff of the Assessment and Corrective Action Division, I would like to express our thanks for you and your colleagues taking the time to meet and discuss SEI Environmental's current situation regarding pay for performance (PfP) cleanups.

As we discussed, it is the Department's desire to see SEI accomplish the following three objectives in relation to these projects:

1. Return projects to a regular sampling and reporting schedule;
2. Re-establish reductions at sites where levels of chemicals of concern (CoC) have rebounded; and,
3. Begin closing out those projects that have achieved 95+ percent reduction of CoC but progress is no longer occurring.

In response to the first objective, you indicated that all projects would be back on schedule by the end of April, at the latest. You also stated that SEI has hired staff in the Columbia office and has reallocated personnel resources in other offices to assist with this effort.

In order to accomplish the other two objectives, SEI provided several proposals:

1. In order to limit some short-term costs, SEI proposes to drop historically clean monitoring wells from the sampling schedules of appropriate sites;
2. On some projects, especially the older ones, SEI would like to confirm/update the receptor surveys and possibly re-model the SSTLs;
3. On selected sites SEI will implement changes in technology, to include chemical oxidation. Mr. Mark Martin will meet with DHEC staff in the next few weeks to provide a detailed overview of his technology.

All site-specific proposals should be submitted to the individual project managers for review. Changes in technology will require a new public notice period.

UST PROGRAM
DOCKETING # 50 Tech

You also raised the subject of monitoring wells that formerly contained free phase product. As we understand your hypothesis, the free phase product has been smeared in the well and is producing significant levels of CoC in subsequent sampling events that are not representative of the aquifer. In order to correct this condition, you would like to propose some method to "sterilize" these monitoring wells. You are asked to provide whatever data you may have to support your hypothesis along with your proposal. While treatment of monitoring wells is not allowed under the terms and conditions of the PfP agreements, the UST Program will consider your proposal.

We were encouraged by the statements of Mr. McAllen Finley that SEI has every intention of completing the work at all of these sites. We appreciate that Mr. Finley traveled from Nashville to attend this meeting.

Please feel free to contact me at (803) 896-6585 if you have any questions or need additional information.

Sincerely,

Christopher S. Doll, P.G., Manager
Northeastern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

Cc: McAllen Finley, SEI Environmental, 2506 Grandview Ave., Nashville, TN 37211
Kent Coleman, Director, Assessment and Corrective Action Division
Lee Monts, Manager, Southwestern SC Corrective Action Section
Technical Files

DHEC/UST/032805

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

OCT 22 2004

DAVID B PITTMAN
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DR STE 9
COLUMBIA SC 29223

Re: Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received July 26, 2004
SEI Correspondence received September 16, 2004
Saluda County

Dear Mr. Pittman:

The Underground Storage Tank (UST) Program has reviewed the referenced correspondence regarding reduction of sampling frequency at this facility. Reduction in sampling frequency to semi-annual for all monitoring wells cannot be granted at this time. Although concentration reduction calculations for chemicals of concern (CoC) indicate greater than 90% reduction at this time, CoC levels greatly exceed site-specific target levels (SSTLs) in multiple wells. Due to the proximity of this release to a potential receptor (water supply wells), and documentation that a receptor has been previously impacted at this facility, frequent monitoring of the site is required to verify that the receptors are protected. Therefore, quarterly sampling should continue.

The Program concurs with your request to reduce the number of monitoring wells sampled quarterly and to reduce sampling frequency of certain wells. Monitoring wells MW-6, MW-12, MW-19, MW-20, MW-21 and MW-22 may be omitted from the sampling circuit until cleanup goals are reached and the post-remediation verification period begins, or until further notice from the Program. Sampling of monitoring wells MW-5, MW-11 and MW-15 may be reduced to semi-annual at this time. All monitoring wells, including those not sampled, should be gauged quarterly to allow accurate depiction of groundwater flow at the site. Furthermore, all monitoring wells must be sampled once cleanup goals are met and the post-remediation verification period begins.

On all correspondence regarding this site, please reference **UST Permit #05981**. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at surberjd@dhec.sc.gov.

Sincerely,

John D. Surber, Jr., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File

SCANNED

LET PROGRAM DOCKETING # 51Tech

SEI Environmental, Inc.

3021 McNaughton Drive
Suite 9
Columbia, SC 29223
800-377-2826
803-788-2535
Fax 803-788-2399

RECEIVED

SEP 16 2004

UNDERGROUND STORAGE TANK PROGRAM

September 16, 2004

John Surber, Hydrogeologist
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

Re: Review for Reduction in Sampling Frequency and Monitoring Well Quantity
Circle Stop N Shop
US Hwy 378 & 379
Leesville, South Carolina
UST Permit # 05981

Dear Mr. Surber;

SEI Environmental, Inc. (SEI) requests a review for the reduction in sampling frequency to semi-annual and a reduction in the monitoring wells sampled where applicable. The basis for this request is the quarterly sampling reports for August 18-19, 2003; November 19, 2003, March 11, 2004; and June 30, 2004 have 60.72%; 98.28%, 97.73%, and 97.78% contaminant reduction, respectively.

Sincerely,

David B. Pittman
Project Manager
SEI – Columbia Office

Attachment(s)

UST PROGRAM
DOCKETING # 52-Tech

cc: SEI Project Files

BOARD:
Elizabeth M. Hagood
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

Tech File

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BOARD:
Carl L. Brazell
Louisiana W. Wright
L. Michael Blackmon
Coleman F. Buckhouse, MD

February 19, 2004

RECEIVED
FEB 23 2004
UNDERGROUND STORAGE TANK PROGRAM

(BOW-GWMGMT)
Mr. John Paul Bekish
SEI Environmental, Inc.
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

Re: Underground Injection Control Permit #710
Circle Stop-N-Shop Site 05981
Saluda County

Dear Mr. Bekish:

Enclosed is a Permit to Operate for forty-one (41) Class VA-I (Aquifer Remediation) injection wells at Circle Stop-N-Shop Site, Saluda County, SC.

Affected parties may appeal this permit decision in accordance with State Regulation R.61-72. To contest a case, a request for a hearing must be made to the Clerk of the DHEC Board within 15 days of the date of this letter. All requests must include the following information:

1) name of the party requesting the hearing,
2) issue(s) for which the hearing is requested,
3) caption or other information sufficient to identify the decision, order, action or inaction which is the subject of the hearing,
4) relief requested.

Note further that Administrative Law Judge (ALJ) Division rules require that persons requesting a contested case hearing must file a copy of the request and pay a filing fee in the amount of $250 dollars (US) with the ALJ Division at the following address:

Clerk, ALJ Division
1205 Pendleton Street, Suite 224
P.O. Box 11667
Columbia, SC 29211

If you have any question, please call me at (803) 898-3549.

Sincerely,

Todd Adams

Todd Adams, Hydrologist
GroundWater Management Section
Bureau of Water

UST PROGRAM
DOCKETING # 53 Tech

cc: Patricia Hydrick, BLWM-USTP

BOARD:
Elizabeth M. Hagood
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BOARD:
Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Coleman F. Buckhouse, MD

WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Operating Approval
for

Class II, III, and V.A. Injection Well(s)

Permit #710 Date of Issue: February 19, 2004

In accordance with the provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, and pursuant to receiving a Permit to Operate forty-one (41) Class V.A.-I (Aquifer Remediation) injection well, authorization is granted to SEI, Inc. to operate forty-one (41) Class V.A.-I injection well located at the Circle Stop-N-Shop Site, Saluda County, SC, and are subject to the attached provisos noted for the operator.

The Class V.A.-I injection well is ¼ inches in diameter and approximately 15-60 feet deep.

Pursuant to Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, this authorization may be rescinded if these injection wells should, at any time, contaminate, pollute, or otherwise adversely affect other water in the vicinity or for any other conditions contained in R61-87, Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended.

Expires: February 19, 2013

Todd Adams, Hydrologist
GroundWater Management Section
Bureau of Water

February 19, 2004
Date

DHEC 2104 (6/88)

Provisos to the Injection Well Operating Approval
for
Underground Injection Well Permit #710
Circle Stop-N-Shop Site
Saluda County, S.C.
February 19, 2004

1) Construction of new or abandonment of existing wells must be reported to the Department within thirty (30) days of completion.

2) Only hydrogen peroxide as described in the Corrective Action Plan may be injected into the subsurface. Any changes in the system operation other than as presented in the UIC Permit Application must be reported to the Department prior to implementation.

SEI
Environmental, Inc.

3021 McNaughton Drive
Suite 9
Columbia, SC 29223
800-377-2826
803-788-2535
Fax 803-788-2399

January 13, 2004

RECEIVED
JAN 13 2004
UNDERGROUND STORAGE
TANK PROGRAM

Patricia Hydrick
Hydrogeologist
Underground Storage Tank Program
SCDHEC
2600 Bull Street
Columbia, South Carolina 29201

Re: Submittal of Invoice
Circle Stop N Shop
3287 Columbia Highway
Leesville, South Carolina
Saluda County
UST Permit #05981

Dear Ms. Hydrick;

SEI Environmental, Inc., SEI, submits the attached invoice, Attachment A, for your review and approval for 75% Reduction of CoC.

December 31, 2003 South Carolina Department of Health and Environmental Control, SCDHEC, notified SEI in the attached letter, Attachment B, that SCDHEC had completed sampling at the above referenced facility which confirmed SEI claim of a 75% reduction level in specified chemicals of concentration.

Based on the SEI's and SCDHEC's laboratory analytical data, SEI submits the attached request for payment.

If you have any questions and / or comments concerning the information provided in this document, please contact John Paul Bekish at 803-788-2535.

Sincerely,

John Paul Bekish
Operations Manager
SEI – Columbia, SC Office

UST PROGRAM
DOCKETING # 54 Tech

Attachment(s)

CC: SEI Project Files

Attachment A

CA Invoice

&

SEI Invoice

SEI Environmental, Inc.

3021 McNaughton Drive
Suite 9
Columbia, SC 29223
800-377-2826
803-788-2535
Fax 803-788-2399

Remit to:
P.O. Box 440068
Nashville, TN 37244

Invoice

SCDHEC Groundwater Protection
2600 Bull Street
Columbia, South Carolina 29201

January 13,2004
Project No: 303064
Invoice No. 0051866

Project: 303064

CIRCLE STOP N SHOP
UST # 05981 CA # 18586P

Site: CIRCLE STOP N SHOP
3287 COLUMBIA HIGHWAY
LEESVILLE, South Carolina

SEI Environmental, Inc. to invoice for completion of 75% reduction in CoC.

Item	Quantity	Amount	Total
75% Reduction of CoC	15%	$155,000.00	$23,250.00

Total **$23,250.00**

Attachment B

December 31, 2003 SCDHEC Letter

BOARD:
Elizabeth M. Hagood
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BOARD:
Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Coleman F. Buckhouse, MD

RECEIVED
JAN 05 2004

DAVID PITTMAN
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DRIVE STE 9
COLUMBIA SC 29223

DEC 31 2003

Re: Circle Stop N Shop, 3287 Columbia Highway, Leesville, SC
UST Permit # 05981
Corrective Action System Evaluation received December 1, 2003
Monitoring Report received December 22, 2003
Saluda County

Dear Mr. Pittman:

The Underground Storage Tank Program has reviewed the quarterly Corrective Action System Evaluation (CASE) and noted the findings. Additional sampling on December 11, 2003 by SCDHEC verified the report's claim of a 75% reduction level in specified chemicals of concentration. Enclosed is a copy of the monitoring report from Pace Analytical Services, Inc. The next report should be submitted on or before March 15, 2004.

On all correspondence regarding this site, please reference **UST Permit #05981**. If there are any questions concerning this project, please contact me by phone at (803) 896-6629 or (800) 826-5435 (within SC only), by fax at (803) 896-6245 or by email at hydricpa@dhec.sc.gov

Sincerely,

Patricia Hydrick

Patricia Hydrick, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Monitoring report
cc: Technical File

DHEC/UST/PAH/12.30.03

BOARD:
Elizabeth M. Hagood
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Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

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C. Earl Hunter, Commissioner

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BOARD:
Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Coleman F. Buckhouse, MD

LOUISE NORTHEY CLARK
2920 PROSPERITY HIGHWAY
LEESVILLE SC 29070

DEC 31 2003

Re: Circle Stop N Shop, 3287 Columbia Highway, Leesville, SC
UST Permit # 05981
Corrective Action System Evaluation received December 1, 2003
Monitoring Report received December 22, 2003
Saluda County

Dear Ms. Clark:

The Underground Storage Tank Program has reviewed the quarterly Corrective Action System Evaluation (CASE) submitted by SEI Environmental and a monitoring report submitted by Pace Analytical Services, Inc. Additional sampling on December 11, 2003 by SCDHEC verified SEI Environmental's claim of a 75% reduction level in specified chemicals of concentration. Enclosed are copies of the CASE report and the monitoring report. Corrective action activities will continue until a 100% reduction level in specified chemicals of concentration is maintained. The next report is due March 15, 2004, and the UST Program will forward a copy of that report to you after review.

On all correspondence regarding this site, please reference **UST Permit #05981**. If there are any questions concerning this project, please contact me by phone at (803) 896-6629 or (800) 826-5435 (within SC only), by fax at (803) 896-6245 or by email at hydricpa@dhec.sc.gov

Sincerely,

Patricia Hydrick, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

PROGRAM DOCKETING # 55 Tech

enc: CASE report, Monitoring report
cc: Technical File

DHEC/UST/PAH/12.30.03

BOARD:
Elizabeth M. Hagood
Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BOARD:
Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Coleman F. Buckhouse, MD

JOAN BOOZER
3287 COLUMBIA HIGHWAY
LEESVILLE SC 29070

DEC 31 2003

Re: Circle Stop N Shop, 3287 Columbia Highway, Leesville, SC
UST Permit # 05981
Corrective Action System Evaluation received December 1, 2003
Monitoring Report received December 22, 2003
Saluda County

Dear Ms. Boozer:

The Underground Storage Tank Program has reviewed the quarterly Corrective Action System Evaluation (CASE) submitted by SEI Environmental and a monitoring report submitted by Pace Analytical Services, Inc. Additional sampling on December 11, 2003 by SCDHEC verified SEI Environmental's claim of a 75% reduction level in specified chemicals of concentration. Enclosed are copies of the CASE report and the monitoring report. Corrective action activities will continue until a 100% reduction level in specified chemicals of concentration is maintained. The next report is due March 15, 2004, and the UST Program will forward a copy of that report to you after review.

On all correspondence regarding this site, please reference **UST Permit #05981**. If there are any questions concerning this project, please contact me by phone at (803) 896-6629 or (800) 826-5435 (within SC only), by fax at (803) 896-6245 or by email at hydricpa@dhec.sc.gov

Sincerely,

Patricia Hydrick

Patricia Hydrick, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE report, Monitoring report
cc: Technical File (w/ enc.)

DHEC/UST/PAH/12.30.03

BOARD:
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Chairman

Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

BOARD:
Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Coleman F. Buckhouse, MD

DAVID PITTMAN
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DRIVE STE 9
COLUMBIA SC 29223

DEC 31 2003

Re: Circle Stop N Shop, 3287 Columbia Highway, Leesville, SC
UST Permit # 05981
Corrective Action System Evaluation received December 1, 2003
Monitoring Report received December 22, 2003
Saluda County

Dear Mr. Pittman:

The Underground Storage Tank Program has reviewed the quarterly Corrective Action System Evaluation (CASE) and noted the findings. Additional sampling on December 11, 2003 by SCDHEC verified the report's claim of a 75% reduction level in specified chemicals of concentration. Enclosed is a copy of the monitoring report from Pace Analytical Services, Inc. The next report should be submitted on or before March 15, 2004.

On all correspondence regarding this site, please reference **UST Permit #05981**. If there are any questions concerning this project, please contact me by phone at (803) 896-6629 or (800) 826-5435 (within SC only), by fax at (803) 896-6245 or by email at hydricpa@dhec.sc.gov

Sincerely,

Patricia Hydrick, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: Monitoring report
cc: Technical File

DHEC/UST/PAH/12.30.03

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone. 704.875.9092
Fax: 704.875.9091

December 19, 2003

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

RECEIVED
DEC 22 2003
UNDERGROUND STORAGE
TANK PROGRAM

RE: Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Dear Ms. Thoma:

Enclosed are the analytical results for sample(s) received by the laboratory on December 12, 2003. Results reported herein conform to the most current NELAC standards, where applicable, unless otherwise narrated in the body of the report.

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

Sincerely,

Sherri Stabel
Sherri.Stabel@pacelabs.com
Project Manager

Enclosures

UST PROGRAM
DOCKETING # 55B

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Asheville Certification IDs	
NC Wastewater	40
NC Drinking Water	37712
SC Environmental	99030

Charlotte Certification IDs	
NC Wastewater	12
NC Drinking Water	37706
SC	99006

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628952 Project Sample Number: 9255726-001 Date Collected: 12/11/03 10:15
Client Sample ID: MW-7 Matrix: Water Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	3300	ug/l	250	50.0	12/16/03 08:04	RWS	71-43-2		
Ethylbenzene	2400	ug/l	250	50.0	12/16/03 08:04	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/16/03 08:04	RWS	1634-04-4		
Naphthalene	680	ug/l	250	50.0	12/16/03 08:04	RWS	91-20-3		
Toluene	14000	ug/l	500	100	12/16/03 08:04	RWS	108-88-3		
m&p-Xylene	8000	ug/l	500	50.0	12/16/03 08:04	RWS			
o-Xylene	4000	ug/l	250	50.0	12/16/03 08:04	RWS	95-47-6		
Toluene-d8 (S)	89	%		1.0	12/16/03 08:04	RWS	2037-26-5		
4-Bromofluorobenzene (S)	99	%		1.0	12/16/03 08:04	RWS	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	12/16/03 08:04	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	96	%		1.0	12/16/03 08:04	RWS	17060-07-0		

REPORT OF LABORATORY ANALYSIS

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without the written consent of Pace Analytical Services, Inc.

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030

Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone. 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628960 Project Sample Number: 9255726-002 Date Collected: 12/11/03 10:45
Client Sample ID: MW-1 Matrix: Water Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	950	ug/l	100	20.0	12/16/03 13:28	RWS	71-43-2		
Ethylbenzene	2900	ug/l	100	20.0	12/16/03 13:28	RWS	100-41-4		
Methyl-tert-butyl ether	1700	ug/l	100	20.0	12/16/03 13:28	RWS	1634-04-4		
Naphthalene	440	ug/l	100	20.0	12/16/03 13:28	RWS	91-20-3		
Toluene	10000	ug/l	500	100	12/16/03 13:28	RWS	108-88-3		
m&p-Xylene	13000	ug/l	1000	100	12/16/03 13:28	RWS			
o-Xylene	5800	ug/l	500	100	12/16/03 13:28	RWS	95-47-6		
Toluene-d8 (S)	99	%		1.0	12/16/03 13:28	RWS	2037-26-5		
4-Bromofluorobenzene (S)	94	%		1.0	12/16/03 13:28	RWS	460-00-4		
Dibromofluoromethane (S)	103	%		1.0	12/16/03 13:28	RWS	1868-53-7		
1.2-Dichloroethane-d4 (S)	108	%		1.0	12/16/03 13:28	RWS	17060-07-0		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030

Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628978 Project Sample Number: 9255726-003 Date Collected: 12/11/03 11:15
Client Sample ID: MW-2 Matrix: Water Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	9100	ug/l	250	50.0	12/16/03 08:21	RWS	71-43-2		
Ethylbenzene	2200	ug/l	250	50.0	12/16/03 08:21	RWS	100-41-4		
Methyl-tert-butyl ether	3100	ug/l	250	50.0	12/16/03 08:21	RWS	1634-04-4		
Naphthalene	1300	ug/l	250	50.0	12/16/03 08:21	RWS	91-20-3		
Toluene	33000	ug/l	2500	500	12/16/03 08:21	RWS	108-88-3		
m&p-Xylene	7500	ug/l	500	50.0	12/16/03 08:21	RWS			
o-Xylene	4100	ug/l	250	50.0	12/16/03 08:21	RWS	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/16/03 08:21	RWS	2037-26-5		
4-Bromofluorobenzene (S)	97	%		1.0	12/16/03 08:21	RWS	460-00-4		
Dibromofluoromethane (S)	90	%		1.0	12/16/03 08:21	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	93	%		1.0	12/16/03 08:21	RWS	17060-07-0		

REPORT OF LABORATORY ANALYSIS

This report shall not be reproduced, except in full,
without the written consent of Pace Analytical Services, Inc.

Pace Analytical®
www.pacelabs.com

Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628986 | Project Sample Number: 9255726-004 | Date Collected: 12/11/03 11:30
Client Sample ID: MW-3 | Matrix: Water | Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	56.	ug/l	5.0	1.0	12/16/03 08:38	RWS	71-43-2		
Ethylbenzene	3.4	J ug/l	5.0	1.0	12/16/03 08:38	RWS	100-41-4		
Methyl-tert-butyl ether	ND	ug/l	5.0	1.0	12/16/03 08:38	RWS	1634-04-4		
Naphthalene	4.9	J ug/l	5.0	1.0	12/16/03 08:38	RWS	91-20-3		
Toluene	12.	ug/l	5.0	1.0	12/16/03 08:38	RWS	108-88-3		
m&p-Xylene	19.	ug/l	10.	1.0	12/16/03 08:38	RWS			
o-Xylene	10.	ug/l	5.0	1.0	12/16/03 08:38	RWS	95-47-6		
Toluene-d8 (S)	101	%		1.0	12/16/03 08:38	RWS	2037-26-5		
4-Bromofluorobenzene (S)	92	%		1.0	12/16/03 08:38	RWS	460-00-4		
Dibromofluoromethane (S)	99	%		1.0	12/16/03 08:38	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	92	%		1.0	12/16/03 08:38	RWS	17060-07-0		

REPORT OF LABORATORY ANALYSIS

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Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030

Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923628994 Project Sample Number: 9255726-005 Date Collected: 12/11/03 12:00
Client Sample ID: MW-4 Matrix: Water Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	450	J ug/l	500	100	12/16/03 08:55	RWS	71-43-2		
Ethylbenzene	2500	ug/l	500	100	12/16/03 08:55	RWS	100-41-4		
Methyl-tert-butyl ether	53.	ug/l	5.0	1.0	12/16/03 08:55	RWS	1634-04-4		
Naphthalene	310	J ug/l	500	100	12/16/03 08:55	RWS	91-20-3		
Toluene	12000	ug/l	500	100	12/16/03 08:55	RWS	108-88-3		
m&p-Xylene	8900	ug/l	1000	100	12/16/03 08:55	RWS			
o-Xylene	3900	ug/l	500	100	12/16/03 08:55	RWS	95-47-6		
Toluene-d8 (S)	77	%		1.0	12/16/03 08:55	RWS	2037-26-5	1	
4-Bromofluorobenzene (S)	98	%		1.0	12/16/03 08:55	RWS	460-00-4		
Dibromofluoromethane (S)	104	%		1.0	12/16/03 08:55	RWS	1868-53-7		
1,2-Dichloroethane-d4 (S)	107	%		1.0	12/16/03 08:55	RWS	17060-07-0		

REPORT OF LABORATORY ANALYSIS

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

Lab Sample No: 923629000 Project Sample Number: 9255726-006 Date Collected: 12/11/03 12:30
Client Sample ID: MW-13 Matrix: Water Date Received: 12/12/03 12:55

Parameters	Results	Units	Report Limit	DF	Analyzed	By	CAS No.	Qual	RegLmt
GC/MS Volatiles									
GC/MS VOCs by 8260	Method: EPA 8260								
Benzene	4400	ug/l	1200	250	12/16/03 09:13	RWS	71-43-2		
Ethylbenzene	460	ug/l	5.0	1.0	12/16/03 09:13	RWS	100-41-4	2	
Methyl-tert-butyl ether	68000	ug/l	2500	500	12/16/03 09:13	RWS	1634-04-4		
Naphthalene	150	ug/l	5.0	1.0	12/16/03 09:13	RWS	91-20-3		
Toluene	6100	ug/l	1200	250	12/16/03 09:13	RWS	108-88-3		
m&p-Xylene	3200	ug/l	2500	250	12/16/03 09:13	RWS			
o-Xylene	1600	ug/l	1200	250	12/16/03 09:13	RWS	95-47-6		
Toluene-d8 (S)	96	%		1.0	12/16/03 09:13	RWS	2037-26-5		
4-Bromofluorobenzene (S)	96	%		1.0	12/16/03 09:13	RWS	460-00-4		
Dibromofluoromethane (S)	112	%		1.0	12/16/03 09:13	RWS	1868-53-7		
1.2-Dichloroethane-d4 (S)	104	%		1.0	12/16/03 09:13	RWS	17060-07-0		

REPORT OF LABORATORY ANALYSIS
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Asheville Certification IDs
NC Wastewater 40
NC Drinking Water 37712
SC Environmental 99030

Charlotte Certification IDs
NC Wastewater 12
NC Drinking Water 37706
SC 99006

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Pace Analytical Services, Inc.
9800 Kincey Avenue, Suite 100
Huntersville, NC 28078
Phone: 704.875.9092
Fax: 704.875.9091

Lab Project Number: 9255726
Client Project ID: Circle Stop/05981/20839

PARAMETER FOOTNOTES

Dilution factor shown represents the factor applied to the reported result and reporting limit due to changes in sample preparation, dilution of the extract, or moisture content

Inorganic Wet Chemistry and Metals Analyses were performed at our Pace Asheville laboratory and Organic testing was performed at our Pace Charlotte laboratory unless otherwise footnoted.

ND	Not detected at or above adjusted reporting limit
NC	Not Calculable
J	Estimated concentration above the adjusted method detection limit and below the adjusted reporting limit
MDL	Adjusted Method Detection Limit
(S)	Surrogate
[1]	Low surrogate recovery was confirmed as a matrix effect by a second analysis.
[2]	Compound concentration exceeds the calibration range of the instrument (CLP E-Flag).

REPORT OF LABORATORY 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.

716082

Page: 1 of 1

Section A — Required Client Information:

Company: SCDHEC
Address: 2600 Bull Street
Columbia, SC 29201
Phone: 803-896-6240 Fax: 803-896-6243

Section B — Required Client Information:

Report To: Debra Thoma
Copy To: Debra Thoma
Invoice To: Debra Thoma
P.O.: 416296
Project Name: Circle Stop
Project Number: 05981/20839: P

Client Information (Check quote/contract):
Requested Due Date: 12-22-03
*TAT: 7 days

* Turn around times less than 14 days subject to laboratory and contractual obligations and may result in a Rush Turnaround Surcharge.
Turn Around Time (TAT) in calendar days.

Section C — To Be Completed by Pace Analytical and Client

Quote Reference:
Project Manager:
Project #: 55726
Profile #:

Section D — Required Client Information:

SAMPLE ID
One character per box.
(A–Z, 0–9 / –)
Sample IDs MUST BE UNIQUE

Valid Matrix Codes

MATRIX	CODE
WATER	WT
SOIL	SL
OIL	OL
WIPE	WP
AIR	AR
TISSUE	TS
OTHER	OT

Requested Analysis: 8260B BTEX Naphthalene

ITEM #	SAMPLE ID	MATRIX CODE	DATE COLLECTED (mm / dd / yy)	TIME COLLECTED (hh:mm a/p)	# Containers	Preservatives: Unpreserved	H_2SO_4	HNO_3	HCl	NaOH	$Na_2S_2O_3$	Methanol	Other	Remarks / Lab ID
1	MW-7	WT	12-11-03	1015	3				X					3628952
2	MW-1	WT	12-11	1045	3				X					960
3	MW-2	WT	12-11	1115	3				X					978
4	MW-3	WT	12-11	1130	3				X					986
5	MW-4	WT	12-11	1200	3				X					994
6	MW-R3	WT	12-11	1230	3				X					9000
7														
8														
9														
10														
11														
12														

SHIPMENT METHOD	AIRBILL NO.	SHIPPING DATE	NO. OF COOLERS

ITEM NUMBER	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME
	READ S MINER	12-11	1615	[illegible] SMOEL	12-11-03	8:31
	[illegible]	12-12	1215	[illegible] Pace	12/12/03	1253

SAMPLE CONDITION

Temp in °C	2.0
Received on Ice	Y/N
Sealed Cooler	Y/N
Samples Intact	Y/N

SAMPLE NOTES

Additional Comments:

SAMPLER NAME AND SIGNATURE

PRINT Name of SAMPLER: READ S MINER
SIGNATURE of SAMPLER: Read S Miner
DATE Signed (MM / DD / YY): 12-11-03

Dec. 22. 2003 4:17PM PACE ANALYTICAL No. 0570 P. 9/9

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

DEC 12 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 December 11, 2003.

UST Permit #	County	Analyses-Groundwater	CA #	Bottles (Y/N)
05981	Saluda	6-BTEX	20839	N

If you have any questions or need further assistance, please contact me at (803) 896-6629 or (800) 826-5435 (within SC only).

Sincerely,

Patricia Hydrick

Patricia Hydrick, Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division
Bureau of Land and Waste Management

Enc: Approved Cost Agreement

cc: Debra Thoma, State Lead & Field Services
Technical/Read File

UST PROGRAM DOCKETING # 56 Tech

Approved Cost Agreement 60839

Facility: 05981 CIRCLE STOP N SHOP
HYDRICPA
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	6.0000	30.00	180.00

Total Amount 180.00

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) 896-6240 FAX (803) 896-6245

SEP 2 9 2003

JOAN BOOZER
3287 COLUMBIA HWY
LEESVILLE SC 29070

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA #17203, PO #463655
SB 21914-03/25/02-EMW
Corrective Action System Evaluation Report received September 5, 2003
Saluda County

Dear Ms. Boozer:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report submitted by SEI Environmental, Inc. SEI is currently conducting corrective action activities in response to groundwater contamination at the facilities referenced above. Enclosed is a copy of the monitoring report received September 5, 2003. This information is being sent to you in order to keep you informed of the environmental conditions in the area. The next quarterly sampling will be conducted in approximately three months; the UST Program will forward a copy of that report to you after review.

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions or need additional information, please contact me at (803) 896-6676.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Underground Storage Tank Program

Enc: CASE report

cc: J.M. Northey, Rt 4 Box 190, Leesville, SC 29070 (w/ enc)
Technical File (no enc)

SCDHEC/UST/SEB/092503

DOCKETING # 57 Tech

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

SEP 2 9 2003

MR JOHN PAUL BEKISH
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DR STE 9
COLUMBIA SC 29223

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA #17203, PO #463655
SB 21914-03/25/02-EMW
Corrective Action System Evaluation Report received September 5, 2003
Saluda County

Dear Mr. Bekish:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced report. The next corrective action monitoring report is due on or before December 15, 2003.

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions or need additional information, please contact me at (803) 896-6676.

Sincerely,

Susan Block

Susan Block, Hydrogeologist
State Lead and Field Services Section
Underground Storage Tank Program

cc: Technical File

SCDHEC/UST/SEB/092503

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

SEP 2 6 2003

STEPHEN E DORN
RESIDENT MAINTENANCE ENGINEER
SCDOT SALUDA MAINTENANCE FACILITY
PO BOX 400
SALUDA SC 29138-0400

Re: Application for Encroachment Permit
Circle Stop N Shop, 3287 Columbia Hwy., Leesville, SC
UST Permit #05981
Saluda County

Dear Mr. Dorn:

The South Carolina Department of Health and Environmental Control (SCDHEC) has been contacted by SEI Environmental regarding the Application for Encroachment Permit submitted on behalf of Mrs. Gail Smith. The application requests permission to install perpetual peroxide injection points in the rights-of-way of SC-391 and within the divider island.

The SCDHEC considers the proposed location of the injection points within the rights-of-way as necessary and appropriate to remediate the ground-water contamination at the Circle Stop N Shop site. This corrective action is in the public interest of protecting the ground-water supply of the State of South Carolina. The Department, therefore, respectfully requests that the SCDOT approve the application as submitted. Should you require additional information regarding this site, feel free to contact this office at (803) 896-6240 or John Paul Bekish, SEI Environmental. Inc. at 803-788-2535.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
State Lead & Field Services Section
Assessment and Corrective Action Division

Cc: John Paul Bekish, SEI Environmental, 3021 McNaughton Dr., Ste. 9, Columbia, SC, 29223
Technical File

UST PROGRAM
DOCKETING # 58A Tech

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

SEP 19 2003

STEPHEN E DORN
RESIDENT MAINTENANCE ENGINEER
SCDOT SALUDA MAINTENANCE FACILITY
PO BOX 715
SALUDA SC 29138-0715

Re: Application for Encroachment Permit
Circle Stop N Shop, 3287 Columbia Hwy., Leesville, SC
UST Permit #05981
Saluda County

Dear Mr. Dorn:

The South Carolina Department of Health and Environmental Control (SCDHEC) has been contacted by SEI Environmental regarding the Application for Encroachment Permit submitted on behalf of Mrs. Gail Smith. The application requests permission to install perpetual peroxide injection points in the rights-of-way of SC-391 and within the divider island.

The SCDHEC considers the proposed location of the injection points within the rights-of-way as necessary and appropriate to remediate the ground-water contamination at the Circle Stop N Shop site. This corrective action is in the public interest of protecting the ground-water supply of the State of South Carolina. The Department, therefore, respectfully requests that the SCDOT approve the application as submitted. Should you require additional information regarding this site, feel free to contact this office at (803) 896-6240 or John Paul Bekish, SEI Environmental. Inc. at 803-788-2535.

Sincerely,

Debra L. Thoma

Debra L. Thoma, Hydrogeologist
State Lead & Field Services Section
Assessment and Corrective Action Division

Cc: John Paul Bekish, SEI Environmental, 3021 McNaughton Dr., Ste. 9, Columbia, SC, 29223
Technical File

UST PROGRAM
DOCKETING # 58B Tech

SEI ENVIRONMENTAL, INC.

3021 McNaughton Drive, Suite 9, Columbia, S.C. 29223
Phone (803)788.2535 Fax (803) 788.2399

ATTENTION: Debra Thomas

COMPANY: DHEC

DATE: 9/18/03

FAX NUMBER: 896 6245

PHONE NUMBER:

FROM: Paul Baker

PAGES: 4 (INCLUDING COVERSHEET)

COMMENTS Permit to Operate
Circle Stop N Shop

RECEIVED
SEP 18 2003
UNDERGROUND STORAGE TANK PROGRAM

PLEASE CALL IF YOU HAVE QUESTIONS OR IF THIS FAX IS NOT COMPLETE.

PROVIDING PRACTICAL SOLUTIONS FOR TODAY'S ENVIRONMENTAL NEEDS.....

HARD COPY BEING SENT VIA:

( )First Class Mail ( )Federal Express ( )Messenger( )None

UST PROGRAM DOCKETING # 59 Tech

#05981

SEI ENVIRONMENTAL, INC.

3021 McNaughton Drive, Suite 9, Columbia, S.C. 29223
Phone (803)788.2535 Fax (803) 788.2399

ATTENTION: Debra Thomas

COMPANY: DHEC

DATE: 9/18/03

FAX NUMBER: 896 6245

PHONE NUMBER:

FROM: Paul Baker

PAGES: 4 (INCLUDING COVERSHEET)

COMMENTS ~~Permit to Operate~~ DOT Encroachment Permit
Circle Stop N Shop

PLEASE CALL IF YOU HAVE QUESTIONS OR IF THIS FAX IS NOT COMPLETE.

PROVIDING PRACTICAL SOLUTIONS FOR TODAY'S ENVIRONMENTAL NEEDS.....

HARD COPY BEING SENT VIA:

( )First Class Mail ( )Federal Express ( )Messenger( )None

U.S. DEPARTMENT OF TRANSPORTATION
FORM 638 (REV. 7/93)

Page 1 of 2

APPLICATION FOR ENCROACHMENT PERMIT

(ENCROACHMENT PERMIT OTHER THAN A PUBLIC UTILITY)

No. _____

APPLICANT: Circle Stop & Shop
AND
ADDRESS: 3287 Columbia Hwy, Leesville SC

TELEPHONE NUMBER: (704) 398 8746

COUNTY: Saluda
ROAD/ROUTE: SC Hwy 39 & 378
ROAD NAME: Hwy 391 (Columbia Hwy)

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: ① Right of Way - 13 perpetual peroxide points west side of SC Hwy 391
② Divider Island East of SC Hwy 391
3. Description of location:
① Please refer to Figure 2
#15 50', SW of Edge of Divider Island
#14 40', SW of Edge of Divider Island
13# 36', SW of Edge of Divider Island
12# 31', SW of Edge of Divider Island
11# 26' SW of Edge of Divider Island
#10 26' W of Divider Island
#9 27' NW of Divider Island
#8 34' NW of Divider Island
#16 39' NW of Divider Island
#17 34' W of Divider Island

(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 location 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 Department 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 Department's "A Policy for Accommodating Utilities on Highways Rights of Way" and "Standard Specifications for Highway Construction" (made a part hereof by reference) on file in the Utility Office of the Department, and all general provisions on the reverse hereof and special provisions below or attached hereto during the installation, operation and maintenance of said encroachment within the Department Right of Way. The applicant hereby further agrees, and binds his heirs, successors, assigns, to assume any and all liability this Department might otherwise have in connection with 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 agrees to indemnify this Department for any liability incurred or injury or damage sustained by reason of the past, present, or future existence of said appurtenances.

APPLICANT NAME: John Paul Bekish (PLEASE PRINT OR TYPE) DATE: 9/12/03

APPLICANT SIGNATURE: [signature] TITLE: Branch Manager

In compliance with your request and subject to all the provisions, terms, conditions and restrictions stated in the application, general provisions on the reverse hereof, and special provisions below or attached hereto, the Department approves the request. This permit shall become null and void unless the work contemplated herein shall have been completed prior to _____.

SPECIAL PROVISIONS:

DATE RECEIVED BY RES. MAINT. ENGR. | DATE FORWARDED | SCDOT APPROVAL | DATE

DATE RECEIVED BY DIST. ENGR. ADMIN. | DATE FORWARDED

☐ RESIDENT MAINTENANCE ENGINEER ☐ STATE HIGHWAY ENGINEER
☐ DISTRICT ENGINEERING ADMINISTRATOR ☐ DISTRICT MAINT./CONSTRUCTION ENGINEER

FORM 638 (REV. 7/93)

Page 2 of 2

APPLICATION FOR ENCROACHMENT PERMIT

(ENCROACHMENT PERMIT OTHER THAN A PUBLIC UTILITY)

No.

APPLICANT: Circle Stop & Shop

AND

ADDRESS: 3287 Columbia Hwy Leesville SC

TELEPHONE NUMBER (704) 398-8746

COUNTY: Saluda

ROAD/ROUTE: SC Hwy 39 & 378

ROAD NAME: Hwy 391 (Columbia Hwy)

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: (1) Right of way 13 perpetual peroxide points west side of SC Hwy 391
   (2) Divider Island East Side of SC Hwy 391
   (3) 1 Borehole under 391 at approx. 5 feet BGS
3. Description of location:

(1) #18 35' West of Edge of Divider Island
#19 39' West of Edge of Divider Island
#20 43' SW of Edge of Divider Island

(3) X 45' NE of Edge of Island
Z 36' N from Edge of Island
30' Borehole (5' deep) across 391

(2) Divider Island
#5 N 23' from Edge Divider Island
#6 N 34' from Edge of Divider Island
#7 N 42' from Edge of Divider Island
#1 45' NE of Edge of Divider Island
#2 39' NE of Edge of Divider Island
#3 31' NE of Edge of Divider Island
#4 23' NE of Edge of Divider Island

(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 location 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 Department 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 Department's "A Policy for Accommodating Utilities on Highways Rights of Way" and "Standard Specifications for Highway Construction" (made a part hereof by reference) on file in the Utility Office of the Department, and all general provisions on the reverse hereof and special provisions below or attached hereto during the installation, operation and maintenance of said encroachment within the Department Right of Way. The applicant hereby further agrees, and binds his heirs, successors, assigns, to assume any and all liability this Department might otherwise have in connection with 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 agrees to indemnify this Department for any liability incurred or injury or damage sustained by reason of the past, present, or future existence of said appurtenances.

APPLICANT NAME: John Paul Bekish (PLEASE PRINT OR TYPE)

DATE: 8/12/03

APPLICANT SIGNATURE: [signature]

TITLE: Branch Manager

In compliance with your request and subject to all the provisions, terms, conditions and restrictions stated in the application, general provisions on the reverse hereof, and special provisions below or attached hereto, the Department approves the request. This permit shall become null and void unless the work contemplated herein shall have been completed prior to _____.

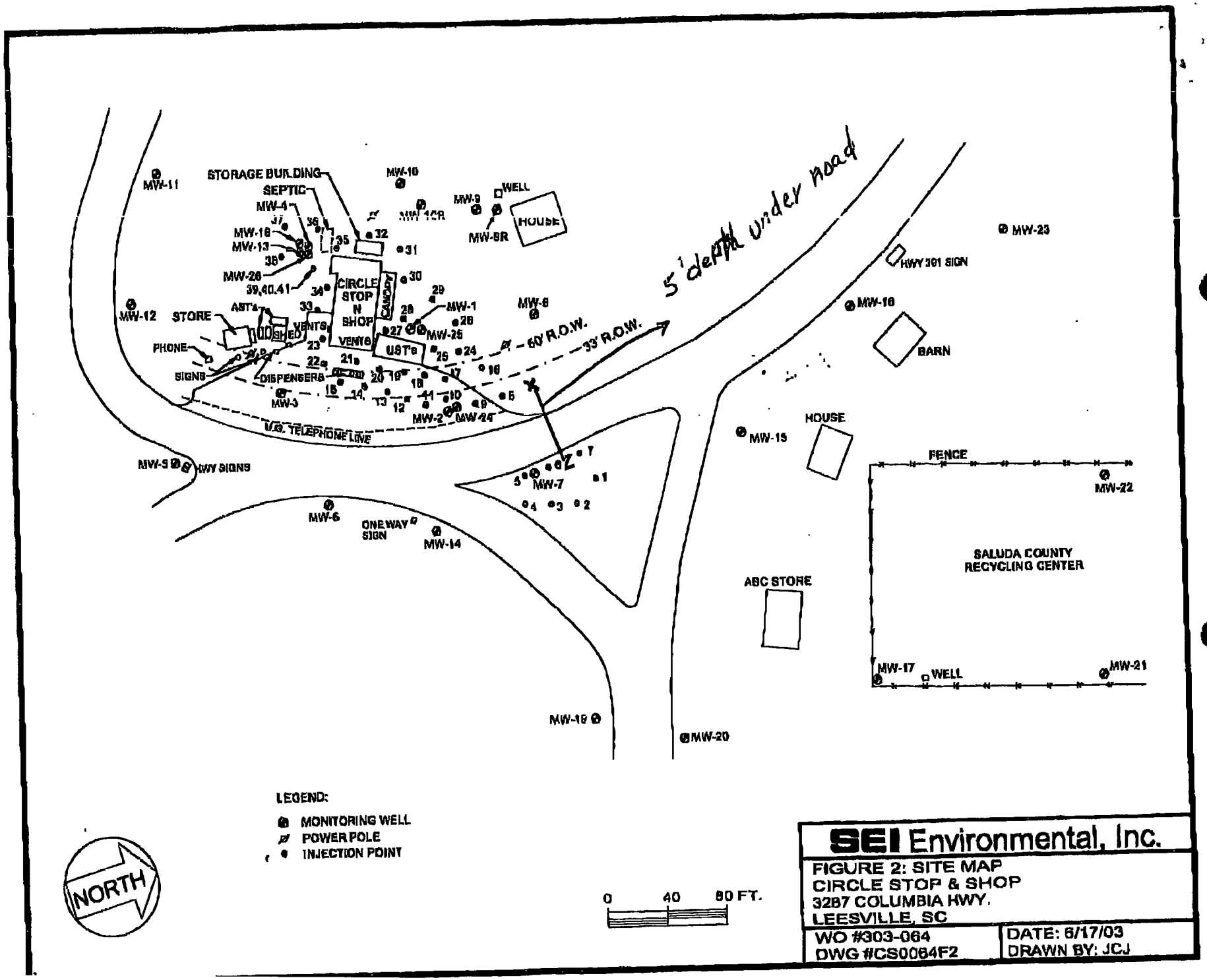
SPECIAL PROVISIONS:

DATE RECEIVED BY RES. MAINT. ENGR. | DATE FORWARDED | SCDOT APPROVAL | DATE

DATE RECEIVED BY DIST. ENGR. ADMIN. | DATE FORWARDED

☐ RESIDENT MAINTENANCE ENGINEER ☐ STATE HIGHWAY ENGINEER

☐ DISTRICT ENGINEERING ADMINISTRATOR ☐ DISTRICT MAINT./CONSTRUCTION ENGINEER



SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 6/17/03
DWG #CS0064F2	DRAWN BY: JCJ

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

SEP 05 2007

STEVE AND JOAN BOOZER
CIRCLE STOP N SHOP
3287 COLUMBIA HWY
LEESVILLE SC 29070-7216

Re: CASE Review
Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received August 28, 2007
Saluda County

Dear Mr. and Mrs. Boozer:

The Underground Storage Tank Program (UST) has reviewed the referenced report. SEI Environmental, Inc. is currently conducting corrective action activities in response to groundwater contamination at the referenced facility. The current overall Chemicals of Concern (CoC) reduction has been calculated to be 96.66%. The next sampling will be conducted in approximately three months.

On all correspondence regarding this site, please reference the UST Permit #**05981**. Please feel free to contact me at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov if you have questions or need additional information.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Technical File (w/o enc)

DHEC/UST/STU/060607

UST PROGRAM
DOCKETING # 6

SEI Environmental, Inc.

3021 McNaughton Drive
Suite 9
Columbia, SC 29223
800-377-2826
803-788-2535
Fax 803-788-2399

RECEIVED
AUG 20 2003
Underground Storage Tank Program

August 19, 2003

Umar K. Khattak
Hydrogeologist / Project Manager
SCDHEC
2600 Bull Street
Columbia, SC 29201-1708

Re: Summary of Corrective Action and Gauging Results
Circle Stop N Shop
US Hwy 378 & 379
Leesville, South Carolina
UST Permit # 05981

Dear Mr. Khattak;

SEI Environmental, Inc. submits the attached Underground Injection Control Permit # 710 for the above referenced facility submitted by the South Carolina Groundwater Management Section.

In addition, SEI submits that the injection system was started the first week of August 2003. SEI has scheduled a sampling event for August 18 and 19, 2003. Upon receipt of the laboratory analytical data, SEI will submit a report summarizing site activities.

If you have any questions and / or comments concerning the information contained in this document, please contact John Paul Bekish at (803) 788-2535.

Sincerely,

John Paul Bekish
Branch Manager
SEI – Columbia, SC

Attachment

CC: Joan Boozer – Property Owner
SEI Project Files

UST PROGRAM DOCKETING # 60 Tech

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
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Vice Chairman

Howard L. Brilliant, MD
Secretary

Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Lawrence R. Chewning, Jr., DMD

July 30, 2003

RECEIVED
AUG 01 2003

Mr. John Paul Bekish
SEI Environmental, Inc.
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

Re: Underground Injection Control Permit #710
Circle Stop N Shop Site
Saluda County

Dear Mr. Bekish:

Enclosed is a Permit to Construct for forty-one (41) Class VA-I injection wells at the Circle Stop N Shop Site, Saluda County as requested in the permit application received June 26, 2003.

Affected parties may appeal this permit decision in accordance with State Regulation R.61-72. To contest a case, a request for a hearing must be made to the Clerk of the DHEC Board within 15 days of the date of this letter. All requests must include the following information:

1) name of the party requesting the hearing,
2) issue(s) for which the hearing is requested,
3) caption or other information sufficient to identify the decision, order, action or inaction which is the subject of the hearing,
4) relief requested.

Note further that Administrative Law Judge (ALJ) Division rules require that persons requesting a contested case hearing must file a copy of the request and pay a filing fee in the amount of $100 dollars (US) with the ALJ Division at the following address:

Clerk, ALJ Division
1205 Pendleton Street, Suite 224
P.O. Box 11667
Columbia, SC 29211

An inspection of the UIC System must be conducted prior to issuance of Approval to Operate. If you have any question, please call me at (803) 898-3549.

Sincerely,

Todd Adams, Hydrologist
GroundWater Management Section
Bureau of Water

cc: Umar K. Khattak, BLWM-USTP

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
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BOARD:
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Howard L. Brilliant, MD
Secretary

Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Lawrence R. Chewning, Jr., DMD

WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Construction Permit
for

Class II, III, and V.A. Injection Well(s)

Permit #710

Date Issued: July 30, 2003
Date Expired: July 30, 2004

For (Operator): SEI Environmental

In accordance with provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, permission is granted for construction of forty-one (41) Class V.A.-I injection wells with a true diameter of ¼ inches and a total depth of approximately 30-80 feet located at the Circle Stop N Shop Site, Saluda County, SC with the following provisions:

1) The operator shall submit completed SCDHEC well record forms to the Departments Water Monitoring, Assessment & Protection Division after completion of the injection wells.

2) Upon completion of construction, injection activities shall not commence prior to receiving approval from the Department to operate the injection wells.

3) When the injection wells are no longer in use, or upon request by the Department, within sixty (60) days all injection wells must be permanently abandoned in accordance with the South Carolina Well Standards and Regulations (R.61-71).

Todd Adams, Hydrologist
GroundWater Management Section
Bureau of Water

July 30, 2003
Date

DHEC 2104 (6/88)

STATEMENT OF BASIS - UIC DRAFT PERMIT #710

In accordance with the South Carolina Underground Injection Control Regulations, Section R61-87.12,J., this Statement of Basis has been prepared for the Circle Stop N Shop Site Underground Injection Control permit application received June 26, 2003.

Ownership of the proposed injection wells is SEI Environmental, Inc., 3021 McNaughton Drive, Suite 9, Columbia, SC 29223. The permit (UIC #710) is for the construction of forty-one (41) injection wells for a corrective action system at the Circle Stop N Shop Site. The intent of the injection wells is to remediate volatile organic compounds from the ground water by injection of hydrogen peroxide into the subsurface into the subsurface as described in the Corrective Action Plan. The draft permit for the underground injection proposal has been prepared based on staff review and the application of the Pollution Control Act of South Carolina and the Underground Injection Control Regulations of South Carolina.

Conditions of the permit issuance include the submittal of well records for all injection wells installed and the inspection of well construction by the Department prior to injection.

Tech. File # 05981

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

COMMISSIONER:
C. Earl Hunter

BOARD:
Bradford W. Wyche
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Mark B. Kent
Vice Chairman

Howard L. Brilliant, MD
Secretary

Carl L. Brazell

Louisiana W. Wright

L. Michael Blackmon

Lawrence R. Chewning, Jr., DMD

July 30, 2003

RECEIVED
JUL 31 2003
UNDERGROUND STORAGE TANK PROGRAM

Mr. John Paul Bekish
SEI Environmental, Inc.
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

Re: Underground Injection Control Permit #710
Circle Stop N Shop Site
Saluda County

Dear Mr. Bekish:

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1) name of the party requesting the hearing,
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P.O. Box 11667
Columbia, SC 29211

An inspection of the UIC System must be conducted prior to issuance of Approval to Operate. If you have any question, please call me at (803) 898-3549.

Sincerely,

Todd Adams

Todd Adams, Hydrologist
GroundWater Management Section
Bureau of Water

cc: Umar K. Khattak, BLWM-USTP

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

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WATER MONITORING ASSESSMENT & PROTECTION DIVISION

Injection Well Construction Permit
for

Class II, III, and V.A. Injection Well(s)

Permit #710

Date Issued: July 30, 2003
Date Expired: July 30, 2004

For (Operator): SEI Environmental

In accordance with provisions of Title 48, Chapter 1, South Carolina Code of Laws, 1976, as amended, permission is granted for construction of forty-one (41) Class V.A.-I injection wells with a true diameter of ¼ inches and a total depth of approximately 30-80 feet located at the Circle Stop N Shop Site, Saluda County, SC with the following provisions:

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Todd Adams, Hydrologist
GroundWater Management Section
Bureau of Water

July 30, 2003
Date

DHEC 2104 (6/88)

STATEMENT OF BASIS - UIC DRAFT PERMIT #710

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Conditions of the permit issuance include the submittal of well records for all injection wells installed and the inspection of well construction by the Department prior to injection.

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

NOTICE

State of South Carolina
Department of Health and Environmental Control
Columbia, South Carolina

Public Notice #05981-01 Date: July 1, 2003

NOTICE OF PROPOSED CORRECTIVE ACTION

Section 280.67 of the S.C. Underground Storage Tank Control Regulations (R.61-92) requires that any Corrective Action Plan prepared to meet the requirements of 280.66 must be placed on notice for public comment. The following applicant has submitted a Corrective Action Plan for the rehabilitation of groundwater contaminated by petroleum constituents released from underground storage tanks (USTs).

Applicant: Joan Boozer, 3287 Columbia Hwy, Leesville, SC 29070. The Circle Stop N Shop has previously maintained five (5) USTs used for storage of petroleum products. The facility is located at US Hwy 378 & 391, Leesville, South Carolina in Saluda County, South Carolina.

Corrective action will consist of aggressive fluid vapor recovery (AFVR) and in-situ bioremediation technology to remove adsorbed phase hydrocarbons from the soil and dissolved free-phase hydrocarbons from the groundwater at the site.

A copy of the Corrective Action Plan is available for review at the Department's Freedom of Information Office. Please call (803) 898-3880 to schedule an appointment.

Persons wishing to comment upon or object to Corrective Action approval are invited to submit same in writing on or before July 15, 2003, at the South Carolina Department of Health and Environmental Control, Underground Storage Tank Program, 2600 Bull Street, Columbia, S.C. 29201 or call (Umar K. Khattak) at (803) 896-6629. The public notice #05981-01 should be placed at the top of the first page of comments. Where there is a significant degree of public interest, the Department will hold a public hearing.

Please bring the foregoing to the attention of persons who you know will be interested in this matter.

UST PROGRAM
DOCKETING # 6/Tech

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone (803) 896-6240 Fax (803) 896-6245

JUN 2 5 2003

PAUL N SHEALY
RT 4 BOX 215
LEESVILLE SC 29070

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 17203:P
Release reported 12/27/1991
Corrective Action Plan received June 23, 2003
Saluda County

Dear Mr. Shealy:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, SEI Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using Aggressive Fluid Vapor Recovery (AFVR) and in-situ bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is enclosed for your review.

Section 280.67 of the South Carolina Underground Storage Tank (UST) Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by the consultant at the referenced property.

This information is being sent to you in order to keep you informed of the environmental conditions in the area. The UST Program will forward a copy of rehabilitation reports to you after review if you wish to continue receiving such updates. If you do not wish to continue receiving updates, please contact me at (800) 826-5435 (within South Carolina only) or (803) 896-6629, or by e-mail at Khattauk@dhec.sc.gov, and I will remove your name from the mailing list. If you wish to continue to receive updates, you do not need to do anything.

If you have any questions or comments regarding the proposed corrective action, please call me at (803) 896-6629. Please reference UST Permit # 05981 on all correspondence. All comments should be submitted by **July 15, 2003**.

Sincerely,

Umar K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice
Corrective Action Plan

UST PROGRAM
DOCKETING # 62-Tech

cc: Technical file (w/ PN and CAP)

DHEC/UST/UKK; 6/24/2003

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone (803) 896-6240 Fax (803) 896-6245

JUN 2 5 2003

JOAN BOOZER
3287 COLUMBIA HWY
LEESVILLE SC 29070

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 17203:P
Release reported 12/27/1991
Corrective Action Plan received June 23, 2003
Saluda County

Dear Ms. Boozer:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, SEI Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using Aggressive Fluid Vapor Recovery (AFVR) and in-situ bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is enclosed for your review.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by the consultant at the referenced property.

If you have any questions or comments regarding the proposed corrective action, please call me at (803) 896-6629. Please reference UST Permit # 05981 on all correspondence. All comments should be submitted by **July 15, 2003**.

Sincerely,

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice
Corrective Action Plan

cc: Technical file (w/ PN and CAP)

DHEC/UST/UKK; 6/24/2003

D H E C
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2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone (803) 896-6240 Fax (803) 896-6245

JUN 2 5 2003

RANDALL L KIRKLAND
RT 4 BOX 174
LEESVILLE SC 29070

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 17203:P
Release reported 12/27/1991
Corrective Action Plan received June 23, 2003
Saluda County

Dear Mr. Kirkland:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, SEI Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using Aggressive Fluid Vapor Recovery (AFVR) and in-situ bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is enclosed for your review.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by the consultant at the referenced property.

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If you have any questions or comments regarding the proposed corrective action, please call me at (803) 896-6629. Please reference UST Permit # 05981 on all correspondence. All comments should be submitted by **July 15, 2003**.

Sincerely,

Umar K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice
Corrective Action Plan

cc: Technical file (w/ PN and CAP)

DHEC/UST/UKK; 6/24/2003

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone (803) 896-6240 Fax (803) 896-6245

JUN 2 5 2003

CHARLES BOLAND
PO BOX 631
SALUDA SC 29138

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 17203:P
Release reported 12/27/1991
Corrective Action Plan received June 23, 2003
Saluda County

Dear Mr. Boland:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, SEI Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using Aggressive Fluid Vapor Recovery (AFVR) and in-situ bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is enclosed for your review.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by the consultant at the referenced property.

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If you have any questions or comments regarding the proposed corrective action, please call me at (803) 896-6629. Please reference UST Permit # 05981 on all correspondence. All comments should be submitted by **July 15, 2003**.

Sincerely,

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice
Corrective Action Plan

cc: Technical file (w/ PN and CAP)

DHEC/UST/UKK; 6/24/2003

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2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone (803) 896-6240 Fax (803) 896-6245

JUN 2 5 2003

HERMAN C SHEALY
PO BOX 675
MCCORMICK SC 29835

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 17203:P
Release reported 12/27/1991
Corrective Action Plan received June 23, 2003
Saluda County

Dear Mr. Shealy:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, SEI Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using Aggressive Fluid Vapor Recovery (AFVR) and in-situ bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is enclosed for your review.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by the consultant at the referenced property.

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If you have any questions or comments regarding the proposed corrective action, please call me at (803) 896-6629. Please reference UST Permit # 05981 on all correspondence. All comments should be submitted by **July 15, 2003.**

Sincerely,

Umar K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice
Corrective Action Plan

cc: Technical file (w/ PN and CAP)

DHEC/UST/UKK; 6/24/2003

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone (803) 896-6240 Fax (803) 896-6245

JUN 2 5 2003

J M NORTHEY
RT 4 BOX 190
LEESVILLE SC 29070

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 17203:P
Release reported 12/27/1991
Corrective Action Plan received June 23, 2003
Saluda County

Dear Mr. Northey:

As you may be aware, petroleum products have been identified in the soil and groundwater at the referenced facility. To prevent the release from becoming an unacceptable risk, SEI Environmental, Inc. has been retained to initiate corrective action of the impacted soil and groundwater using Aggressive Fluid Vapor Recovery (AFVR) and in-situ bioremediation followed by natural attenuation. A copy of the proposed corrective action plan is enclosed for your review.

Section 280.67 of the South Carolina Underground Storage Tank Regulations requires the SCDHEC to provide notice to those members of the public that may be affected by a planned corrective action. A copy of the public notice is enclosed for your information. You may observe limited drilling, trenching, and construction activities by the consultant at the referenced property.

If you have any questions or comments regarding the proposed corrective action, please call me at (803) 896-6629. Please reference UST Permit # 05981 on all correspondence. All comments should be submitted by **July 15, 2003.**

Sincerely,

U. K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

enc: Public Notice
Corrective Action Plan

cc: Technical file (w/ PN and CAP)

DHEC/UST/UKK; 6/24/2003

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2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone: (803) 896-6240 Fax: (803) 896-6245

JUN 2 5 2003

RANDY R CASEY
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DRIVE STE 9
COLUMBIA SC 29223

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 17203:P
Release reported 12/27/1991
SB-21914-3/25/03-EMW; PO#463655
Invoice # 0049464 received June 23, 2003
Corrective Action Plan received June 23, 2003
Underground Injection Application received June 23, 2003
Saluda County

Dear Mr. Casey:

The Underground Storage Tank (UST) Program has reviewed your invoice for payment of the 40% of the total corrective action cost. Please note that this amount is payable **after the startup** of remediation system. Please re-submit this invoice subsequent to the construction / installation and startup of the remediation system at the above referenced facility. Please refer to **Cost Agreement #17203** in future invoices.

On all correspondence regarding this site, please reference the **UST Permit Number**. Please feel free to contact me at (803) 896-6629, if you have questions or need additional information.

Sincerely,

Umar K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division

Enc: Invoice # 0049464

cc: Joan Boozer, 3287 Columbia Hwy, Leesville, SC 29070 (w/o enc)
J M Northey, RT 4 Box 190, Leesville, SC 29070 (w/o enc)
Technical File (w/o enc)
Financial File (w/ copy of invoice)

DHEC/UST/UKK; 6/24/2003

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM
2600 Bull Street
Columbia, SC 29201
Telephone (803) 896-6240

MEMORANDUM

DATE: June 24, 2003

TO: Dale Stoudemire
Compliance Section

FROM: Umar K. Khattak U.U.K.
State Lead and Field Services Section
Assessment and Corrective Action Division

SUBJECT: Public Notice #05981-01
Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981
Saluda County

Per section 280.67 of the South Carolina Underground Storage Tank Control Regulations R. 61-91, the South Carolina Department of Health and Environmental Control (SCDHEC) is required to provide public notice of proposed corrective actions at underground storage tank facilities.

The Assessment & Corrective Action Division requests your assistance in posting the enclosed notice at public offices (e.g. post offices, court houses, etc.) located in close proximity to the referenced facility.

If possible, the notice should be posted for 15 days. The due date on the attached notice is July 15, 2003, to allow your office time to have it posted by July 1, 2003. Your assistance is greatly appreciated.

Questions may be referred to my attention at (803) 896-6629.

enc: Public Notice (4 copies)

cc: Technical File

DHEC/UST/UKK; 6/24/2003

UST PROGRAM
DOCKETING # 63 Tech

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
Phone (800) 826-5435 Fax (803) 896-6245

MEMORANDUM

DATE: June 24, 2003

TO: Todd Adams
Water Monitoring, Assessment & Protection Division
Bureau of Water

FROM: Umar K. Khattak, Ph.D., Hydrogeologist U.K.K.
Assessment & Corrective Action Division
Underground Storage Tank Program

SUBJECT: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981
Corrective Action Plan received June 23, 2003
UIC Permit Application received June 23, 2003
Saluda County

Attached for your review and approval is an Underground Injection Control Permit Application for the above referenced site submitted by SEI Environmental Inc. Initial review by this Department indicates the Corrective Action Plan is approvable. Please return the completed Permit to Install to my attention once your review and approval is completed. I will forward it to the contractor when all other permits have been received and technical and financial approval from this Program has been issued, as required by law.

Questions may be referred to my attention at (803) 896-6629.

Enc: UIC Permit Application
Corrective Action Plan
Inter-Office Mail Envelope

Cc: Technical File

UST PROGRAM
DOCKETING # 64 Tech

DHEC/UST/UKK; 6/24/2003

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

SOUTH CAROLINA

Department of Health and Environmental Control (DHEC)

Bureau of Underground Storage Tank Management

CORRECTIVE ACTION (CA) INVOICE

UST PERMIT# 05981 COUNTY Saluda County

FACILITY NAME Circle Stop N Shop

STREET ADDRESS US Hwy 378 E 391, Leesville, SC

INVOICE # 49464 **Cost Proposal #** ~~18586~~ P 17203

For work performed during (specify time period) 4/03 to 6/03

Approved Price for CA $ $155,000.00

Based on a Report Submitted June 23, 2003 (date)

RECEIVED JUN 23 2003 Underground Storage Tank Program

Request Payment for the following Pay for Performance Item(s) as checked:

[✓] **Corrective Action Method or Technology Implemented and/or Operational**
(40 % of Approved Price or $ 62,000.00)

Reduction in Chemicals of Concern (COC)

[ ] **25% Reduction in COC or Removal of Free Product**
(10 % of Approved Price or $_____)

[ ] **50% Reduction in COC**
(10 % of Approved Price or $_____)

[ ] **75% Reduction in COC**
(15 % of Approved Price or $_____)

[ ] **100% Reduction in COC (meets Standard) AND CA System Removed**
(25 % of Approved Price or $_____)

I certify, under penalty of law, that I have personally examined and am familiar with the information submitted in this and any attached documents; and that based on my inquiry of those individuals responsible for obtaining this information, and any other information I may be aware of, I believe that the submitted information is true, accurate, and complete. I further agree, in accordance with any DHEC demand letter, to promptly repay the appropriate account for any overpayment received

COMPENSATION INFORMATION : Please check appropriate Funding Option

[ ] Owner /Operator Lead [✓] State Lead

Payment is to be made to (check one) : [ ] Contractor [ ] UST O/O

SEI Environmental, Inc. 3021 McNaughton Dr. Suite 9 803 788 2535

Company Name Address Columbia, SC Telephone Number

John Paul Belkish 56-1903158

Name (Type or Print) Federal Tax ID or Social Security Number

Branch Mgr. 6/18/03

Signature (please use non-black ink) Title Date Signed

Do not complete if State Lead Option was chosen:

UST Owner or Operator

Signature (please use non-black ink) Title (President, Owner) Date Signed

Name (Type or Print) Telephone Number

Address

CA INVOICE

3687 (2/2000)

SEI Environmental, Inc.

Site # D5981

Invoice

3021 McNaughton Drive
Columbia, SC 29223
(803) 788-2535

Remit to:
P.O. Box 440068
Nashville, TN 37244

SCDHEC Groundwater Protection
2600 Bull Street
Columbia, South Carolina 29201

June 18,2003
Project No: 303064
Invoice No. 0049464

Project: 303064 CIRCLE STOP N SHOP

Site: CIRCLE STOP N SHOP
3287 COLUMBIA HIGHWAY
LEESVILLE, South Carolina

SEI Environmental, Inc. to invoice for completion of Corrective Action Plan and submittal. Payment of forty percent (40%) of the total corrective action price of $ 155,000.00

Item	Quantity	Amount	Total
Completion of & submittal of Corrective Action Plan	1.0	$62,000.00	$62,000.00
Total			**$62,000.00**

TERMS: NET 30 DAYS

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF LAND AND WASTE MANAGEMENT
UNDERGROUND STORAGE TANK PROGRAM

Phone: (803) 896-6240 **Fax: (803) 896-6245**

APR 0 9 2003

BOB BOLTON
SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DRIVE STE 9
COLUMBIA SC 29223

Re: Circle Stop N Shop, US Hwy 378 & 391, Leesville, SC
UST Permit #05981, CA# 18586:P
Release reported 12/27/1991
SB-21914-3/25/03-EMW; PO#463655
Corrective Action Award
Saluda County

Dear Mr. Bolton:

As you are aware, the Underground Storage Tank Program has determined that active corrective action is necessary at the referenced facility. On April 1, 2003, you were awarded the corrective action contract in the amount of $155,000.00, which will be funded by the SUPERB Account. Per contract requirements, the corrective action plan and performance bond or letter must be submitted within 30 days of the award date and the Initial Monitoring Report must be submitted within 45 days of the award date. A signed copy of the Right-of-Entry for the referenced facility is enclosed. Please coordinate with each landowner for access and keep any inconveniences to the affected landowners to a minimum.

If you have any questions or need additional information, please contact me at (803) 896-6629) or by email at khattauk@dhec.sc.gov.

Sincerely,

U. K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead & Field Services Section
Assessment and Corrective Action Division

Enc: Right of Entry
Approved Cost Agreement # 18586

UST PROGRAM
DOCKETING # 65 Tech

cc: Joan Boozer, 3287 Columbia Hwy, Leesville, SC 29070 (w/o enc)
J M Northey, RT 4 Box 190, Leesville, SC 29070 (w/o enc)
Technical File (w/ approved CA#18586)

DHEC/UST/UKK; 4/8/2003

Approved Cost Agreement 1[illegible]86

Facility: 05981 CIRCLE STOP N SHOP
KHATTAUK
PO Number: 463655

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
22 CORRECTIVE ACTION						
		1	CAM/TI AND/OR OPERATE	1.0000	155,000.00	62,000.00
		2	25% REDUCTION IN COC	1.0000	155,000.00	15,500.00
		3	50% REDUCTION IN COC	1.0000	155,000.00	15,500.00
		4	75% REDUCTION IN COC	1.0000	155,000.00	23,250.00
		5	100% REDUCTION IN COC	1.0000	155,000.00	38,750.00
				Total Amount		155,000.00

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

RECEIVED

APR 0 2 2003

UNDERGROUND STORAGE TANK PROGRAM

9858

CA#

VENDOR: SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DR #9
COLUMBIA, SC 29223

Purchase Order

PURCHASE ORDER NO.	REVISION	PAGE
463655	0	1 of 2

THIS PURCHASE ORDER NO. MUST APPEAR ON ALL INVOICES, PACKING LISTS, CARTONS AND CORRESPONDENCE RELATED TO THIS ORDER.

SHIP TO:
UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

BILL TO:
UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

CUSTOMER ACCOUNT NO.	VENDOR NO.	DATE OF ORDER/BUYER	REVISED DATE / BUYER
	20134	01-APR-03 WINSLOW, E	
PAYMENT TERMS		SHIP VIA	F.O.B.
NET 30			Destination
FREIGHT TERMS		REQUESTOR/DELIVER TO	CONFIRM TO / TELEPHONE
Prepaid		PACE, Ms. LAURA J	

ITEM	PART NUMBER / DESCRIPTION	DELIVERY DATE	QUANTITY	UNIT	UNIT PRICE	EXTENSION	
	BUYER: E. Madison Winslow, (803) 898-3487						
	DHEC PROJECT MANAGER: Umar Khattak, (803) 896-6629						
	CONTRACTOR CONTACT PERSON: Bob Bolton, (803) 788-2535						
	PRICE PER SB-21914-3/25/03-EMW, signed by Bob Bolton on 3/25/03.						
	ALL TERMS AND CONDITIONS OF THE SOLICITATION DO APPLY.						
	SEE REVERSE SIDE OF PURCHASE ORDER FOR ADDITIONAL TERMS AND CONDITIONS THAT APPLY.						
	Planned Purchase Order Effective From: 01-APR-03 To:						
1	918.43 Corrective action at site #05981		77,500	US D	1	77,500.00	N
	Payments through cost proposal method of expenses incurred in remediation of release from underground storage tanks as provided under Section 44-2-130 SC Code of Laws (SUPERB Act).						
	Contract total cost: $155,000.00						

BY ACCEPTANCE OF THIS PURCHASE ORDER, YOU AGREE TO THE TERMS AND CONDITIONS LOCATED ON THE REVERSE PAGE.

Purchase Order

Total Continued

E. Madison Winslow

AUTHORIZED SIGNATURE

DHEC 0109 (01/01)

See Reverse for Terms & Conditions

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

Purchase Order

PURCHASE ORDER NO.	REVISION	PAGE
463655	0	2 of 2

THIS PURCHASE ORDER NO. MUST APPEAR ON ALL INVOICES, PACKING LISTS, CARTONS, AND CORRESPONDENCE RELATED TO THIS ORDER.

SHIP TO:

UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

VENDOR: SEI ENVIRONMENTAL INC
3021 MCNAUGHTON DR #9
COLUMBIA, SC 29223

BILL TO:

UST MANAGEMENT
SC DHEC
2600 BULL STREET
COLUMBIA, SC 29201-1708
United States

CUSTOMER ACCOUNT NO.	VENDOR NO.	DATE OF ORDER/BUYER	REVISED DATE / BUYER
	20134	01-APR-03 WINSLOW, E	
PAYMENT TERMS		SHIP VIA	F.O.B.
NET 30			Destination
FREIGHT TERMS		REQUESTOR/DELIVER TO	CONFIRM TO / TELEPHONE
Prepaid		PACE, Ms. LAURA J	

ITEM	PART NUMBER / DESCRIPTION	DELIVERY DATE	QUANTITY	UNIT	UNIT PRICE	EXTENSION

THIS CONTRACT WILL CONTINUE UNTIL THE SITE REHABILITATION ACTIVITY AS DESCRIBED IN THE SOLICITATION HAS BEEN COMPLETED; PROVIDED, HOWEVER, THAT COMMITTED FUNDS FOR THE SITE REHABILITATION ACTIVITY UNDER THIS CONTRACT REVERT TO UNCOMMITTED STATUS AFTER FOUR MONTHS OF THE DATE OF THE CONTRACT AWARD IF NO INVOICE FOR THE SITE REHABILITATION ACTIVITIES HAVE BEEN RECEIVED BY THE DEPARTMENT, PURSUANT TO SC CODE 44-2-40(B)(1976), AS AMENDED. IF THE FUNDS REVERT TO UNCOMMITTED STATUS, ANY SUBSEQUENT INVOICE WILL NOT BE PROCESSED FOR PAYMENT UNTIL ALL OTHER COMMITTED FUNDS ARE PAID OR MONEY BECOMES AVAILABLE.

BY ACCEPTANCE OF THIS PURCHASE ORDER, YOU AGREE TO THE TERMS AND CONDITIONS LOCATED ON THE REVERSE PAGE.

Total 77,500.00

AUTHORIZED SIGNATURE

Purchase Order

DHEC 0109 (01/01)

See Reverse for Terms & Conditions

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) 898-4350

MEMORANDUM

Date: April 1, 2003

To: Matt Winslow
Bureau of Business Management

From: Laura Pace, CGFO, CPM, Manager
Financial Section
Underground Storage Tank Program

Subject: Bid Award: **SB- 21914-3/25/03-EMW, Requisition #21914**
Circle Stop & Shop, UST Permit **#05981**

This Program has reviewed the submittals received March 25, 2003 for the referenced bid. The low bid for the site was submitted by SEI Environmental, Inc.

As the proposed corrective action methodology can be permitted in South Carolina and the estimated time frame is protective of human health, the low bid for the reference site submitted by SEI Environmental, Inc. is acceptable. Therefore, this Bureau recommends immediate award of the contract for the site to SEI Environmental, Inc.

The purchase order for **Circle Stop & Shop** (UST Permit **#05981**) should be generated for one half the accepted bid award amount, $77,500.00. Please note, the full amount of the bid award ($155,000.00) should be noted in the body of the generated purchase order. The purchase order should indicate it is for the facility indicated above. Please provide Pat Holland a copy of the purchase order.

cc: Christopher S. Doll, P.G., Manager, State Lead and Field Services Section
Umar Khattak, Ph.D., State Lead and Field Services Section
Pat Holland, Financial Section
Technical File

UST PROGRAM
DOCKETING # 66 Tech

DHEC/UST/UKK; 4/1/2003

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

BUREAU
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

STATEMENT OF AWARD

DATE: April 1, 2003

DHEC REQUISITION: 21914

BID NUMBER: SB-21914-3/25/03-EMW

PURCHASE ORDER: 463655

FOR FURNISHING: Corrective action for a petroleum release from a regulated underground storage tank.

BID ISSUED: 2/17/03

DATE BID OPENED: 3/25/03

AWARD DATE: 4/1/03

AMOUNT OF AWARD: $155,000.00

AWARD IS MADE TO:

SEI Environmental, Inc.
3021 McNaughton Drive, Suite 9
Columbia, SC 29223

E. Madison Winslow
Procurement Officer
(803) 898-3487

NOTE: QUESTIONS REGARDING THIS AWARD SHOULD BE DIRECTED TO THE PROCUREMENT OFFICER.

ANY ACTUAL BIDDER WHO IS AGGRIEVED IN CONNECTION WITH THE AWARD OF A CONTRACT SHALL SUBMIT A LETTER OF CONCERN TO THE DHEC PROCUREMENT OFFICER RESPONSIBLE FOR THE SOLICITATION WITHIN SEVEN CALENDAR DAYS OF THE AWARD PUBLICATION DATE.

Cc: Requester

award 11/01/96

D H E C
PROMOTE PROTECT PROSPER
South Carolina Department of Health
and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505
March 25, 2003

RECEIVED
MAR 26 2003
UNDERGROUND STORAGE
TANK PROGRAM

TO: Laura Pace

FROM: Matt Winslow
Division of Procurement Services
SC Department of Health and Environmental Control

SUBJECT: SB-21914-3/25/03-EMW

The bidding has been completed on this solicitation. I am enclosing copies of the apparent low bids for your review. The anticipated date for posting the award is April 5, 2003. Please call or e-mail me with any questions or comments. Thanks!

#05981

UST PROGRAM
DOCKETING # 67 Tech

UST BID SHEET

SOUTH CAROLINA
DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL

SOLICITATION NUMBER: SB-21914

OPENING/CLOSING DATE: 3-25-03

TIME: 2:30pm

PROCUREMENT OFFICER: E. Madison Windham

BID CLERK: Dina Brazeau

DATE AWARD WILL BE POSTED: 4/5/03

COMPANY NAME					
PHA Environmental Restoration	260,500				
Palmetto Environmental Group	249,000				
Consultech Environmental	399,000				
Terry Environmental	165,000				
Applied Earth Sciences	244,300				
HRP Associates Inc.	1,335,000				
Schnabel	203,700				
Engineering Consulting	170,000				
SEI Environmental Inc	155,000				
H20	480,000				

Revised 02/11/00 JSS

UST BID SHEET

SOUTH CAROLINA
DEPARTMENT OF HEALTH & ENVIRONMENTAL CONTROL

SOLICITATION NUMBER: SB-21914

OPENING/CLOSING DATE: 3-25-03

TIME: 2:30pm

PROCUREMENT OFFICER: E. Madison Dwight

BID CLERK: Ina Brazell

DATE AWARD WILL BE POSTED: 4/5/03

COMPANY NAME					
Gage Group	278,000				

Revised 02/11/00 JSS

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

BUREAU OF BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

SEALED BID INVITATION

BID MUST BE SUBMITTED ON THIS FORM TO BE ACCEPTED

SOLICITATION NUMBER: SB-21914-3/25/03-EMW
(Number Must Be Shown On Front Of Envelope)

DATE ISSUED: 2/17/03
PAGE 1 OF 96

SEALED BIDS WILL BE RECEIVED UNTIL:

TIME: 2:30 pm (EDT) DATE: 3/25/03

AND THEN PUBLICLY OPENED

Mail To:
ATTENTION: BID CLERK
SOLICITATION NO.: SB-21914-3/25/03-EMW
S.C. Department of Health & Environmental Control
Division of Procurement Services
2600 Bull Street
Columbia, South Carolina 29201-1708

DIRECT INQUIRIES TO: E. Madison Winslow Phone: (803) 898 - 3487

***SC DHEC Solicitations are available online at http://www.scdhec.net/procurement*
Vendors can also register for amendments and view award statements.

REASON FOR NO BID:

This Section Must Be Completed By Vendor:

SEI Environmental, Inc.
Vendor Name

3021 McNaughton Drive, Ste 9
Mailing Address

Columbia SC 29223
City State Zip Code

Telephone Number: (803) 788 2535
Fax Number: (803) 788 2399
E-mail Address:
Toll Free Number: ( )
FEIN Or SSN: 56-1903158

By signing this bid I certify:

- This bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud.

By signing this bid I agree:

- To abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.
- If this quotation is accepted within 60 days from date of opening, to furnish any and all items/services at the prices quoted.

Drug-Free Workplace: Required by Section 44-107-10 (Drug Free Workplace Act) of the South Carolina Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he/she will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.

Bob Bolton — Authorized Signature (Manual)
Branch Manager — Authorized Signature (Typed) Title
3/25/2003 — Date Signed

COMMODITY: Perform corrective action of a petroleum release from a regulated underground storage tank site.

METHOD OF BID AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost of active correction action and other factors. (See Special Conditions #3)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BID NUMBER: SB-21914-3/25/03-EMW

CORRECTIVE ACTION SOLICITATION RESPONSE
for Circle Stop N Shop, (UST Permit # 05981), US Hwy 378 & 391, Leesville, South Carolina

Please respond to the following questions:

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:
   MAV™ + Perpetual™ System

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 36 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see figure # 4) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is: $ 155,000.00

ACCEPTANCE and DELIVERY STATEMENT

In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within 30 days from date of opening, to complete the corrective action as specified at the price set forth.

For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the release and the geologic conditions at this facility as documented in the technical file and this solicitation. Additionally, I certify that this company understands that acceptance is based on total cost to treat the area of concern.

SEI Environmental, Inc
Contractor (Print)

Certification No. 41

BOB BOLTON
Authorized Representative (Print)

Bob Bolton
Signature

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

SEALED BID INVITATION

BID MUST BE SUBMITTED ON THIS FORM TO BE ACCEPTED

SOLICITATION NUMBER: SB-21914-3/25/03-EMW
(Number Must Be Shown On Front Of Envelope)

DATE ISSUED: 2/17/03
PAGE 1 OF 96

SEALED BIDS WILL BE RECEIVED UNTIL:

TIME: 2:30 pm *(EDT)* DATE: 3/25/03

AND THEN PUBLICLY OPENED

Mail To:
ATTENTION: BID CLERK
SOLICITATION NO.: SB-21914-3/25/03-EMW
S.C. Department of Health & Environmental Control
Division of Procurement Services
2600 Bull Street
Columbia, South Carolina 29201-1708

DIRECT INQUIRIES TO: E. Madison Winslow Phone: (803) 898 - 3487

***SC DHEC Solicitations are available online at http://www.scdhec.net/procurement*
Vendors can also register for amendments and view award statements.

REASON FOR NO BID:

This Section Must Be Completed By Vendor:

Terry Environmental Services, Inc.
Vendor Name

PO Box 41784
Mailing Address

Charleston, SC 29423
City State Zip Code

Telephone Number: ( ) 843-873-8200

Fax Number: ( ) 843-873-8765

E-mail Address: jat@terryenvironmental.com

Toll Free Number: ( ) 800-325-0605

FEIN Or SSN: 56-2251666

By signing this bid I certify:

- This bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud.

By signing this bid I agree:

- To abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.
- If this quotation is accepted within 60 days from date of opening, to furnish any and all items/services at the prices quoted.

Drug-Free Workplace: Required by Section 44-107-10 (Drug Free Workplace Act) of the South Carolina Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he/she will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.

Authorized Signature (Manual)

Jason A. Terry, President
Authorized Signature (Typed) Title

3 /24 /03
Date Signed

COMMODITY: Perform corrective action of a petroleum release from a regulated underground storage tank site.

METHOD OF BID AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost of active correction action and other factors. (See Special Conditions #3)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BID NUMBER: SB-21914-3/25/03-EMW

CORRECTIVE ACTION SOLICITATION RESPONSE
for Circle Stop N Shop, (UST Permit # 05981), US Hwy 378 & 391, Leesville, South Carolina

Please respond to the following questions:

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:
   AS/VE, Product removal, and/or Microbial

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 12 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see figure # 4) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is: $ 165,000.00

ACCEPTANCE and DELIVERY STATEMENT

In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within 30 days from date of opening, to complete the corrective action as specified at the price set forth.

For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the release and the geologic conditions at this facility as documented in the technical file and this solicitation. Additionally, I certify that this company understands that acceptance is based on total cost to treat the area of concern.

Terry Environmental Services, Inc. — Certification No. 223
Contractor (Print)

Jason A. Terry
Authorized Representative (Print)

Signature

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

BUREAU OF
BUSINESS MANAGEMENT
DIVISION OF PROCUREMENT SERVICES
2600 Bull Street
Columbia, SC 29201-1708
Telephone (803) 898-3501 Fax (803) 898-3505

SEALED BID INVITATION

BID MUST BE SUBMITTED ON THIS FORM TO BE ACCEPTED

SOLICITATION NUMBER: SB-21914-3/25/03-EMW
(Number Must Be Shown On Front Of Envelope)

DATE ISSUED: 2/17/03
PAGE 1 OF 96

SEALED BIDS WILL BE RECEIVED UNTIL:

TIME: 2:30 pm *(EDT)* DATE: 3/25/03

AND THEN PUBLICLY OPENED

Mail To:
ATTENTION: BID CLERK
SOLICITATION NO.: SB-21914-3/25/03-EMW
S.C. Department of Health & Environmental Control
Division of Procurement Services
2600 Bull Street
Columbia, South Carolina 29201-1708

DIRECT INQUIRIES TO: E. Madison Winslow Phone: (803) 898 - 3487
E. Madison Winslow

***SC DHEC Solicitations are available online at http://www.scdhec.net/procurement
Vendors can also register for amendments and view award statements.***

REASON FOR NO BID:

This Section Must Be Completed By Vendor:

Engineering Consulting Services, Inc.
Vendor Name

1148 Woodruff Road, Suite 150
Mailing Address

Greenville, SC 29607
City State Zip Code

Telephone Number: (864) 987-1610

Fax Number: (864) 987-1615

E-mail Address: KLauber@ECSlimited.com

Toll Free Number: ( )

FEIN Or SSN: 54-1439291

By signing this bid I certify:

- This bid is made without prior understanding, agreement or connection with any corporation, firm or person submitting a bid for the same materials, supplies or equipment and is in all respects fair and without collusion or fraud.

By signing this bid I agree:

- To abide by all conditions of this bid and certify that I am authorized to sign this bid for the bidder.
- If this quotation is accepted within 60 days from date of opening, to furnish any and all items/services at the prices quoted.

Drug-Free Workplace: Required by Section 44-107-10 (Drug Free Workplace Act) of the South Carolina Code of Laws, 1976, as amended. By submission of a bid, the bidder certifies that he/she will comply with all aspects of the Drug-Free Workplace Act and will not engage in the unlawful manufacture, distribution, dispensation, possession or use of a controlled substance in the performance of this contract. This certification also applies to any individual or firm employed by the contractor.

Kenneth A Lauber
Authorized Signature (Manual)

Kenneth A. Lauber
Authorized Signature (Typed) Title

3/25/03
Date Signed

COMMODITY: Perform corrective action of a petroleum release from a regulated underground storage tank site.

METHOD OF BID AWARD: Award will be made to a South Carolina Certified UST Site Rehabilitation Contractor based on the total cost of active correction action and other factors. (See Special Conditions #3)

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

BID NUMBER: SB-21914-3/25/03-EMW

CORRECTIVE ACTION SOLICITATION RESPONSE
for Circle Stop N Shop, (UST Permit # 05981), US Hwy 378 & 391, Leesville, South Carolina

Please respond to the following questions:

1. The corrective action method(s) or technology (ies) that will be proposed in the CAP will be (list all active and/or intrinsic methods or technologies for remediation of the aquifer:
AFVR to remove free product and injection of peroxide solution to destroy dissolved constituents.

2. The estimated time in months to complete the corrective action from the date of bid award, corrective action goals are met, and all corrective action items are removed from the site or properly abandoned is approximately 18 months. This time assumes all submitted plans and reports will be reviewed by DHEC within 30 days of receipt.

3. The total cost in dollars, regardless of the type, quantity, or duration of the permitted technology applied, to treat the area of concern (see figure # 4) such that the thickness of free product does not exceed .01 foot and the levels of CoC do not exceed the site-specific target levels (SSTLs) defined in item 11.C. at any point, complete all associated monitoring and post-remediation verification, prepare all plans, reports, and correspondence; obtain and meet all terms and conditions of all required permits and licenses; design, install, monitor, operate, maintain, and when completed, properly abandon or remove all assessment and remediation items installed as part of corrective action; provide evidence of performance bond; and other items outlined in this solicitation is: $ 170,000.00

ACCEPTANCE and DELIVERY STATEMENT

In compliance with the solicitation and subject to all conditions thereof, the offeror agrees, if this bid is accepted within 60 days from date of opening, to complete the corrective action as specified at the price set forth.

For the purpose of this submittal and acceptance of financial approval should it occur, I certify that this company understands the nature of the release and the geologic conditions at this facility as documented in the technical file and this solicitation. Additionally, I certify that this company understands that acceptance is based on total cost to treat the area of concern.

ECS, Ltd
Contractor (Print)

Certification No. 269

Kenneth A. Lauber
Authorized Representative (Print)

Kenneth A Lauber
Signature

Not signed out
2-13

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) 898-4350

MEMORANDUM

DATE: February 13, 2003

TO: E. Madison Winslow
Bureau of Business Management

FROM: Laura Pace, CGFO, CPM, Manager
Financial Section
Underground Storage Tank Program

SUBJECT: Bid Request

Attached is a hard copy of the bid specifications for corrective action at UST Permit #05981. This bid package should be sent out in SCBO. The information is also on the enclosed disk under file name 5981_bid.doc. **This corrective action is funded by the SUPERB Fund.**

Purchase Requisition #21914 for UST Permit #05981 has been created on the AIMS System.

Please send a copy of the final bid package to Pat Holland so that it can be placed in the technical file in the Freedom of Information Office as outlined in the bid specifications. If you have any questions, contact Umar Khattak at 896-6629.

cc: Chris Doll. P.G., Manager, State Lead & Field Services Section
Umar K. Khattak, Ph.D., State Lead & Field Services Section
Pat Holland, Financial Section
Technical File

UST PROGRAM
DOCKETING # 68 Tech

A:\BID_cover.DOC/2.13.03

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

DEC 0 5 2002

MS SHAWN JUDD
GEOLOGICAL RESOURCES, INC.
4913 ALBEMARLE RD, STE. 101
CHARLOTTE, NC 28205

Re: **Notice to Proceed**
Bid # SB-19032-04/09/02; PO# 404342

Dear Ms. Judd:

Based on the award of the referenced bid package, enclosed is the information packet to conduct one (1) groundwater sampling event. The packet contains 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 #404342 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	Parameters	PACE CA#	GRI CA#
05981	Circle Stop N Shop	Saluda	28	28-BTEX, Naph, MTBE (8260) 26 Nitrates, Sulfates, Ferrous Iron	17794:P	17795:P

Geological Resources, 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 contact Debra Thoma before commencing work at this facility. If you have any questions or need further assistance, please contact Debra Thoma at (803) 896-6397 or (800) 826-5435 (within SC only)

Sincerely,

Umar K. Khattak

Umar K. Khattak, Ph.D., Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division

enc: Field Activity Worksheet Information Packet
Approved Cost Agreement

cc: Sherri Howard, PACE Analytical Services, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078
(w/ Approved Cost Agreement)
Debra Thoma, State Lead & Field Services
Technical/Read File

UST PROGRAM
DOCKETING # 6 Tech

Approved Cost Agreement 17794

Facility: 05981 CIRCLE STOP N SHOP
KHATTAUK

PO Number: 416276

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
11 ANALYSES						
	GW GROUNDWATER	A	BTEX+NAPTH+MTBE	28.0000	30.00	840.00
		F	EDB	28.0000	40.00	1,120.00
		K	NITRATE	26.0000	10.00	260.00
		L	SULFATE	26.0000	10.00	260.00
		M	FERROUS IRON	26.0000	10.00	260.00
				Total Amount		2,740.00

Approved Cost Agreement 17795

Facility: 05981 CIRCLE STOP N SHOP
KHATTAUK

PO Number: 404342

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
04 MOB/DEMOB						
		B	PERSONNEL	1.0000	49.75	49.75
10 SAMPLE COLLECTION						
		A	GROUND WATER	28.0000	19.95	558.60
17 DISPOSAL						
		A2	WASTEWATER - PUMPING TEST	200.0000	0.55	110.00
18 MISCELLANEOUS						
			GAUGE ONLY	1.0000	7.25	7.25
			TAP SAMPLE	2.0000	4.00	8.00
				Total Amount		733.60

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

SEP 10 2007

CHRIS L BOGGS
SEI ENVIRONMENTAL INC
130 PENMARC DR
SUITE 108
RALEIGH NC 27603

Re: CASE Review
Circle Stop N Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received August 28, 2007
Saluda County

Dear Mr. Boggs:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. The overall CoC reduction has been calculated to be 96.66% (see enclosed sheets). The Program notes the large increase of CoC concentrations in most of the monitoring wells and asks for SEI to address the increase at their earliest convenience. Also, the referenced CASE report does not contain a narrative for any AFVR events that have occurred since the last sampling event in April. As the referenced report documents toluene concentrations above effective solubility levels in monitoring wells MW-2 and MW-4, the Program grants SEI an additional variance to the bid solicitation allowing SEI to conduct AFVR events on monitoring wells MW-2 and MW-4. Groundwater samples should not be taken for a minimum of thirty days once the AFVR events are completed.

The next Corrective Action System Evaluation (CASE) report documenting the AFVR events and the subsequent quarterly sampling event is due on or before November 16, 2007. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CoC reduction calculation sheets

cc: Technical File

DHEC/UST/STU/090407

UST PROGRAM
TRACKING #

Tech F

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

OCT 28 2002

TERRY KENNEDY
GEOLOGICAL RESOURCES INC
4913 ALBERMARLE RD STE 101
CHARLOTTE NC 28205

Re: Circle Stop N Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit #05981; CA # 17400:P; UMW-16661
Bid # SB-19189-04/30/02-EMW; PO#408994
Saluda County

Dear Mr. Kennedy:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has prepared a monitoring well installation package for the referenced facility (ies). Monitoring well approval for three (3) permanent monitoring well(s) is enclosed for your records. Please note that all applicable South Carolina certification requirements regarding well installation and report preparation must be met.

Cost Agreement (CA) #17400:P has been approved up to the amount of the enclosed cost agreement form 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-19189-04/30/02-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 Monitoring Well Installation Report (two copies) must be submitted within 60 days from the date of this letter.

The Bureau grants pre-approval for transportation of drums of virgin petroleum contaminated soil and/or 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 in the report.

A copy of the approved Cost Agreement is enclosed for your information. 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 17400:P** 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 to this Cost Agreement must be pre-approved by this Department in order for Geological Resources, Inc. to seek future cost compensation.

UST PROGRAM
DOCKETING # 70 Tech

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.

On all correspondence regarding this site, please reference the UST Permit # 05981 and Cost Agreement #17400:P. If you have questions concerning this correspondence or would like to submit additional information, please contact me at (803) 896-6396 or (800) 826-5435 (within SC only).

Sincerely,

John D. Abernathy, Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division

Enc.: Approved Cost Agreement #17400 (CA)
Information Packet
Monitoring Well Approval (MWA)

cc: Joan Boozer, 3287 Columbia Hwy, Leesville, SC 29070 (w/o enc)
Upper Savannah District EQC (w/ copy of Monitoring Well Approval)
Technical File (w/ Monitoring Well Approval)

SCDHEC/SLFSS/UST/5981_mwi-gri/JDA/10.14.02

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: October 11, 2002
Approval No.: UMW-16661
Approval is hereby granted to: Geological Resources, Inc.
On behalf of: Joan Boozer
UST Permit # 05981
County: Saluda

This approval is for the construction of three (3) permanent monitoring well(s) in accordance with the construction plans and technical specifications outlined in the SC Well Standards and Regulations. The wells are to be constructed within the surficial 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 be submitted to my attention as part of the Monitoring Well Installation Report.

2. Each well shall 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 shall provide monitoring well I.D.#, date of construction, static water level, and driller name and state certification #.

3. Temporary wells must be properly abandoned within 30 days from the date of installation.

4. 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.

5. A minimum of forty-eight (48) hours prior to initiation of drilling activities, please provide notice to John D. Abernathy at (803) 896-6396.

6. Please provide ground-water quality analytical data (chemical analysis and/or water level(s)) associated measurements (i.e., in-situ field measurements) to my attention with the Assessment Report.

7. Monitoring wells shall be installed by a permanently 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:

John D. Abernathy, Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division
Underground Storage Tank Program

cc: Upper Savannah District EQC
Technical File

SCDHEC/SLFSS/UST/5981_mwi-gri/JDA/10.14.02

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

OCT 0 4 2002

MS SHAWN JUDD
GEOLOGICAL RESOURCES INC
4913 ALBEMARLE RD STE 101
CHARLOTTE NC 28205

Re: **Notice to Proceed**
Bid # SB-19032-04/09/02; PO# 404342

Dear Ms. Judd:

Based on the award of the referenced bid package, enclosed is the information packet to conduct one (1) groundwater-sampling event. The packet contains 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 #404342 on the appropriate invoice submitted for payment against the facility.

UST Permit #	Facility	County	# wells	Parameters	PACE CA#	GRI CA#
05981	Circle Stop N Shop	Saluda	28	26-BTEX, Naph, MTBE, NO_3, SO_3, Fe^{+2} 2-BTEX, Naph, MTBE	17307:P	17308:P

Geological Resources, Inc. will perform services at the sites on behalf of the site's UST Owner/Operator (O/O); however, payment will be made from the SUPERB Account. The site's O/O 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.

UST PROGRAM DOCKETING # 71Tech

Please contact Debra Thoma before commencing work at this facility. If you have any questions or need further assistance, please contact Debra Thoma at (803) 896-6397 or (800) 826-5435 (within SC only)

Sincerely,

John D. Abernathy, Hydrogeologist
State Lead & Field Services Section
Assessment & Corrective Action Division

enc: Field Activity Worksheet Information Packet
Approved Cost Agreement

cc: Sherri Howard, PACE Analytical Services, 9800 Kincey Ave. Ste. 100, Huntersville, NC, 28078
(w/ Approved Cost Agreement)
Debra Thoma, State Lead & Field Services
Technical File

SCDHEC/SLFSS/UST/5981-gri_pace/JDA/9.25.02

RIGHT-OF-ENTRY FORM

PROPERTY OWNER

UST Permit #05981

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, Louise Northey Clark, 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 Circle Stop and Shop Phone # (803) 532 9974

Street Address of Facility 3287 Columbia Hwy

Town, City, District, Suburb Leesville, S.C.

Name of nearest intersecting street, road, highway, alley US 378 + S.C. 391 (Traffic Circle) Is this facility within the city limits? (yes or no) No

Does a public water or sewer utility service this facility? (yes or no) Public Water - yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines Septic tank lines - F. R. Clark, phone number (803) 5326038

Were underground storage tanks previously removed from the ground at this facility? (yes or no)_____ 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 Gail Smith Phone number (803) 532 4780

Is the property currently leased or rented to someone? (yes or no) yes. If yes, please provide their name Steve + Joan Booze 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): LOUISE NORTHEY CLARK

Phone Number (home) (803) 5326038 (work)

Current Mailing Address: 2920 PROSPERITY HWY. LEESVILLE, S.C 29070

Signature of Property Owner: Louise Northey Clark

Witness: Jimmie M. Northey

Date: 4-29-02 Month _____ Day _____ Year

UST PROGRAM DOCKETING # 12 Tech

RECEIVED

MAY 01 2002

Underground Storage Tank Program

PERMISSION FORM

UNDERGROUND STORAGE TANK OWNER

UST Permit #05981

If you are the owner of the former or existing underground storage tanks or are designated as their authorized representative, but do not own the property, please complete this form.

I, Joan Boozer certify that I am the legal owner of the underground storage tank(s) located at the facility identified below or serve as the authorized representative for the UST owner. I grant permission to the South Carolina Department of Health and Environmental Control (SCDHEC) to secure on my behalf services of a contractor to conduct assessment and corrective action activities, as required. The contractor will be designated as my contractor 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 be responsible for obtaining right-of-entry from the property owner and notifying me of all activities that are necessary prior to their initiation and will promptly provide to me a copy of each environmental report. I understand that I may choose to select my own contractor at the completion of any phase of work by notifying the Division of Underground Storage Tank Management in writing.

Name of Facility Circle Stop & Shop Phone # 803-532-9974

Street Address of Facility 3287 Columbia Hwy

Town, City, District, Suburb Leesville, SC 29070 - Saluda County

Name of nearest intersecting street, road, highway, alley Hwys 378 & 391

Is this facility within the city limits? (yes or no) NO

Does a public water or sewer utility service this facility? (yes or no) yes, if no, please provide the name and phone number of a person that we can contact that can assist in the location of private water and septic tank lines _____, phone number _____

Were underground storage tanks previously removed from the ground at this facility? (yes or no) yes 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 Gail Smith Phone number 803-532-4780

Is the property currently leased or rented to someone? (yes or no) yes. If yes, please provide their name Buddy & Louise Clark and phone number 803-532-6038 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. (Don't know where former tank was.)

NAME of UST owner (Please Print): JOAN BOOZER

Phone Number (home) 532-3264 (work) 532-9974

Signature of UST Owner: Joan Boozer

Witness: Steve L. Boozer

Date: 4-25-02 Month _____ Day _____ Year

D H E C
ROMOTE PROTECT PROSPER
00 Bull Street
olumbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 898-4330

MAR 27 2002

MS JOAN BOOZER
3287 COLUMBIA HWY
LEESVILLE SC 29070

Re: Circle Stop'n'Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit # 05981
Release reported December 27, 1991
Tier II Assessment Report received March 25, 2002
Lexington County

Dear Ms. Boozer:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced Tier II Assessment Report submitted by Kleen Site Geoservices, Inc.

A receptor survey was conducted and monitoring wells were installed as part of the assessment. The results of the investigation revealed the presence of chemicals of concern (CoC) in excess of calculated site-specific target levels. The next scope of work to be performed at this site is Active Corrective Action to ensure there is no potential impact to human health or the environment.

The site's priority classification is **1D**. Therefore, funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account will soon be available for implementation of an acceptable method of corrective action. The selected technology must reduce the petroleum CoC to concentrations site-specific target levels determined by the Department. These concentrations will be listed in the Corrective Action Solicitation. All rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by SUPERB Site Rehabilitation and Fund Access Regulations, R.61-98.

As required in R.61-98, Section II.B.3.a, the UST owner or operator is required to develop and implement a reasonable, cost-effective response for soil and/or groundwater contamination. In order to assist you determine the clean-up technology, a reasonable time frame and all associated costs, the Department will prepare a technical specification package which will specify site specific clean-up levels and mail them to you. In addition to the solicitations you may personally seek, the Department will announce the request for solicitations in the South Carolina Business Opportunities, a bi-weekly state government publication. This announcement will clearly indicate that the UST owner/operator will make the contractor selection to implement an accepted method of corrective action at a reasonable cost. If you wish to utilize this option and select the contractor to perform the corrective actions, **please call me within 14 days of the date of this letter and return the enclosed**

UST PROGRAM
DOCKETING # TBTech

Active Corrective Action Options Form within 30 days. Should you select this option, the Department strongly suggests that a written contract between you and the selected contractor be developed following the completion of the solicitation process. The only parties to this contract would be you and the contractor you choose. Since the Department's only function would be to monitor the corrective action activities, rather than perform and/or oversee the associated activities, the Department would not be party to your contract.

If you prefer, the UST Program can directly procure a contractor to perform corrective action activities on your behalf. If you wish to utilize this option and relinquish the right to choose the contractor, **please call me within 14 days of the date of this letter to inform of your preference and return the enclosed Permission and Right-of-Entry forms within 30 days.** Please note that if the UST owner is different from the current landowner, both must complete that appropriate forms. Do not hesitate to call Travis Williams if you have any questions. Please understand that under either option the site rehabilitation contractor must provide a performance bond or an irrevocable letter of credit and you remain responsible for completion of site rehabilitation activities.

On all correspondence or inquiries regarding this project, please reference **UST Permit #05981**. If you have any questions, please contact me at (803) 898-4327 or (800) 826-5435 (within South Carolina only).

Sincerely,

Travis Williams

Travis Williams, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division

enc: Corrective Action Guidance Document
Active Corrective Action Options Form
Permission / Right of Entry Forms

cc: Ms. Jimmie Northey, Rt. 4, Box 190, Leesville, SC 29070-8403
Ms. Louise Clark, Rt. 4, Box 189, Leesville, SC 29070-8403
Technical/Read Files

SCDHEC/UST/3-25-02/tmw/05981

KLEEN
SITES
GEOSERVICES

FAX COVERSHEET

Environmental Consulting **Engineering** **Geophysics**

PHONE: (803) 791-1996 FAX: (803) 791-4269

TO: Travis Williams	*FAX NUMBER:*
FROM: Bill Dunnagan	*DATE: 2/13/02*
SUBJECT: Submittal of Field Screening Results, Circle Stop N Shop, Saluda County, SC UST Permit # 05981	

NUMBER OF PAGES INCLUDING COVER SHEET: 2

COMMENTS

Travis,

Field screening activities have been completed at the above referenced facility. I have enclosed a map showing the results of the field screening effort. This map also shows the proposed location of five shallow wells, two 65' deep telescoping wells and one telescoping bedrock well that may extend as deep as 140 feet. The reduced size of this map may make reading a faxed copy difficult. I will drop off an 8 ½" x 11" copy of this map at the SCDHEC tommorrow. We are scheduled to begin well installation activities on Monday, February 18, 2002. Please review this information and call me at (803) 791-1996 ext. 12 at your earliest convenience.

Thanks,

Bill

_____ Urgent Reply Requested _____ Reply Today

x Reply At Your Convenience _____ No Reply Necessary

PROGRAM
DOCKETING # 14 Tech

KLEEN
SITES
GEOSERVICES

FAX COVERSHEET

Environmental Consulting **Engineering** **Geophysics**

PHONE: (803) 791-1996 FAX: (803) 791-4269

TO: Travis Williams	*FAX NUMBER:*
FROM: Bill Dunnagan	*DATE: 2/13/02*
SUBJECT: Submittal of Field Screening Results, Circle Stop N Shop, Saluda County, SC UST Permit # 05981	

NUMBER OF PAGES INCLUDING COVER SHEET: 2

COMMENTS

Travis,

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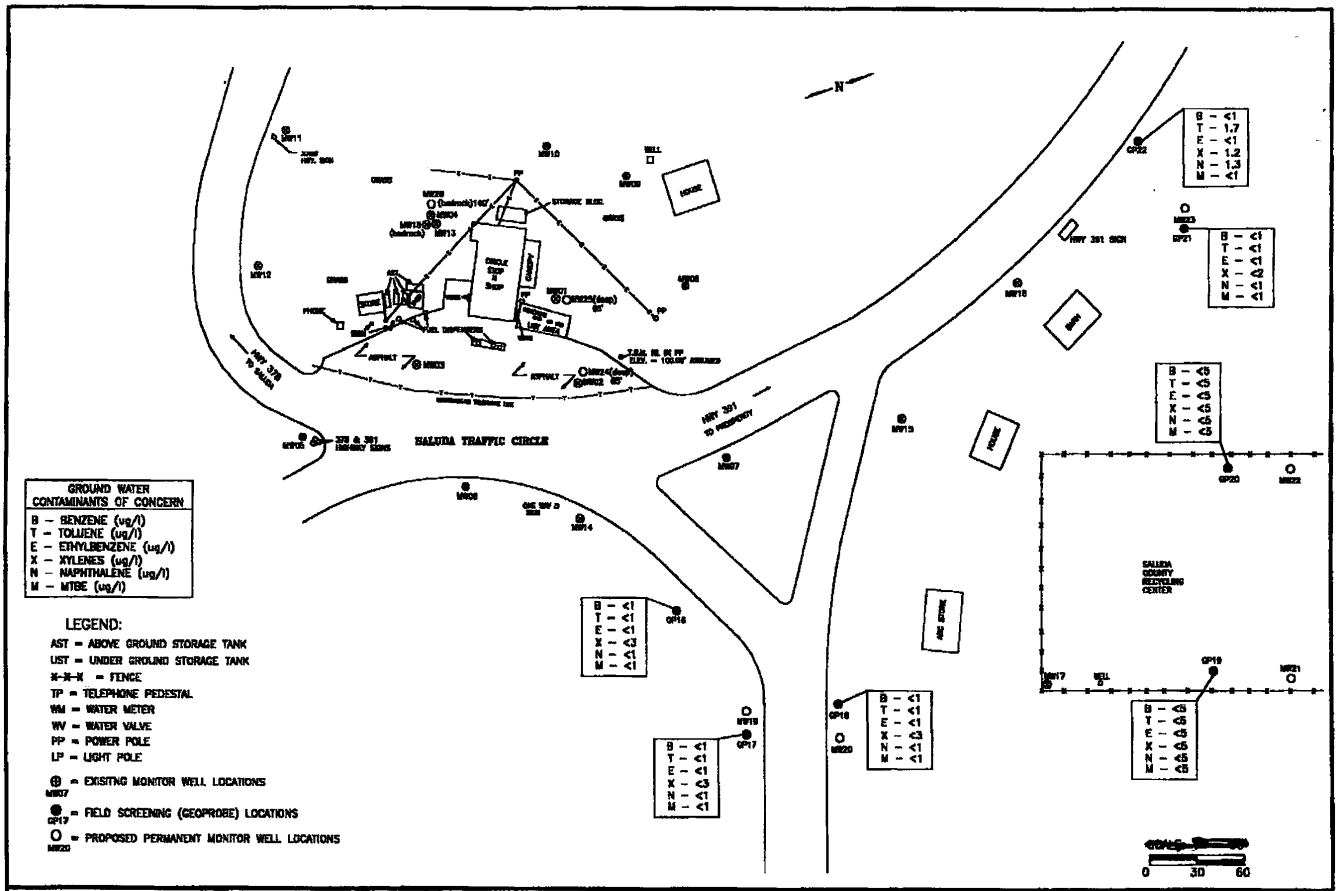
Thanks,

Bill

RECEIVED
FEB 13 2002
Underground Tank Program

_____ Urgent Reply Requested _____ Reply Today

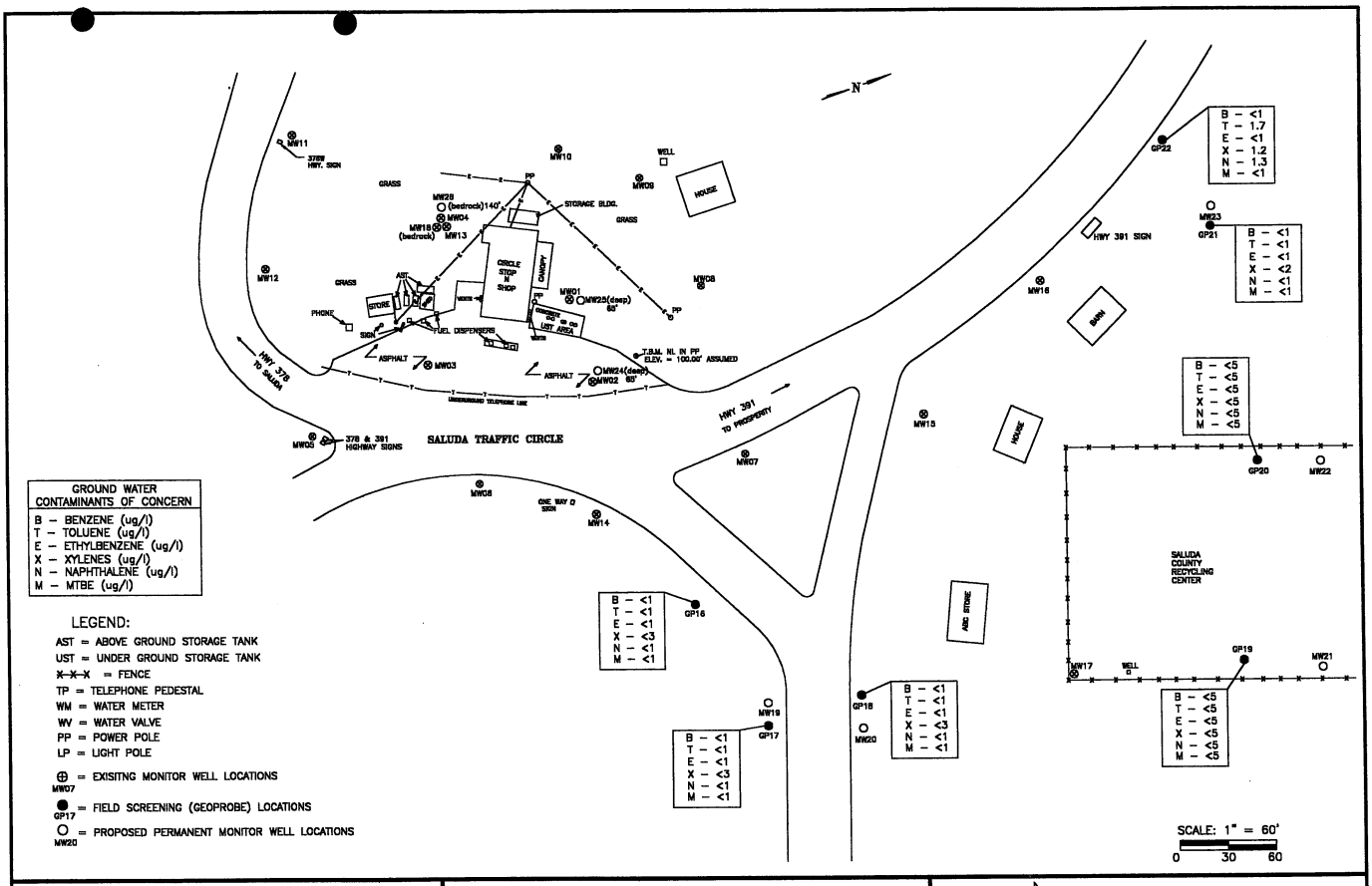
x Reply At Your Convenience _____ No Reply Necessary



CIRCLE STOP N SHOP HIGHWAY 378/391 SALUDA COUNTY SOUTH CAROLINA	FIELD SCREENING DATA AND PROPOSED PERMANENT GROUND WATER MONITOR WELL LOCATIONS	KLEEN SITES GEOSERVICES

F:\KSG\CAD\2001\01616\FieldScreenData

REC FEB 13 02



GROUND WATER CONTAMINANTS OF CONCERN

B – BENZENE (ug/l)
T – TOLUENE (ug/l)
E – ETHYLBENZENE (ug/l)
X – XYLENES (ug/l)
N – NAPHTHALENE (ug/l)
M – MTBE (ug/l)

LEGEND:

AST = ABOVE GROUND STORAGE TANK
UST = UNDER GROUND STORAGE TANK
X-X-X = FENCE
TP = TELEPHONE PEDESTAL
WM = WATER METER
WV = WATER VALVE
PP = POWER POLE
LP = LIGHT POLE
⊕ MW07 = EXISITNG MONITOR WELL LOCATIONS
● GP17 = FIELD SCREENING (GEOPROBE) LOCATIONS
○ MW20 = PROPOSED PERMANENT MONITOR WELL LOCATIONS

CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIELD SCREENING DATA AND PROPOSED PERMANENT GROUND WATER MONITOR WELL LOCATIONS

KSG

KLEEN SITES GEOSERVICES

F:\KSG\CAD\2001\01616\FieldScreenData

D H E C
PROMOTE PROTECT PROSPER
00 Bull Street
lumbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 898-4330

DEC 05 2001

Ms. Joan Boozer
Circle Stop'N'Shop
3287 Columbia Hwy
Leesville, SC 29070

Re: Circle Stop'N'Shop, 3287 Columbia Hwy, Leesville, SC 29070
UST Permit #05981; CP#15277; MWA#UMW-15699
Release reported Dec. 27, 1991
Assessment Plan and Cost Proposal Received Nov. 30, 2001
Lexington County

Dear Ms. Boozer:

The Underground Storage Tank (UST) Program of the South Carolina Department of Health and Environmental Control (SCDHEC) recognizes your commitment to continue work at this site utilizing your own contractor. The UST Program has reviewed the referenced assessment plan and cost proposal submitted by Kleen Sites Geoservices, Inc.

Assessment activities at the site should begin immediately upon receipt of this letter. Characterization of all exposure pathways 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.** Cost Proposal #15277 has been approved for the amount shown on the enclosed cost proposal form.

Kleen Sites Geoservices, Inc. can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor. Approval to install 5 shallow and 3 deep ground water monitoring wells has been provided to your environmental consultant; a copy is enclosed for your records.

A Report of Findings and the invoice is due within **90 days** from the date of this letter. An interim well drilling invoice may be submitted for this scope of work. If the invoice and completed report are 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.

UST PROGRAM
DOCKET NO. # 15 Tech

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by the Department for the cost to be paid. The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, 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 work.

The Bureau grants preapproval for transportation of virgin petroleum contaminated soil and groundwater 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.

On all correspondence concerning this site, please reference UST Permit #05981 and CP #15277. If there are any questions concerning this project, please contact me at (803) 898-4327 or (800) 826-5435 (within South Carolina only).

Sincerely,

Travis Williams

Travis Williams, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division

enc: Finance Approved Cost Proposal (ACP)
Monitoring Well Approval (MWA)

cc: Technical/Read Files (w/MWA)
Financial File (w/ACP)
Ms. Louise Clark, 2920 Prosperity Hwy, Leesville, SC 29070 (w/MWA)
Kleen Sites Geoservices, Inc., 171 Lott Ct., West Columbia, SC 29169 (w/original MWA & ACP)

SCDHEC/UST/12-03-01/tmw/05981/t2approv

D H E C
ROMOTE PROTECT PROSPER
00 Bull Street
olumbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT

Phone (800) 826-5435 Fax (803) 898-4330

Ms. Joan Boozer
Circle Stop'N'Shop
3287 Columbia Hwy
Leesville, SC 29070

NOV 15 2001

Re: Circle Stop'N'Shop, 3287 Columbia Hwy, Leesville, SC 29070
UST Permit #05981; Release reported Dec. 27, 1991
Tier II Addendum Report Received Oct. 31, 2001
Lexington County

Dear Ms. Boozer:

The Underground Storage Tank Program of the South Carolina Department of Health and Environmental Control has reviewed the referenced assessment report submitted by Kleen Sites Geoservices, Inc.

The results contained in the referenced assessment report indicate the concentrations of chemicals of concern were above allowable risk based screening levels (RBSL). Based on these results, the site's priority classification is 1D. Therefore, funds from the State Underground Petroleum Environmental Response Bank (SUPERB) Account are available, or will soon be available, to implement the next necessary scope of work.

Future necessary actions include horizontal and vertical delineation of the contaminant plume. Our records indicate that you have selected Kleen Sites Geoservices, Inc. as your contractor to perform assessment activities at the site for the necessary scope of work. Please have your contractor complete and submit an Assessment Component Cost Proposal and Assessment Plan form within **fifteen 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.

On all correspondence regarding this site, please reference UST Permit #05981. Please be sure to include the requested information so that the appropriate approvals can be issued. **Note: approval from the Department must be issued before work begins.** Please call me at (803) 898-4327 or (800) 826-5435 (within South Carolina only) if you have questions or need additional information.

Sincerely,

Travis Williams

Travis Williams, Hydrogeologist
Owner / Operator Assistance Section
Assessment and Corrective Action Division

cc: Read / Technical Files
Kleen Sites Geoservices, Inc., 171 Lott Ct., West Columbia, SC 29169

UST PROGRAM DOCKETING # 7eTech

DHEC/UST/11-05-01/tmw/05981/planrequest

SCANNED

D H E C
ROMOTE PROTECT PROSPER
00 Bull Street
olumbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: Nov. 14, 2001

Approval No.: UMW-15699

Approval is hereby granted to: Kleen Sites Geoservices, Inc.
(On behalf of): Circle Stop'N'Shop
UST Permit #: 05981
County: Lexington

This approval is for the construction of 8 permanent and 350 feet temporary monitoring wells in accordance with the construction plans and technical specifications outlined in the Tier II Assessment Document. The well(s) are to be constructed within the surficial 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 Travis Williams at (803) 898-4327 or williat2@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 and temporary 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 and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Division.

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: Travis Williams

Travis Williams, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Central Midlands EQC District
Ms. Joan Boozer

SCANNED

SCDHEC/UST/12-03-01/tmw/05981/mwa

UST PROGRAM
DOCKETING # MTech

D H E C

PROMOTE PROTECT PROSPER

South Carolina Department of Health and Environmental Control

FAX MESSAGE

Date: 11-14-2001

Number of Pages including Cover Sheet: 1

Please Deliver This Fax Message

TO: Jason
Name

Kleen Sites Geoservices
Organization/Department

(803) 791-4269
Fax Number

( )
Phone Number

Circle Stop N Shop
UST # 05981

FROM: Travis Williams, Hydrogeologist
Underground Storage Tank Program
Bureau of Land and Waste Management

(803) 898-4330
Fax Number

(803) 898-4327
Phone Number

SUBJECT/COMMENT: Jason,

One of our contractors that we work with called Enviro-Test Services, Inc has dealt with GACs before. You might try Terry Teate at the above company at (803)-732-5770. Other than that you might try the Yellow Pages under Water Filtering? Wish I could help more, but I've never dealt with this either. Call me if you need anything else. Please try to get the cost proposal in ASAP.

Travis

UST PROGRAM DOCKETING # 78Tech

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 St., Columbia, SC 29201
Phone (800) 826-5435 Fax (803) 898-4330

OCT 26 2001

Test America
Attn: Karen Moore
9440 Two Notch Road, Ste. B
Columbia, SC 29223

Re: Circle Stop-N-Shop
UST Permit #05981
Bid # SB-7690-06/17/99-REB
Purchase Order #179220
CP # 15032:P
Lexington County

Dear Ms. Moore:

Under the term and conditions of the referenced bid package, analytical sampling has been approved for the referenced facility. Laboratory analysis has been approved for one water sample for BTEX analysis via EPA Method 8260. The facility has been assigned an individual Cost Proposal (CP) number as listed above. Please reference the CP number and Purchase Order #179220 on the invoice submitted for payment.

DHEC personnel will perform the required sampling at the facility on October 25, 2001 and deliver the samples to Test America for the required analysis.

If you have any questions or need further assistance, please contact me at (803) 898-4327 or (800) 826-5435 (within SC only).

Sincerely,

Kimberly A. Wilson for
Travis M. Williams, Hydrogeologist
Owner /Operator Assistance Section
Assessment & Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Debra Thoma, State Lead & Field Services
Technical File
Financial File
Read File

SCDHEC/UST/testamer//10.25.01

UST PROGRAM
DOCKETING # 79 Tech

SEI
Environmental, Inc.

RECEIVED
MAR 07 2008
UNDERGROUND STORAGE TANK PROGRAM

February 22, 2008

Ms. Sonya Utz, Hydrogeologist
South Carolina Department of Health and Environmental Control
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Dear Mr. Surber:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the December 13, 2007, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

Laura Dell'Olio

Laura Dell'Olio
Staff Scientist

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

UST PROGRAM
DOCKETING # 8 tech

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
August 2007 through December 2007

RECEIVED
MAR 07 2008
UNDERGROUND STORAGE TANK PROGRAM

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

PREPARED BY:

SEI ENVIRONMENTAL, INC.
2025 Progress Court
Raleigh, North Carolina 27608
UST Site Rehabilitation Contractor No. 354

February 22, 2008

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date: February 22, 2008
Monitoring Report Number: 4th Quarter
For Period Covering: August 2007 to December 2007
Facility Name : Circle Stop-N-Shop
Street Address: 3287 Columbia Highway
UST Permit Number: 05981
City: Leesville, South Carolina
County: Saluda
Zip Code: 29070-7216
Latitude: N 34°02'28.08"
Longitude W 81°32'53.78"

Submitted by UST Owner/Operator:	Prepared by Consultant/Contractor:
Name: Steve & Joan Boozer	Name: Randy Casey
Company: Property Owners	Company: SEI Environmental, Inc.
Address: 3287 Columbia Highway	Address: 2025 Progress Court
City: Leesville State: SC	City: Raleigh State: NC
Zip Code: 29070-7216	Zip Code: 27608
Telephone: (803) 532-4119	Telephone: (919) 832-2535
SEI Project Number: 303064	UST Site Rehabilitation Contractor No. 354

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Randy Casey
SC Reg. No. 21054
Signature: Randy P. Casey, P.E.
Date: 2/23/08

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3.0 LABORATORY ANALYTICAL RESULTS 2, 3

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APPENDIX B Tables
APPENDIX C Field Data Information Sheets for Groundwater Sampling
APPENDIX D Laboratory Reports and Chain-of-Custody Forms

LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a Licensed Geologist registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by AccuTest Laboratories.

1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event
- April 25, 2006 – Groundwater Sampling Event
- July 17, 2006 – Groundwater Sampling Event
- October 17, 2006 – Groundwater Sampling Event
- January 15, 2007 – Groundwater Sampling Event
- April 25, 2007 – Groundwater Sampling Event
- July 23, 2007 – Groundwater Sampling Event
- December 13, 2007- Groundwater Sampling Event

On December 13, 2007, fifteen groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On December 13, 2007 fifteen groundwater samples were collected (MW-1 through MW-4, MW-6, MW-8, MW-9R, MW-13 through MW-16, MW-18, MW-23, MW-25, and MW-26) of the twenty-six existing groundwater monitoring wells. Three monitoring wells were not sampled; MW-24 was not located, MW-10R was dry, and free product was present

in MW-7. Five (MW-5, MW-11, MW-12, MW-19, and MW-20) monitoring wells were only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in Appendix A is a site map depicting well locations.

Wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was not detected.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient of 0.027 feet per foot between monitoring wells MW-19 and MW-16. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene). Appendix C contains Field Data Information Sheets for Groundwater Sampling.

3.0 LABORATORY ANALYTICAL RESULTS

Chemicals of Concern (CoC) were detected in nine (MW-1, MW-2, MW-3, MW-4, MW-6, MW-13, MW-14, MW-18, and MW-25) of the fifteen monitoring wells sampled at concentrations exceeding their respective SSTL. Figure 4 in Appendix A is a site map presenting monitoring well locations and their CoC concentrations. Table 2 in Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs)

have been designated for twenty (MW-1 through MW-18 and MW-24 through MW-26) monitoring wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix D.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

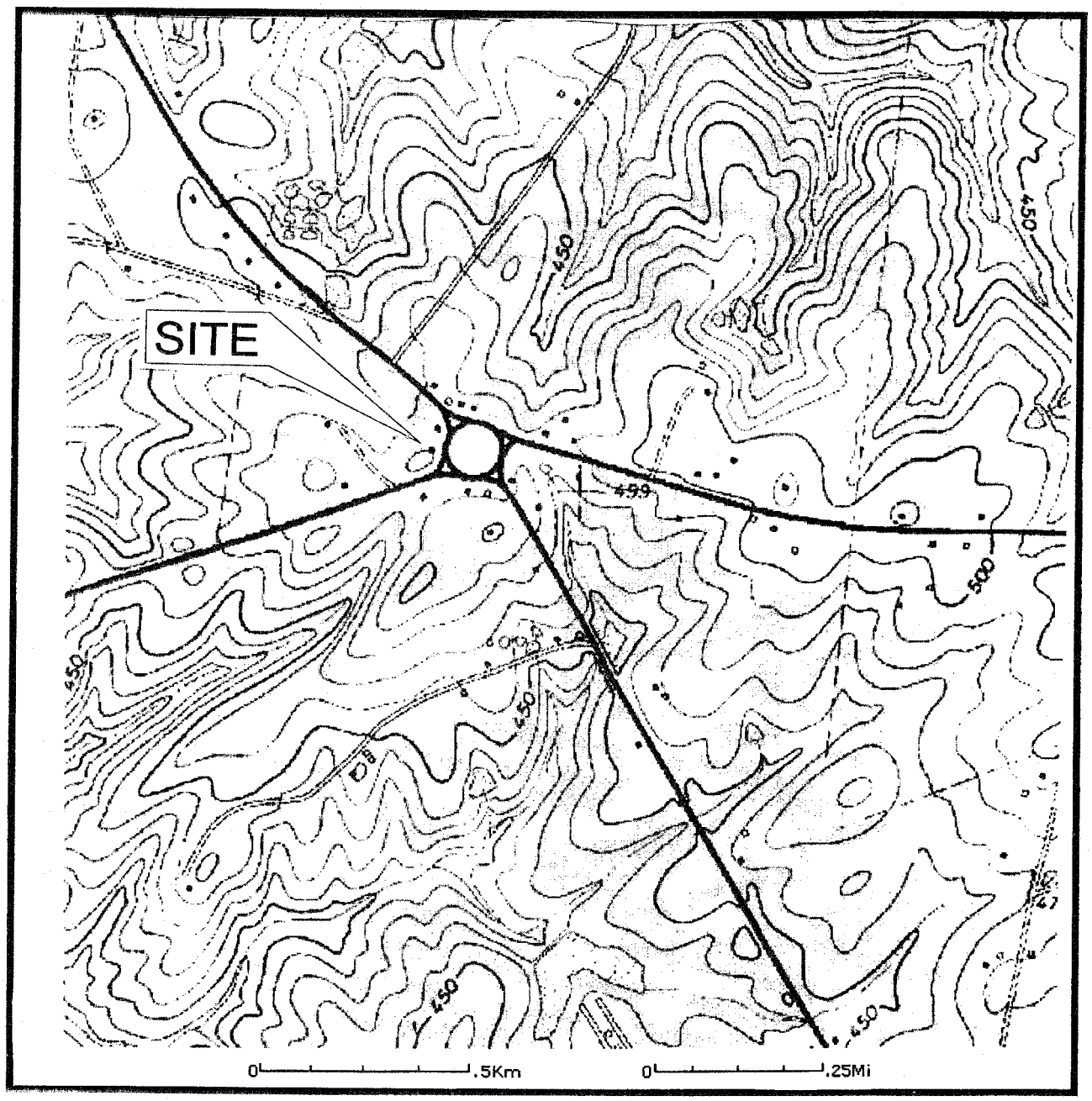
Using the current analytical results, the concentration reduction is 97.12%.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the north-northeast with a hydraulic gradient of 0.027 feet per foot. CoC were detected in nine of the fifteen monitoring wells sampled above their respective SSTLs. The percent concentration reduction has been calculated at 97.12%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. The next sampling event is scheduled for January 2008.

APPENDIX A
FIGURES

7.5 MINUTE SERIES(TOPOGRAPHIC)

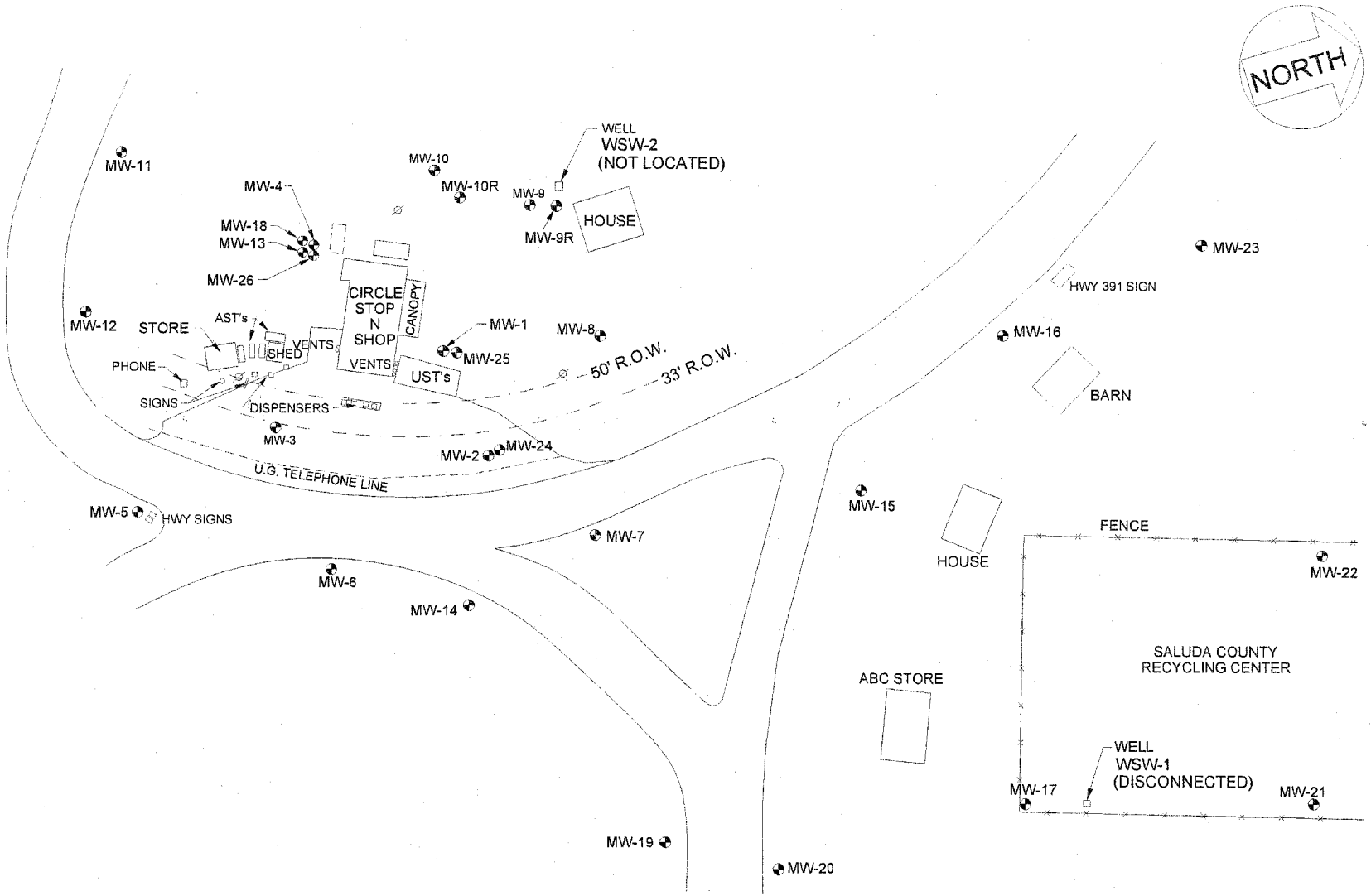


NORTH

SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064 DWG #	DATE: 10/10/05 DRAWN BY: JCJ



LEGEND:

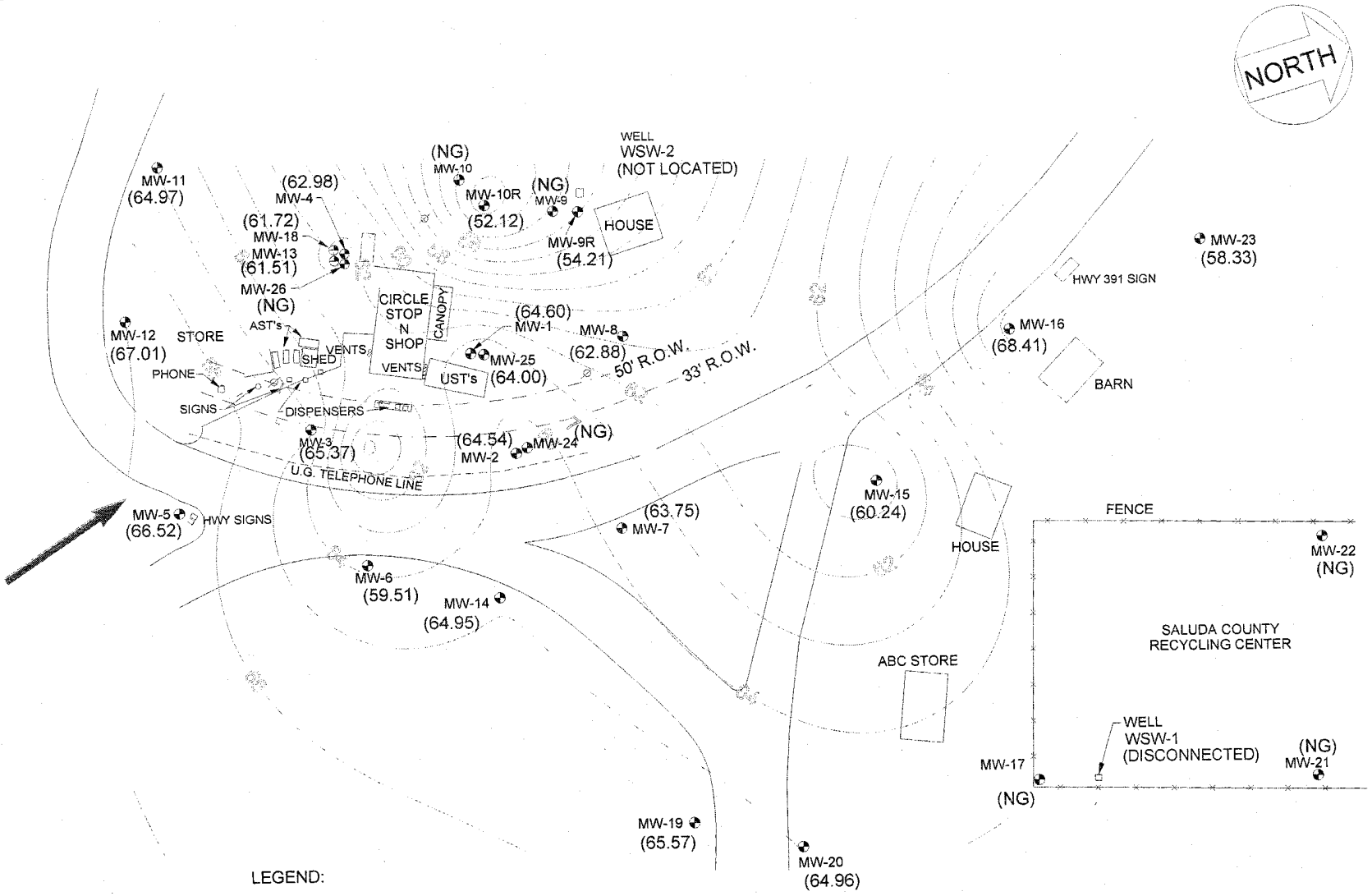
- MONITORING WELL
- POWER POLE

0 40 80 FT.

SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

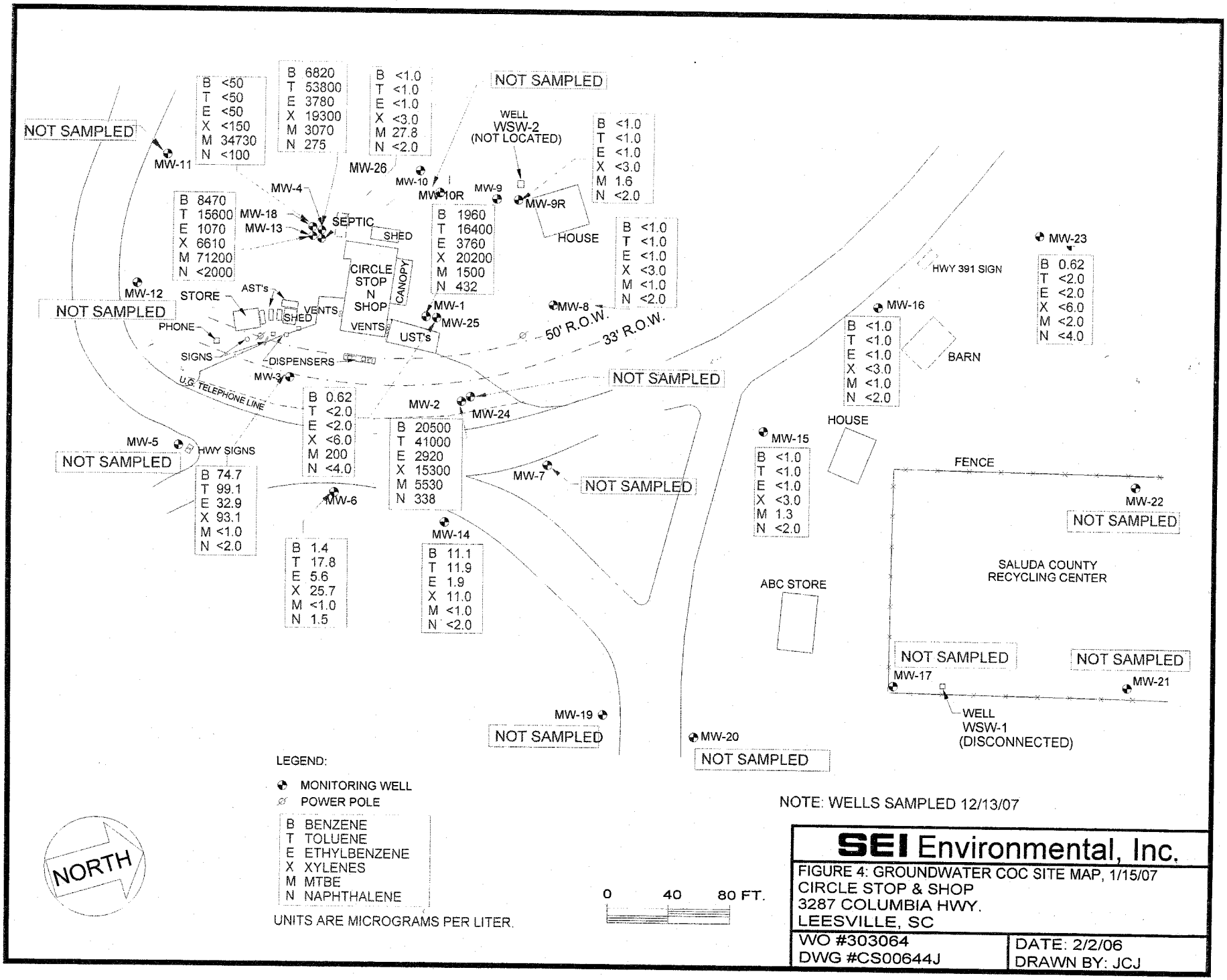
WO #303-064	DATE: 3/22/05
DWG #CS00642G	DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ


NOT SAMPLED
B <50
T <50
E <50
X <150
M 34730
N <100
MW-11
B 6820
T 53800
E 3780
X 19300
M 3070
N 275
B <1.0
T <1.0
E <1.0
X <3.0
M 27.8
N <2.0
NOT SAMPLED
WELL
WSW-2
(NOT LOCATED)
B <1.0
T <1.0
E <1.0
X <3.0
M 1.6
N <2.0
MW-26
MW-10
MW-10R
MW-9
MW-9R
MW-4
B 8470
T 15600
E 1070
X 6610
M 71200
N <2000
MW-18
MW-13
SEPTIC
SHED
B 1960
T 16400
E 3760
X 20200
M 1500
N 432
HOUSE
B <1.0
T <1.0
E <1.0
X <3.0
M <1.0
N <2.0
CIRCLE
STOP
N
SHOP
CANOPY
MW-12
STORE
AST's
VENTS
SHED
MW-1
MW-25
MW-8
NOT SAMPLED
PHONE
VENTS
UST's
50' R.O.W.
33' R.O.W.
SIGNS
DISPENSERS
MW-3
U.G. TELEPHONE LINE
B 0.62
T <2.0
E <2.0
X <6.0
M 200
N <4.0
MW-2
MW-24
NOT SAMPLED
MW-5
HWY SIGNS
NOT SAMPLED
B 74.7
T 99.1
E 32.9
X 93.1
M <1.0
N <2.0
B 20500
T 41000
E 2920
X 15300
M 5530
N 338
MW-7
NOT SAMPLED
MW-6
B 1.4
T 17.8
E 5.6
X 25.7
M <1.0
N 1.5
MW-14
B 11.1
T 11.9
E 1.9
X 11.0
M <1.0
N <2.0
MW-19
NOT SAMPLED
MW-20
NOT SAMPLED
HWY 391 SIGN
MW-23
B 0.62
T <2.0
E <2.0
X <6.0
M <2.0
N <4.0
MW-16
B <1.0
T <1.0
E <1.0
X <3.0
M <1.0
N <2.0
BARN
HOUSE
MW-15
B <1.0
T <1.0
E <1.0
X <3.0
M 1.3
N <2.0
FENCE
MW-22
NOT SAMPLED
SALUDA COUNTY
RECYCLING CENTER
ABC STORE
NOT SAMPLED
NOT SAMPLED
MW-17
MW-21
WELL
WSW-1
(DISCONNECTED)
LEGEND:
MONITORING WELL
POWER POLE
B BENZENE
T TOLUENE
E ETHYLBENZENE
X XYLENES
M MTBE
N NAPHTHALENE
UNITS ARE MICROGRAMS PER LITER.
NORTH
0 40 80 FT.
NOTE: WELLS SAMPLED 12/13/07
SEI Environmental, Inc.
FIGURE 4: GROUNDWATER COC SITE MAP, 1/15/07
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC
WO #303064
DWG #CS00644J
DATE: 2/2/06
DRAWN BY: JCJ

APPENDIX B
TABLES

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-1	08/18/03	21.39			99.59	78.20
	11/17/03	23.34				76.25
	03/11/04	23.96				75.63
	06/30/04	25.22				74.37
	03/21/05	24.12				75.47
	10/14/05	Well Not Located				0.00
	02/02/06	Well Not Located				0.00
	04/25/06	25.11				74.48
	07/17/06	Well Not Located				0.00
	10/17/06	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	04/25/07	25.95				73.64
	07/23/07	28.87				70.72
	12/13/07	34.99				64.60
MW-2	08/18/03	19.82			97.68	77.86
	11/17/03	21.39				76.29
	03/11/04	22.38				75.30
	06/30/04	23.49				74.19
	03/21/05	23.47				74.21
	10/14/05	24.41				73.27
	02/02/06	24.38				73.30
	04/25/06	22.70				74.98
	07/17/06	24.90				72.78
	10/17/06	27.79				69.89
	01/15/07	27.24				70.44
	04/25/07	23.83				73.85
	07/23/07	27.10				70.58
	12/13/07	33.14				64.54
MW-3	08/18/03	18.04			99.53	81.49
	11/17/03	22.14				77.39
	03/11/04	20.98				78.55
	06/30/04	24.08				75.45
	03/21/05	22.05				77.48
	10/14/05	25.35				74.18
	02/02/06	23.48				76.05
	04/25/06	22.45				77.08
	07/17/06	25.65				73.88
	10/17/06	28.73				70.80
	01/15/07	26.40				73.13
	04/25/07	23.43				76.10
	07/23/07	27.92				71.61
	12/13/07	34.16				65.37

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-4	08/18/03	23.31			100.28	76.97
	11/17/03	25.11				75.17
	03/11/04	25.58				74.70
	06/30/04	27.13				73.15
	03/21/05	27.01				73.27
	10/14/05	28.16				72.12
	02/02/06	27.69				72.59
	04/25/06	26.35				73.93
	07/17/06	28.50				71.78
	10/17/06	31.51				68.77
	01/15/07	31.13				69.15
	04/25/07	28.16				72.12
	07/23/07	31.56				68.72
	12/13/07	37.30				62.98
MW-5	08/18/03	15.89			100.88	84.99
	11/17/03	21.84				79.04
	03/11/04	19.61				81.27
	06/30/04	22.30				78.58
	03/21/05	20.70				80.18
	10/14/05	24.40				76.48
	02/02/06	22.43				78.45
	04/25/06	22.03				78.85
	07/17/06	26.59				74.29
	10/17/06	28.67				72.21
	01/15/07	24.90				75.98
	04/25/07	22.90				77.98
	07/23/07	27.92				72.96
	12/13/07	34.36				66.52
MW-6	08/18/03	16.31			97.43	81.12
	11/17/03	19.13				78.30
	03/11/04	18.62				78.81
	06/30/04	21.84				75.59
	03/21/05	19.78				77.65
	10/14/05	23.13				74.30
	02/02/06	21.15				76.28
	04/25/06	20.19				77.24
	07/17/06	23.39				74.04
	10/17/06	26.49				70.94
	01/15/07	24.20				73.23
	04/25/07	21.14				76.29
	07/23/07	26.70				70.73
	12/13/07	37.92				59.51

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-7	08/18/03	19.78			97.26	77.48
	11/17/03	22.14				75.12
	03/11/04	22.38				74.88
	06/30/04	23.78				73.48
	03/21/05	23.31				73.95
	10/14/05	24.75				72.51
	02/02/06	24.29				72.97
	04/25/06	22.62				74.64
	07/17/06	25.10				72.16
	10/17/06	27.99				69.27
	01/15/07	27.24				70.02
	04/25/07	23.74				73.52
	07/23/07	27.28				69.98
	12/13/07	33.51	33.21	0.30		63.75
MW-8	08/18/03	21.72			98.70	76.98
	11/17/03	24.61				74.09
	03/11/04	24.30				74.40
	06/30/04	26.21				72.49
	03/21/05	25.25				73.45
	10/14/05	24.78				73.92
	02/02/06	26.39				72.31
	04/25/06	24.97				73.73
	07/17/06	27.65				71.05
	10/17/06	30.56				68.14
	01/15/07	Well Not Located				N/A
	04/25/07	Well Not Located				N/A
	07/23/07	29.95				68.75
	12/13/07	35.82				62.88
MW-9R	08/18/03	30.33			99.68	69.35
	11/17/03	32.11				67.57
	03/11/04	33.15				66.53
	06/30/04	34.62				65.06
	03/21/05	36.35				63.33
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	Well Not Located				N/A
	07/17/06	Well Not Located				N/A
	10/17/06	40.84				58.84
	01/15/07	41.35				58.33
	04/25/07	37.09				62.59
	07/23/07	40.39				59.29
	12/13/07	45.47				54.21

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-10R	08/18/03	Well Not Located			100.22	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	42.57				57.65
	02/02/06	44.69				55.53
	04/25/06	Well Not Located				N/A
	07/17/06	44.04				56.18
	10/17/06	46.71				53.51
	01/15/07	48.14				52.08
	04/25/07	45.41				54.81
	07/23/07	46.72				53.50
	12/13/07	48.10				52.12
MW-11	08/18/03	19.96			100.47	80.51
	11/17/03	21.45				79.02
	03/11/04	23.01				77.46
	06/30/04	25.96				74.51
	03/21/05	23.56				76.91
	10/14/05	27.31				73.16
	02/02/06	25.79				74.68
	04/25/06	23.15				77.32
	07/17/06	27.66				72.81
	10/17/06	30.65				69.82
	01/15/07	28.92				71.55
	04/25/07	25.55				74.92
	07/23/07	29.73				70.74
	12/13/07	35.50				64.97
MW-12	08/18/03	17.51			100.62	83.11
	11/17/03	21.51				79.11
	03/11/04	19.95				80.67
	06/30/04	23.62				77.00
	03/21/05	21.06				79.56
	10/14/05	25.18				75.44
	02/02/06	22.43				78.19
	04/25/06	21.78				78.84
	07/17/06	25.40				75.22
	10/17/06	28.55				72.07
	01/15/07	25.85				74.77
	04/25/07	22.55				78.07
	07/23/07	27.42				73.20
	12/13/07	33.61				67.01

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-13	08/18/03	24.11			100.22	76.11
	11/17/03	26.78				73.44
	03/11/04	26.73				73.49
	06/30/04	27.79				72.43
	03/21/05	28.18				72.04
	10/14/05	28.88				71.34
	02/02/06	32.46				67.76
	04/25/06	27.03				73.19
	07/17/06	29.34				70.88
	10/17/06	32.29				67.93
	01/15/07	31.95				68.27
	04/25/07	28.62				71.60
	07/23/07	32.02				68.20
	12/13/07	38.71				61.51
MW-14	08/18/03	15.29			96.30	81.01
	11/17/03	19.35				76.95
	03/11/04	18.18				78.12
	06/30/04	21.22				75.08
	03/21/05	19.20				77.10
	10/14/05	22.55				73.75
	02/02/06	20.69				75.61
	04/25/06	16.69				79.61
	07/17/06	22.84				73.46
	10/17/06	25.92				70.38
	01/15/07	23.53				72.77
	04/25/07	20.61				75.69
	07/23/07	25.12				71.18
	12/13/07	31.35				64.95
MW-15	08/18/03	17.51			94.59	77.08
	11/17/03	20.39				74.20
	03/11/04	20.07				74.52
	06/30/04	21.95				72.64
	03/21/05	21.02				73.57
	10/14/05	23.10				71.49
	02/02/06	22.12				72.47
	04/25/06	20.70				73.89
	07/17/06	23.42				71.17
	10/17/06	26.35				68.24
	01/15/07	24.93				69.66
	04/25/07	21.67				72.92
	07/23/07	25.68				68.91
	12/13/07	34.35				60.24

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-16	08/18/03	Well Not Located			92.01	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	23.86				68.15
	03/21/05	22.72				69.29
	10/14/05	26.00				66.01
	02/02/06	24.21				67.80
	04/25/06	22.98				69.03
	07/17/06	26.06				65.95
	10/17/06	29.26				62.75
	01/15/07	26.66				65.35
	04/25/07	23.60				68.41
MW-18	08/18/03	24.82			100.05	75.23
	11/17/03	21.97				78.08
	03/11/04	27.00				73.05
	06/30/04	28.50				71.55
	03/21/05	29.10				70.95
	10/14/05	29.34				70.71
	02/02/06	29.23				70.82
	04/25/06	27.78				72.27
	07/17/06	30.07				69.98
	10/17/06	33.00				67.05
	01/17/07	32.43				67.62
	04/25/07	29.23				70.82
	07/23/07	32.36				67.69
	12/13/07	38.33				61.72
MW-19	08/18/03	11.21			94.32	83.11
	11/17/03	16.22				78.10
	03/11/04	Well Not Located				N/A
	06/30/04	17.47				76.85
	03/21/05	16.31				78.01
	10/14/05	19.44				74.88
	02/02/06	17.88				76.44
	04/25/06	20.15				74.17
	07/17/06	18.69				75.63
	10/17/06	23.09				71.23
	01/15/07	20.20				74.12
	04/25/07	17.06				77.26
	07/23/07	22.28				72.04
	12/13/07	28.75				65.57

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
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SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-20	08/18/03	12.36			94.88	82.52
	11/17/03	17.18				77.70
	03/11/04	Well Not Located				N/A
	06/30/04	18.98				75.90
	03/21/05	16.40				78.48
	10/14/05	20.55				74.33
	02/02/06	18.27				76.61
	04/25/06	19.98				74.90
	07/17/06	20.83				74.05
	10/17/06	24.12				70.76
	01/17/07	20.84				74.04
	04/25/07	18.14				76.74
	07/23/07	23.24				71.64
	12/13/07	29.92				64.96
MW-21	08/18/03	10.17			84.61	74.44
	11/17/03	14.41				70.20
	03/11/04	Well Not Located				N/A
	06/30/04	16.34				68.27
	03/21/05	14.51				70.10
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	18.34				66.27
	04/25/07	Well Closed				N/A
	07/23/07	20.69				63.92
	12/13/07	Well Closed				N/A
MW-22	08/13/03	10.61			84.71	74.10
	11/17/03	17.79				66.92
	03/11/04	Well Not Located				N/A
	06/30/04	21.31				63.40
	03/21/05	17.42				67.29
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	19.60				65.11
	04/25/07	Well Closed				N/A
	07/23/07	26.49				58.22
	12/13/07	Well Closed				N/A

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Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
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Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-23	08/18/03	Well Not Located			92.05	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	Well Not Located				N/A
	02/02/06	24.40				67.65
	04/25/06	Well Not Located				N/A
	07/17/06	25.48				66.57
	10/17/06	Well Not Located				N/A
	01/15/07	Well Not Located				N/A
	04/25/07	24.00				68.05
	07/23/07	Well Not Located				N/A
	12/13/07	33.72				58.33
MW-24	08/18/03	19.76			97.74	77.98
	11/17/03	22.42				75.32
	03/11/04	22.44				75.30
	06/30/04	24.04				73.70
	03/21/05	23.35				74.39
	10/14/05	25.15				72.59
	02/02/06	Well Not Located				N/A
	04/25/06	23.00				74.74
	07/17/06	Well Not Located				N/A
	10/17/06	28.37				69.37
	01/15/07	27.26				70.48
	04/25/07	Well Not Located				N/A
	07/23/07	27.73				70.01
	12/13/07	Well Not Located				N/A
MW-25	08/18/03	21.94			99.63	77.69
	11/17/03	24.49				75.14
	03/11/04	24.44				75.19
	06/30/04	26.08				73.55
	03/21/05	27.75				71.88
	10/14/05	26.70				72.93
	02/02/06	26.72				72.91
	04/25/06	Well Not Located				N/A
	07/17/06	26.68				72.95
	10/17/06	30.03				69.60
	01/15/07	29.05				70.58
	04/25/07	26.42				73.21
	07/23/07	29.5				70.13
	12/13/07	35.63				64.00

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
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UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-26	08/18/03	100+			100.22	N/M*
	11/17/03	90.02				10.20
	03/11/04	100+				N/M*
	06/30/04	100+				N/M*
	03/21/05	100+				N/M*
	10/14/05	100+				N/M*
	02/02/06	100+				N/M*
	04/25/06	100+				N/M*
	07/17/06	100+				N/M*
	07/17/06	100+				N/M*
	01/15/07	100+				N/M*
	04/25/07	100+				N/M*
	07/23/07	100+				N/M*
	12/13/07	97.57				N/M*

N/A = Not Applicable
N/M* = Not Measured Due To Depth of Well Exceeding 100 feet. Measuring Tape Ends at 100 feet.
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) ---- where applicable

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-1*	10/01/02 & 12/19/02	**2,300.00**	**29,000.00**	3,300.00	18,900.00	43.00	27.00			53,570.00
	08/18/03	**1,700.00**	1,300.00	2,600.00	13,000.00	**2,200.00**	**1,200.00**			22,000.00
	11/19/03	**1,900.00**	17,000.00	3,100.00	18,000.00	**1,700.00**	**680.00**			42,380.00
	03/11/04	**1,800.00**	14,000.00	3,300.00	16,000.00	**1,600.00**	**1,200.00**			37,900.00
	06/30/04	**1,640.00**	14,200.00	**3,490.00**	**20,200.00**	**1,770.00**	**380.00**			41,680.00
	03/21/05	**1,210.00**	8,540.00	2,440.00	13,100.00	**1,430.00**	<400			26,720.00
	10/14/05	Not Located								0.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**158.00**	**106.00**			264.00
	07/17/06	Not Located								0.00
	10/17/06	Not Located								0.00
	01/15/07	Not Located								0.00
	04/25/07	**954.00**	5,730.00	**3,350.00**	17,700.00	**1,200.00**	**691.00**			29,625.00
	07/23/07	**1,170.00**	4,650.00	3,230.00	14,200.00	**1,260.00**	**538.00**			25,048.00
	12/13/07	**1,960.00**	16,400.00	**3,760.00**	**20,200.00**	**1,500.00**	**432.00**			44,252.00
	SSTL	**65.00**	**24,700.00**	**3,300.00**	**18,900.00**	**43.00**	**27.00**			
	> SSTL	1,895.00	0.00	460.00	1,300.00	1,457.00	405.00			
MW-2	10/01/02 & 12/19/02	**10,000.00**	**26,000.00**	2,600.00	9,400.00	**1,300.00**	**520.00**			49,820.00
	08/18/03	**9,300.00**	22,000.00	2,200.00	**12,000.00**	**1,900.00**	**5,000.00**			52,400.00
	11/19/03	**12,000.00**	**29,000.00**	**3,000.00**	**15,000.00**	**5,100.00**	**2,500.00**			66,600.00
	03/11/04	**8,400.00**	21,000.00	2,100.00	**12,000.00**	**3,400.00**	**2,500.00**			49,400.00
	06/30/04	**9,890.00**	**29,900.00**	2,460.00	**14,400.00**	**3,510.00**	**1,000.00**			61,160.00
	03/21/05	**9,970.00**	21,800.00	2,060.00	**12,400.00**	**4,620.00**	<1,000			50,850.00
	10/14/05	**11,600.00**	**30,200.00**	2,180.00	**12,800.00**	**5,360.00**	<1,000			62,140.00
	02/02/06	**16,200.00**	**33,700.00**	2,450.00	**14,000.00**	**6,400.00**	<1,000			72,750.00
	04/25/06	**16,800.00**	**34,400.00**	2,290.00	**12,800.00**	**7,010.00**	**4,430.00**			77,730.00
	07/17/06	**21,900.00**	**46,200.00**	**3,150.00**	**16,400.00**	**11,700.00**	<1,000			99,350.00
	10/17/06	**20,200.00**	**49,700.00**	**2,710.00**	**13,400.00**	**12,400.00**	<1,000			98,410.00
	01/15/07	**16,700.00**	**37,800.00**	**2,720.00**	**14,800.00**	**8,650.00**	<1,000			80,670.00
	04/25/07	**13,900.00**	**33,700.00**	**2,310.00**	**14,200.00**	**5,650.00**	<1,000			69,760.00
	07/23/07	**23,300.00**	**45,000.00**	**3,400.00**	**16,000.00**	**10,800.00**	<1000			98,500.00
	12/13/07	**20,500.00**	**41,000.00**	**2,920.00**	**15,300.00**	**5,530.00**	**338.00**			85,588.00
	SSTL	**120.00**	**24,700.00**	**2,600.00**	**9,400.00**	**43.00**	**27.00**			
	> SSTL	20,380.00	16,300.00	320.00	5,900.00	5,487.00	311.00			
MW-3	10/01/02 & 12/19/02	85.00	93.00	5.00	102.00	5.00	5.00			295.00
	08/18/03	1.60	<5.0	<1.0	<3.0	<1.0	<5.0			1.60
	11/19/03	31.00	<5.0	1.30	9.00	<1.0	<5.0			41.30
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	72.30	4.10	<2.0	19.30	<2.0	<2.0			95.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	75.40	2.80	2.30	12.10	<1.0	<2.0			92.60
	02/02/06	1.60	<1.0	<1.0	<3.0	<1.0	<2.0			1.60
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/17/06	21.20	<1.0	<1.0	4.60	<1.0	<2.0			25.80
	10/17/06	62.30	7.50	1.30	19.10	<1.0	<2.0			90.20
	01/15/07	10.50	6.80	<1.0	<3.0	<1.0	<2.0			17.30
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	46.30	2.00	<1.0	4.60	<1.0	<2.0			52.90
	12/13/07	74.70	**99.10**	**32.90**	93.10	<1.0	<2.0			299.80
	SSTL	**85.00**	**93.00**	**5.00**	**102.00**	**5.00**	**5.00**			
	> SSTL	0.00	6.10	27.90	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-4	10/01/02 & 12/19/02	**5,500.00**	4,700.00	3,900.00	17,900.00	**6,400.00**	**590.00**			38,990.00
	08/18/03	**1,000.00**	15,000.00	2,900.00	14,000.00	**100.00**	**500.00**			33,500.00
	11/19/03	**1,200.00**	14,000.00	2,700.00	14,000.00	**4,900.00**	**5,000.00**			41,800.00
	03/11/04	**540.00**	8,000.00	1,000.00	8,400.00	**250.00**	**1,200.00**			19,390.00
	06/30/04	**884.00**	20,100.00	2,750.00	16,000.00	**1,000.00**	**1,000.00**			41,734.00
	03/21/05	**4,010.00**	**25,300.00**	3,020.00	16,500.00	<500	<1,000			48,830.00
	10/14/05	**1,450.00**	20,000.00	3,070.00	16,000.00	<500	<1,000			40,520.00
	02/02/06	**2,110.00**	22,400.00	3,240.00	17,700.00	<500	<1,000			45,450.00
	04/25/06	**387.00**	8,780.00	2,240.00	12,200.00	<50	<50			23,607.00
	07/17/06	**1,600.00**	23,900.00	3,850.00	**19,000.00**	<200	<400			48,350.00
	10/17/06	**4,430.00**	47,300.00	3,780.00	**19,000.00**	598.00	<1000			75,108.00
	01/15/07	**3,060.00**	**31,800.00**	3,170.00	**17,600.00**	<500	<1000			55,630.00
	04/25/07	**1,240.00**	**17,200.00**	2,970.00	**1,700.00**	<500	<1000			23,110.00
	07/23/07	**4,410.00**	**40,700.00**	**4,810.00**	**22,100.00**	**1,110.00**	<1000			73,130.00
	12/13/07	**6,820.00**	**53,800.00**	3,780.00	**19,300.00**	**3,070.00**	**275.00**			87,045.00
	SSTL	**110.00**	**24,700.00**	**3,900.00**	**17,900.00**	**43.00**	**27.00**			
	> SSTL	6,710.00	29,100.00	0.00	1,400.00	3,027.00	248.00			
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	**20.00**	<1.0	<3.0	<1.0	<5.0			20.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	12/13/07	1.40	**17.80**	**5.60**	**25.70**	<1.0	1.50			52.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	12.80	0.60	10.70	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-7	10/01/02 & 12/19/02	**226,000.00**	**301,000.00**	**280,000.00**	**278,000.00**	**5,110,000.00**	**2,000.00**			6,197,000.00
	08/18/03	**3,900.00**	23,000.00	6,600.00	**37,000.00**	**500.00**	**2,500.00**			73,500.00
	11/19/03	**5,000.00**	15,000.00	**3,800.00**	**19,000.00**	**100.00**	**770.00**			43,670.00
	03/11/04	**6,200.00**	12,000.00	**3,300.00**	**15,000.00**	**500.00**	**2,500.00**			39,500.00
	06/30/04	**5,340.00**	18,400.00	**2,990.00**	**15,200.00**	**1,000.00**	**1,000.00**			43,930.00
	03/21/05	**7,710.00**	17,200.00	**2,820.00**	**13,400.00**	<500	<1,000			41,130.00
	10/14/05	**4,660.00**	12,600.00	1,730.00	7,610.00	<200	<400			26,600.00
	02/02/06	**9,810.00**	20,500.00	2,450.00	**10,800.00**	<200	<400			43,560.00
	04/25/06	**2,040.00**	5,530.00	715.00	3,190.00	<100	**102.00**			11,577.00
	07/17/06	**3,360.00**	9,310.00	1,520.00	7,050.00	<100	**321.00**			21,561.00
	10/17/06	**7,460.00**	24,700.00	2,920.00	13,700.00	<100	**471.00**			49,251.00
	01/15/07	**3,700.00**	16,900.00	4,370.00	28,200.00	<500	**5,670.00**			58,840.00
	04/25/07	**1,760.00**	5,510.00	960.00	5,170.00	<500	**233.00**			13,633.00
	07/23/07	**5,760.00**	18,600.00	2,750.00	12,000.00	<100	**575.00**			39,685.00
	12/13/07	Not Sampled, Free Product Present								39,685.00
	SSTL	**120.00**	**24,700.00**	**2,600.00**	**9,400.00**	**43.00**	**27.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/17/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	12/13/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.50	<5.0			1.50
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.70	<2.0			1.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.90	<2.0			1.90
	10/14/05	Not Located								0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	1.40	<2.0			1.40
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	07/23/07	Gauge Only (Semi-Annual/April & October)								0.00
	12/13/07	<1.0	<1.0	<1.0	<3.0	1.60	<2.0			1.60
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	10/14/05	**73.30**	1.60	**5.60**	**57.90**	**38.20**	**10.40**			187.00
	02/02/06	**27.80**	<1.0	2.80	**16.50**	**28.70**	3.00			78.80
	04/25/06	Not Located								0.00
	07/17/06	123.00	8.90	32.20	233.00	29.90	26.80			453.80
	10/17/06	23.80	<1.0	4.60	18.80	21.40	4.50			73.10
	01/15/07	Dry								0.00
	04/25/07	**63.50**	<1.0	1.90	**21.70**	**26.10**	**7.40**			120.60
	07/23/07	**38.20**	<1.0	1.90	**17.40**	**24.20**	**8.30**			90.00
	12/13/07	Dry								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	58.50	0.00	0.00	0.00	0.00	0.00			
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-13	10/01/02 & 12/19/02	**7,400**	14,000	2,500	7,700	**69,000**	**290**			100,890.00
	08/18/03	**9,500**	12,000	2,000	5,700	**7,600**	**5,000**			41,800.00
	11/19/03	**4,800**	6,500	1,000	5,400	**51,000**	**2,500**			71,200.00
	03/11/04	**9,500**	9,500	2,200	**7,800**	**93,000**	**1,200**			123,200.00
	06/30/04	**2,770**	4,000	**4,000**	**12,000**	**77,100**	**4,000**			103,870.00
	03/21/05	**11,600**	**13,900**	2,360	6,720	**104,000**	<4,000			138,580.00
	10/14/05	**10,600**	**20,500**	2,200	**8,870**	**88,100**	<2,000			130,270.00
	02/02/06	**14,300**	**24,900**	**2,710**	**10,600**	**79,400**	<2,000			131,910.00
	04/25/06	**11,800**	**23,400**	2,310	**10,900**	**85,800**	**8,420**			142,630.00
	07/17/06	**12,300**	**22,200**	2,300	**9,010**	**81,000**	<4,000			126,810.00
	10/17/06	**10,000**	**28,400**	2,280	**7,010**	**76,500**	<4,000			124,190.00
	01/15/07	**9,510**	**18,200**	<2000	**7,260**	**77,600**	<4,000			112,570.00
	04/25/07	**120**	**193**	<2000	**<300**	**5,780**	<200			6,093.00
	07/23/07	**12,100**	**20,900**	2,320	**10,200**	**83,600**	**302**			129,422.00
	12/13/07	**8,470**	**15,600**	1,070	6,610	**71,200**	<2000			102,950.00
	SSTL	**110**	**14,000**	**2,500**	**7,700**	**43**	**27**			
	> SSTL	8,360	1,600	0	0	71,157	0			
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	**8.80**	**7.80**	2.20	12.00	**16.00**	<5.0			46.80
	11/19/03	3.70	<5.0	<1.0	3.60	<1.0	<5.0			7.30
	03/11/04	1.20	<5.0	<1.0	<3.0	<1.0	<5.0			1.20
	06/30/04	4.50	<2.0	<2.0	<6.0	<2.0	<2.0			4.50
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	**5.90**	<1.0	<1.0	<3.0	<1.0	<2.0			5.90
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	2.10	<1.0	<1.0	<3.0	<1.0	<1.0			2.10
	07/17/06	**13.00**	<1.0	<1.0	<3.0	<1.0	<2.0			13.00
	10/17/06	**8.90**	<1.0	<1.0	<3.0	<1.0	<2.0			8.90
	01/15/07	**<1.0**	4.60	4.20	32.50	<1.0	27.10			68.40
	04/25/07	**2.70**	<1.0	<1.0	<3.0	<1.0	<2.0			2.70
	07/23/07	**12.20**	<1.0	<1.0	<3.0	<1.0	<2.0			12.20
	12/13/07	**11.10**	**11.90**	1.90	11.00	<1.0	<2.0			35.90
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	6	7	0	0	0	0			
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	1.30	<5.0	<1.0	<3.0	**9.80**	<5.0			11.10
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0			0.74
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	12/13/07	<1.0	<1.0	<1.0	<3.0	1.30	<2.0			1.30
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/23/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	12/13/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	Not Sampled								0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Not Sampled								0.00
	02/02/06	Well Closed								0.00
	02/02/06	Well Closed								0.00
	04/25/07	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Well Closed								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-18	10/01/02 & 12/19/02	5.00	7.00	5.00	139.00	**2,300.00**	24.00			2,480.00
	08/18/03	**370.00**	**9.90**	**6.00**	**180.00**	**520.00**	**40.00**			1,125.90
	11/19/03	**210.00**	**50.00**	**10.00**	110.00	**1,700.00**	**50.00**			2,130.00
	03/11/04	**170.00**	**25.00**	<5.0	54.00	**840.00**	**25.00**			1,114.00
	06/30/04	3.50	<2.0	<2.0	15.60	**4,420.00**	<2.0			4,439.10
	03/21/05	**121.00**	<50	<50	<150	**1,970.00**	<100			2,091.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	**3,270.00**	<2.0			3,270.00
	02/02/06	<50	<50	<50	<150	<50	<100			0.00
	04/25/06	<50	<50	<50	<150	**4,160.00**	<50			4,160.00
	07/17/06	<50	<50	<50	<150	**4,480.00**	<100			4,480.00
	10/117/06	<50	<50	<50	<150	**4,930.00**	<100			4,930.00
	01/15/07	<50	<50	<50	<150	**4,890.00**	<100			4,890.00
	04/25/07	<50	<50	<50	<150	**3,060.00**	<100			3,060.00
	07/23/07	<50	<50	<50	<150	**4,730.00**	<100			4,730.00
	12/13/07	<100	<100	<100	<300	**5,080.00**	<200			5,080.00
	SSTL	**5.00**	**7.00**	**5.00**	**139.00**	**43.00**	**24.00**			
	> SSTL	0.00	0.00	0.00	0.00	5,037.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	07/23/07	Gauge Only								0.00
	12/13/07	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-23	02/02/06	76.40	2.60	<1.0	3.00	244.00	<2.0			326.00
	04/25/06	Not Located								0.00
	07/17/06	1.50	<1.0	<1.0	<3.0	209.00	<2.0			210.50
	10/17/06	Not Located								
	04/25/07	4.70	<1.0	<1.0	<3.0	253.00	<2.0			257.70
	12/13/07	0.62	<2.0	<2.0	<6.0	<2.0	<4.0			
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-24*	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	32.00	<5.0			32.00
	08/18/03	4.80	<5.0	<1.0	<3.0	**70.00**	<5.0			74.80
	11/19/03	**34.00**	<5.0	<1.0	5.60	**82.00**	<5.0			121.60
	03/11/04	**30.00**	<5.0	<1.0	<3.0	**54.00**	<5.0			84.00
	06/30/04	**63.40**	<2.0	<2.0	10.20	**186.00**	1.20			260.80
	03/21/05	**154.00**	<5.0	<5.0	**15.60**	**233.00**	<10			402.60
	10/14/05	<1.0	<1.0	<1.0	<3.0	**211.00**	**19.00**			230.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**170.00**	**60.50**			230.50
	07/17/06	Not Located								0.00
	10/17/06	6.20	<5.0	<1.0	<3.0	**198.00**	<5.0			204.20
	01/15/07	9.30	<1.0	<1.0	<3.0	**191.00**	<2.0			200.30
	04/25/07	Not Located								0.00
	07/23/07	2.60	<1.0	<1.0	<3.0	**276.00**	<2.0			278.60
	12/13/07	Not Located								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**32.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	138.00	55.50			
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	9.00	<5.0			9.00
	08/18/03	**170.00**	<5.0	1.40	**110.00**	**140.00**	**42.00**			463.40
	11/19/03	**42.00**	<5.0	<1.0	**47.00**	**44.00**	**6.00**			139.00
	03/11/04	**82.00**	**7.60**	2.90	**120.00**	**62.00**	**11.00**			285.50
	06/30/04	**147.00**	4.50	0.52	**113.00**	**304.00**	**15.30**			584.32
	03/21/05	**82.20**	<5.0	<5.0	**17.10**	**275.00**	<10			374.30
	10/14/05	**32.60**	<5.0	<5.0	<15	**254.00**	**99.90**			386.50
	02/02/06	**15.80**	<1.0	<1.0	<3.0	**366.00**	**12.00**			393.80
	04/25/06	Not Located								0.00
	07/17/06	<1.0	>1.0	<1.0	<3.0	**185.00**	<2.0			185.00
	10/17/06	<1.0	>1.0	<1.0	<3.0	**147.00**	<2.0			147.00
	01/15/07	<1.0	>1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	3.90	<1.0	4.00	**19.50**	<2.0			27.40
	07/23/07	<1.0	<1.0	<1.0	<3.0	**222.00**	<2.0			222.00
	12/13/07	0.62	<2.0	<2.0	<6.0	**200.00**	<4.0			200.62
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**9.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	191.00	0.00			
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	110.00	<5.0			110.00
	08/18/03	**150.00**	**620.00**	**160.00**	**830.00**	**930.00**	**250.00**			2,940.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	**59.00**	<5.0			59.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.10	<5.0			3.10
	06/30/04	1.20	**7.50**	0.69	5.50	**208.00**	<2.0			222.89
	03/21/05	<2.0	<2.0	<2.0	<6.0	**80.90**	<4.0			80.90
	10/14/05	1.60	**5.60**	<1.0	3.50	**73.10**	<2.0			83.80
	02/02/06	1.30	**5.50**	<1.0	6.10	38.80	<2.0			51.70
	04/25/06	1.10	4.80	<1.0	4.70	**77.70**	**7.50**			95.80
	07/17/06	1.00	4.20	<1.0	4.20	**78.80**	<2.0			88.20
	10/17/06	1.10	**6.00**	<1.0	5.20	**93.70**	<2.0			106.00
	01/15/07	1.20	**6.30**	<1.0	4.30	**33.90**	<2.0			45.70
	04/25/07	1.10	**5.80**	<1.0	6.40	**53.20**	<2.0			66.50
	07/23/07	<1.0	1.10	<1.0	<3.0	**63.60**	<2.0			64.70
	12/13/07	<1.0	<1.0	<1.0	<3.0	27.80	<2.0			27.80
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**43.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
TOTAL MASS										**321,667.22**
TOTAL SSTL MASS		**685**	**112,970**	**14,980**	**63,751**	**402**	**234**		**193,022**	
INITIAL MASS ABOVE SSTL									**6,295,759**	
CURRENT MASS ABOVE SSTL									**181,344.00**	
PERCENT TOTAL MASS REDUCTION ABOVE SSTL									**97.12**	

- Reported in parts per billion (µg/l)
- SSTL: Site Specific Target Level
- NE = Not Established
- Bold denotes concentrations over respective SSTL & RBSL

- * = SSTL Data for Concentration Reduction Calculation for Monitoring WellS MW-1
04/26/06 Sampling Date Due to Inability to Locate Said Monitoring Wells During Current Sampling Event.

APPENDIX C
Field Data Information Sheets for Groundwater Sampling

SEI Environmental

SC Monitoring Well Gauging Data Sheet

Site Name: Circle Stop N Shop WO# 303064

Date 12/13/07

Well ID	Total Depth (feet)	Well Dia. (in.)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes
MW-1	49	2			34.09	
MW-2	40	2			33.14	
MW-3	40	2			34.16	
MW-4	40	2			37.30	
MW-5	45	2			34.36	Gauge only
MW-6	40	2			31.92	Gauge only Semi-annual (Apr/Oct)
MW-7	34	2	33.21		33.21	Free Product
MW-8	40	2			35.82	Gauge only Semi-annual (Apr/Oct)
MW-9R	67	2			45.47	Gauge only Semi-annual (Apr/Oct)
MW-10R					48.10	Dry
MW-11	40	2			35.50	Gauge only
MW-12	40	2			33.61	Gauge only
MW-13	62	2			38.71	
MW-14	40	2			31.35	
MW-15	35	2	[redacted]		34.35	
MW-16	35	2			34.02	
MW-17	37	2			N/A	Gauge only Place closed
MW-18	102	2			38.33	
MW-19	37	2			28.75	Gauge only
MW-20	40	2			29.92	Gauge only
MW-21	41	2			N/A	Gauge only Place closed
MW-22	46	2			N/A	Gauge only Place closed
MW-23		2			33.72	
MW-24	70	2			CNF	
MW-25	65	2			35.63	
MW-26	100+	2			47.57	
MW-9					39.61	

Analysis: EPA Method 8260B for BTEX, MTBE, and Naphthalene

2-inch diameter well: Well Volume = (water column) x (0.163 gallon/foot)

4-inch diameter well: Well Volume = (water column) x (0.652 gallon/ft)

Purge amount = Well Volume x 3

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

12/26/07

Technical Report for

SEI-Columbia, SC

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC

303064

Accutest Job Number: F54610

Sampling Date: 12/13/07

Report to:

SEI Environmental-Raleigh

cboggs@sei-environmental.com

ATTN: Chris Boggs

Total number of pages in report: 24

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Client Service contact: Heather Wandrey 407-425-6700

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Test results relate only to samples analyzed.

ACCUTEST LABORATORIES 50 YEARS 1956-2006

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Sample Summary

SEI-Columbia, SC

Job No: F54610

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time By	Received	Matrix Code	Type	Client Sample ID
F54610-1	12/13/07	11:50 RRSS	12/14/07	AQ	Ground Water	MW-15
F54610-2	12/13/07	12:00 RRSS	12/14/07	AQ	Ground Water	MW-16
F54610-3	12/13/07	12:15 RRSS	12/14/07	AQ	Ground Water	MW-14
F54610-4	12/13/07	12:20 RRSS	12/14/07	AQ	Ground Water	MW-6
F54610-5	12/13/07	12:35 RRSS	12/14/07	AQ	Ground Water	MW-26
F54610-6	12/13/07	12:40 RRSS	12/14/07	AQ	Ground Water	MW-13
F54610-7	12/13/07	12:45 RRSS	12/14/07	AQ	Ground Water	MW-18
F54610-8	12/13/07	12:50 RRSS	12/14/07	AQ	Ground Water	MW-4
F54610-9	12/13/07	13:00 RRSS	12/14/07	AQ	Ground Water	MW-3
F54610-10	12/13/07	13:10 RRSS	12/14/07	AQ	Ground Water	MW-2
F54610-11	12/13/07	13:20 RRSS	12/14/07	AQ	Ground Water	MW-23
F54610-12	12/13/07	13:40 RRSS	12/14/07	AQ	Ground Water	MW-25
F54610-13	12/13/07	13:30 RRSS	12/14/07	AQ	Ground Water	MW-1

Sample Summary
(continued)

SEI-Columbia, SC

Job No: F54610

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F54610-14	12/13/07	13:45	RRSS	12/14/07	AQ	Ground Water	MW-8
F54610-15	12/13/07	13:50	RRSS	12/14/07	AQ	Ground Water	MW-9R

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-15		
Lab Sample ID:	F54610-1	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0023287.D	1	12/17/07	MM	n/a	n/a	VN994
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.3	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	94%		86-112%
460-00-4	4-Bromofluorobenzene	98%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-16		
Lab Sample ID:	F54610-2	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024151.D	1	12/18/07	MM	n/a	n/a	VM993
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	96%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	F54610-3	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024150.D	1	12/18/07	MM	n/a	n/a	VM993
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	11.1	1.0	0.20	ug/l	
108-88-3	Toluene	11.9	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	1.9	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	11.0	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	101%		87-116%
17060-07-0	1,2-Dichloroethane-D4	93%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	97%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range
J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-6		
Lab Sample ID:	F54610-4	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024207.D	1	12/20/07	MM	n/a	n/a	VM995
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.4	1.0	0.20	ug/l	
108-88-3	Toluene	17.8	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	5.6	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	25.7	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	1.5	2.0	0.44	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	100%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	94%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-26		
Lab Sample ID:	F54610-5	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024157.D	1	12/18/07	MM	n/a	n/a	VM993
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	27.8	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	95%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	95%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-13		
Lab Sample ID:	F54610-6	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024170.D	1000	12/18/07	MM	n/a	n/a	VM993
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	8470	1000	200	ug/l	
108-88-3	Toluene	15600	1000	270	ug/l	
100-41-4	Ethylbenzene	1070	1000	200	ug/l	
1330-20-7	Xylene (total)	6610	3000	560	ug/l	
1634-04-4	Methyl Tert Butyl Ether	71200	1000	250	ug/l	
91-20-3	Naphthalene	ND	2000	440	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%		87-116%
17060-07-0	1,2-Dichloroethane-D4	98%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	95%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	F54610-7	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024169.D	100	12/18/07	MM	n/a	n/a	VM993
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	100	20	ug/l	
108-88-3	Toluene	ND	100	27	ug/l	
100-41-4	Ethylbenzene	ND	100	20	ug/l	
1330-20-7	Xylene (total)	ND	300	56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5080	100	25	ug/l	
91-20-3	Naphthalene	ND	200	44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	101%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	98%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F54610-8	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024168.D	500	12/18/07	MM	n/a	n/a	VM993
Run #2	M0024184.D	1000	12/19/07	MM	n/a	n/a	VM994

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	6820	500	100	ug/l	
108-88-3	Toluene	53800 [a]	1000	270	ug/l	
100-41-4	Ethylbenzene	3780	500	100	ug/l	
1330-20-7	Xylene (total)	19300	1500	280	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3070	500	130	ug/l	
91-20-3	Naphthalene	275	1000	220	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%	105%	87-116%
17060-07-0	1,2-Dichloroethane-D4	104%	100%	76-127%
2037-26-5	Toluene-D8	97%	96%	86-112%
460-00-4	4-Bromofluorobenzene	98%	97%	84-120%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	F54610-9	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024152.D	1	12/18/07	MM	n/a	n/a	VM993
Run #2	M0024183.D	2	12/19/07	MM	n/a	n/a	VM994

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	74.7	1.0	0.20	ug/l	
108-88-3	Toluene	99.1 [a]	2.0	0.54	ug/l	
100-41-4	Ethylbenzene	32.9	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	93.1	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	98%	102%	87-116%
17060-07-0	1,2-Dichloroethane-D4	97%	99%	76-127%
2037-26-5	Toluene-D8	97%	97%	86-112%
460-00-4	4-Bromofluorobenzene	98%	97%	84-120%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@72179 12:33 26-Dec-2007

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F54610-10	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024167.D	500	12/18/07	MM	n/a	n/a	VM993
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	20500	500	100	ug/l	
108-88-3	Toluene	41000	500	140	ug/l	
100-41-4	Ethylbenzene	2920	500	100	ug/l	
1330-20-7	Xylene (total)	15300	1500	280	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5530	500	130	ug/l	
91-20-3	Naphthalene	338	1000	220	ug/l	J

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	107%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	99%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-23		
Lab Sample ID:	F54610-11	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024165.D	5	12/18/07	MM	n/a	n/a	VM993
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1.9	5.0	1.0	ug/l	J
108-88-3	Toluene	4.8	5.0	1.4	ug/l	J
100-41-4	Ethylbenzene	2.3	5.0	1.0	ug/l	J
1330-20-7	Xylene (total)	13.3	15	2.8	ug/l	J
1634-04-4	Methyl Tert Butyl Ether	234	5.0	1.3	ug/l	
91-20-3	Naphthalene	11.1	10	2.2	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	104%		87-116%
17060-07-0	1,2-Dichloroethane-D4	104%		76-127%
2037-26-5	Toluene-D8	96%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@72179 12:33 26-Dec-2007

Report of Analysis

Client Sample ID:	MW-25		
Lab Sample ID:	F54610-12	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024182.D	2	12/19/07	MM	n/a	n/a	VM994
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	0.62	2.0	0.40	ug/l	J
108-88-3	Toluene	ND	2.0	0.54	ug/l	
100-41-4	Ethylbenzene	ND	2.0	0.40	ug/l	
1330-20-7	Xylene (total)	ND	6.0	1.1	ug/l	
1634-04-4	Methyl Tert Butyl Ether	200	2.0	0.50	ug/l	
91-20-3	Naphthalene	ND	4.0	0.88	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	103%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	100%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@72179 12:33 26-Dec-2007

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	F54610-13	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	M0024166.D	100	12/18/07	MM	n/a	n/a	VM993
Run #2	M0024181.D	200	12/19/07	MM	n/a	n/a	VM994

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	1960	100	20	ug/l	
108-88-3	Toluene	16400 [a]	200	54	ug/l	
100-41-4	Ethylbenzene	3760	100	20	ug/l	
1330-20-7	Xylene (total)	20200	300	56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1500	100	25	ug/l	
91-20-3	Naphthalene	432	200	44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%	105%	87-116%
17060-07-0	1,2-Dichloroethane-D4	105%	104%	76-127%
2037-26-5	Toluene-D8	97%	98%	86-112%
460-00-4	4-Bromofluorobenzene	98%	97%	84-120%

(a) Result is from Run# 2

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-8		
Lab Sample ID:	F54610-14		
Matrix:	AQ - Ground Water	Date Sampled:	12/13/07
Method:	SW846 8260B	Date Received:	12/14/07
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC	Percent Solids:	n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0023307.D	1	12/18/07	MM	n/a	n/a	VN995
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	97%		87-116%
17060-07-0	1,2-Dichloroethane-D4	102%		76-127%
2037-26-5	Toluene-D8	106%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@72179 12:33 26-Dec-2007

Report of Analysis

Client Sample ID:	MW-9R		
Lab Sample ID:	F54610-15	Date Sampled:	12/13/07
Matrix:	AQ - Ground Water	Date Received:	12/14/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	N0023326.D	1	12/19/07	MM	n/a	n/a	VN995
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	MDL	Units	Q
71-43-2	Benzene	ND	1.0	0.20	ug/l	
108-88-3	Toluene	ND	1.0	0.27	ug/l	
100-41-4	Ethylbenzene	ND	1.0	0.20	ug/l	
1330-20-7	Xylene (total)	ND	3.0	0.56	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1.6	1.0	0.25	ug/l	
91-20-3	Naphthalene	ND	2.0	0.44	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	100%		87-116%
17060-07-0	1,2-Dichloroethane-D4	95%		76-127%
2037-26-5	Toluene-D8	103%		86-112%
460-00-4	4-Bromofluorobenzene	115%		84-120%

ND = Not detected MDL - Method Detection Limit
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Certification Exceptions
- Chain of Custody

ACCUTEST Laboratories

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F54610
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI Environmental
ADDRESS: 5100 Reagan Dr
CITY: Charlotte STATE: NC ZIP: 28206
SEND REPORT TO: SEI Environmental
PHONE #: 704-596-8624

FACILITY INFORMATION

PROJECT NAME: Circle Stop + Shop
LOCATION: Hwy 378 + 391 Lexington S.C.
PROJECT NO.: 303064
FAX #: 704-596-8605

ANALYTICAL INFORMATION

EPA Method 8260B for BTEX, MTBE, + Naphthalene

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	EPA Method 8260B for BTEX, MTBE, + Naphthalene	LAB USE ONLY
1	MW-15	12/13/07	11:50	RBSS	GW	3	3					X	
2	MW-16		12:00									X	
3	MW-14		12:15									X	
4	MW-6		12:20									X	
5	MW-26		12:35									X	
6	MW-13		12:40									X	
7	MW-18		12:45									X	
8	MW-4		12:50									X	
9	MW-3		13:00									X	
10	MW-2		13:10									X	
11	MW-23		13:20									X	

DATA TURNAROUND INFORMATION

- [x] STANDARD
- [ ] 48 HOUR RUSH
- [ ] 24 HOUR EMERGENCY
- [ ] OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [x] STANDARD
- [ ] COMMERCIAL "B"
- [ ] DISK DELIVERABLE
- [ ] STATE FORMS
- [ ] OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	12/13/07 1700	1. FX	2. FX		2. FM 12-14-07 0900
3.		3.	4.		4.
5.		5.	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE 2.0 C

F54610: Chain of Custody
Page 1 of 3

ACCUTEST Laboratories

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F54610
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI Environmental
ADDRESS: 5100 Reagan Dr
CITY: Charlotte STATE: NC ZIP: 28206
SEND REPORT TO: SEI Environmental
PHONE #: 704-596-8624

FACILITY INFORMATION

PROJECT NAME: Circle Stop + Shop
LOCATION: Hwy 378 + 391 Lexington, S.C.
PROJECT NO.: 303004
FAX #: 704-596-8605

ANALYTICAL INFORMATION

EPA Method 8260B for BTEX, MTBE, + Naphthalene

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	EPA Method 8260B for BTEX, MTBE, + Naphthalene	LAB USE ONLY
12	MW-25	12/13/07	13:40	RR, SS	GW	3	3					X X X	
13	MW-1	↓	13:30	↓	↓	↓	↓					X X X	
14	MW-8		13:45									X X X	
15	MW-9R		13:50									X X X	
	[redacted]		[redacted]										

DATA TURNAROUND INFORMATION

- [x] STANDARD
- [ ] 48 HOUR RUSH
- [ ] 24 HOUR EMERGENCY
- [ ] OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [x] STANDARD
- [ ] COMMERCIAL "B"
- [ ] DISK DELIVERABLE
- [ ] STATE FORMS
- [ ] OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. [signature]	12/13/07 1100	1. FX	2. FX		2. FM 12-14-07 0900
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE 2.0 C

F54610: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F54610 CLIENT: SEI PROJECT: Circle Stop + Shop

DATE/TIME RECEIVED: 12-14-07 0900 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 2.0

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8610 5635 3774

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [X] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [X] TRIP BLANK NOT ON COC
- [X] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [X] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OR LAB FILTERED METALS ? Ø

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE FM 12-14-07 TECHNICIAN SIGNATURE/DATE JE 12-14-07 ASBD 10/03/06

F54610: Chain of Custody
Page 3 of 3

KLEEN
SITES
GEOSERVICES

FAX COVERSHEET

Environmental Consulting **Engineering** **Geophysics**

PHONE: (803) 791-1996 FAX: (803) 791-4269

TO: Kimberly Wilson	*FAX NUMBER:*
FROM: Bill Dunnagan	*DATE: 10/24/01*
SUBJECT: Potable Well Data *Circle Stop N Shop Site, Saluda County, SC* *UST Permit # 05981*	

NUMBER OF PAGES INCLUDING COVER SHEET: 3

COMMENTS

Kimberly,

As per our telephone conversation earlier today, I am sending you the analytical data sheet and a map for the potable water well that showed a "hit" of MTBE at the above referenced site. The well is located at the Saluda County Recycling Center. Water from the well serves the onsite building and the Country Peddler convenience store next door. Reportedly, the Country Peddler does use this well for potable water. The Tier II Addendum (01) Report should be available for your review in 2-3 days. Please call me if you have any questions.

Thanks,

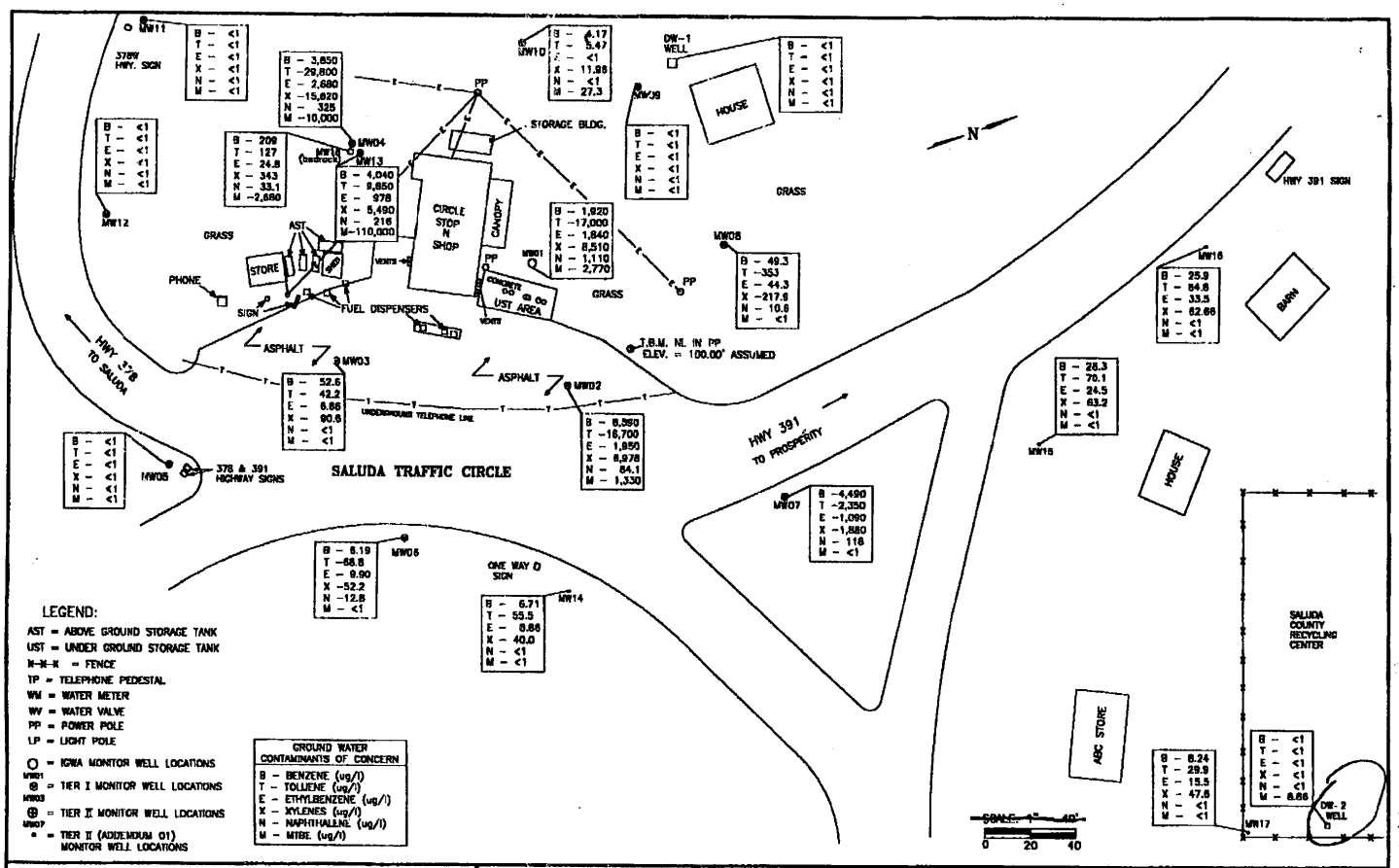
Bill

RECEIVED
OCT 24 2001
Underground Storage Tank Program

UST PROGRAM DOCKETING # 80 Tech

_____ Urgent Reply Requested _____ Reply Today

_____ Reply At Your Convenience ✓ No Reply Necessary



CIRCLE STOP N SHOP HIGHWAY 378/391 SALUDA COUNTY, SOUTH CAROLINA	FIGURE 6: GROUND WATER COC CONCENTRATION MAP	KLEEN SITES GEOSERVICES

F:\KSG\CAD\2001\01550\Fig 6

Country Peddler

Bill Dunnagan
Kleen Sites Geoservices, Inc.
409 Burton Road

Lexington, SC 29072

Page 2
October 12, 2001
Report # 110000347
Order # 225258
South Carolina Cert ID# 96023

Site Location/Project
Circle Stop N Shop

Sample I.D.: DW-2
Collected: 10/05/01 13:15
Received: 10/06/01 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.		ANALY
8260B BTEX w/Naph+MTBE in Water by GC-MS (S.C.)			MEDF	1				
Methyl-Tert-Butyl-Ether	8.86	ug/L	5030/8260B	1.000	10/11/2001	10/11/2001	07:23	SS
Benzene	BDL	ug/L	5030/8260B	1.000	10/11/2001	10/11/2001	07:24	SS
Toluene	BDL	ug/L	5030/8260B	1.000	10/11/2001	10/11/2001	07:24	SS
Ethylbenzene	BDL	ug/L	5030/8260B	1.000	10/11/2001	10/11/2001	07:24	SS
m & p-Xylene	BDL	ug/L	5030/8260B	1.000	10/11/2001	10/11/2001	07:24	SS
o-Xylene	BDL	ug/L	5030/8260B	1.000	10/11/2001	10/11/2001	07:24	SS
Naphthalene	BDL	ug/L	5030/8260B	1.000	10/11/2001	10/11/2001	07:24	SS
SURROGATE: Toluene-D8	121.25%							
SURROGATE: Bromofluorobenzene	96.50%							
SURROGATE: Dibromofluoromethane	95.00%							

REPORT COMMENTS:
BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effected Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by STL MIAMI.
10200 USA Today Way, Miramar Florida 33025. (954) 431-4550 (South Carolina Cert ID# 96023)
Certs: Al.=#41180, Ct.=#PH0217, Ks.=#E270 + E1245, Ky.=#90087, La.=#9601, Md.=#271, Ma.=#M-FL535
ND.=#R163, OK.=#9523, SC.=#96023, Tn.=#TN02826
Unless otherwise noted, samples submitted for EPA 5035 were collected,preserved and analyzed in accordance with all methodology requirements.

Company Representative

- Who owns well
- Call them (DHEC)
  - ↳ name + address

Best of Everything - 796 1802
Modern Water - 754-3007

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Mr. Jeffery Jordan
SCDOT Saluda Maintenance Facility
PO Box 400
Saluda, SC 29138

AUG 28 2001

Re: Application for Encroachment Permit submitted to Mr. S.E. Dorn on August 3, 2001
Circle Stop N Shop; Traffic Circle, Highway 378, Leesville
UST Permit # 05981
Saluda County

Dear Mr. Jordan:

The South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced Application for Encroachment Permit submitted to the South Carolina Department of Transportation (SCDOT) by Kleen Sites Geoservices, Inc. on behalf of Mrs. Gail Smith. The application requests the permission to install six temporary sampling points (Geoprobe™) and four permanent monitoring wells in the rights-of-way of US-378 and SC-391 at the US-378/SC-391 traffic circle.

The SCDHEC considers the proposed location of the sampling points and monitoring wells within the rights-of-way as necessary and appropriate to assess the severity and extent of ground-water contamination at the Circle Stop N Shop site. This assessment is in the public interest of protecting the ground-water supply of the State of South Carolina. The Department, therefore, respectfully requests that the SCDOT approve the application as submitted. Should you require additional information regarding this site, please contact me at (803) 898-4320 or (800) 826-5435 (within South Carolina only) or Kleen Sites Geoservices, Inc. at (803) 791-1996.

Sincerely,

Kimberly A. Wilson

Kimberly A. Wilson, P.G., Hydrogeologist
Owner Operator Assistance Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

cc: Kleen Sites Geoservices, 171 Lott Ct, W Columbia, SC 29169
Technical File

SCDHEC/UST/08212001/kaw

UST PROGRAM DOCKETING # 81 Tech

KLEEN
SITES
GEOSERVICES

Tech. File

FAX COVERSHEET

Environmental Consulting **Engineering** **Geophysics**

PHONE: (803) 791-1996 FAX: (803) 791-4269

TO: Rodney Wilson	FAX NUMBER:
FROM: Bill Dunnagan	DATE: 8/16/01
SUBJECT: SCDOT Encroachment Permit Circle Stop N Shop Site	

NUMBER OF PAGES INCLUDING COVER SHEET: 3

COMMENTS

Rodney,
This is a copy of the information that was provided to the Saluda SCDOT. Good luck in your new position!

Thanks,
Bill

_____ Urgent Reply Requested
_____ Reply At Your Convenience
_____ Reply Today
✓ No Reply Necessary

LST PROGRAM DOCKETING # 82-Tech

KLEEN SITES GEOSERVICES, INC.

ENVIRONMENTAL CONSULTANTS

August 3, 2001

Mr. S.E. Dorn
Resident Maintenance Engineer
South Carolina Department of Transportation
Saluda County
P.O. Box 715
Saluda, South Carolina 29138

Re: Submittal of Highway Right-of-Way Encroachment Permit Application
Circle Stop N Shop
SCDHEC UST Permit # 05981
Saluda, Saluda County, South Carolina

Mr. Dorn:

Enclosed please find an Encroachment Permit Application and supporting documentation for the referenced site located in Saluda County, South Carolina. Kleen Sites Geoservices, Inc. (KSG) is currently conducting a Tier II Assessment at the site on behalf of the property owner, Mrs. Gail Smith, in accordance with correspondence from the SCDHEC dated June 06, 2001.

KSG requests your assistance in obtaining encroachment for the installation of six temporary wells and three permanent monitoring wells along the right-of-way of US Highway 378 and SR 391. The location of the GeoProbe points (temporary wells) and permanent wells within the right-of-way is necessary to fully define the horizontal extent of ground water contamination resulting from former underground storage tanks on the Circle Stop N Shop property. As you know, we have already obtained one Encroachment Permit from the SCDOT for work at this location. Unfortunately, the ground water contamination plume covers much of the northwestern portion of the traffic circle and additional work is necessary to complete the assessment process.

I appreciate your patience and assistance in this matter. In the event that additional information is needed by SCDOT representatives, please contact me at (803) 791-1996 ext. 12 at your earliest convenience.

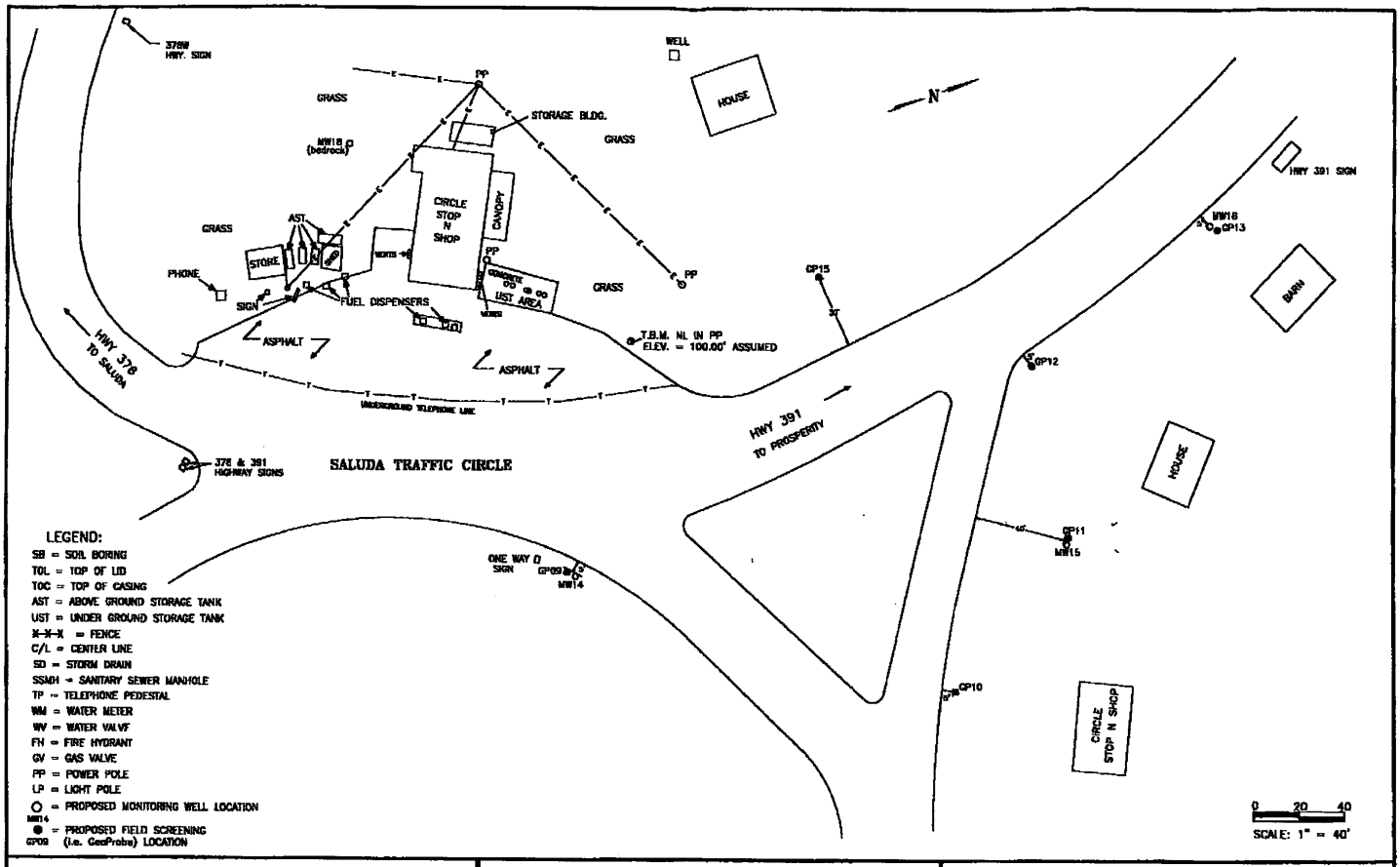
Sincerely,

Kleen Sites Geoservices, Inc.

Bill Dunnagan, P.G.
Principal Geologist

Enclosure

• 171 Lott Court, West Columbia, South Carolina 29169 •
(803) 791-1996 (803) 791-4269 (Fax)
ksg1@alltel.net



LEGEND:

- SB = SOIL BORING
- TOL = TOP OF LID
- TOC = TOP OF CASING
- AST = ABOVE GROUND STORAGE TANK
- UST = UNDER GROUND STORAGE TANK
- X-X-X = FENCE
- C/L = CENTER LINE
- SD = STORM DRAIN
- SSMH = SANITARY SEWER MANHOLE
- TP = TELEPHONE PEDESTAL
- WM = WATER METER
- WV = WATER VALVE
- FH = FIRE HYDRANT
- GV = GAS VALVE
- PP = POWER POLE
- LP = LIGHT POLE
- ○ MW14 = PROPOSED MONITORING WELL LOCATION
- ● GP09 = PROPOSED FIELD SCREENING (i.e. GeoProbe) LOCATION

CIRCLE STOP N SHOP HIGHWAY 378/391 SALUDA COUNTY, SOUTH CAROLINA	PROPOSED FIELD SCREENING & PERMANENT GROUND WATER MONITOR WELL LOCATIONS	KSG KLEEN SITES GEOSERVICES

F:\KSG\CAD\2001\01550\PropFieldScreen

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, SC 29201
Phone (803) 898-4350 Fax (803) 898-4330

JUN 06 2001

CS&S
Attention: Gail Smith
143 Pioneer Dr
Leesville, SC 29070

Re: Circle Stop N Shop
UST Permit #05981; Cost Proposal #13956
Release Date: December 27, 1991
Assessment Component Cost Proposal received May 11, 2001
Saluda County

Dear Ms. Smith:

After review of the Tier II Assessment Report received April 9, 2001, the Department requests the installation of additional monitoring wells and resampling of all monitoring wells. **Cost Agreement #13956** has been approved for this scope of work up to the amount of the enclosed Approved Assessment Component Cost Agreement form. This amount represents the components as outlined in the approved cost agreement, and the approved cost agreement form will be kept on file. The site rehabilitation activity, Item 11D, Analyses-Groundwater (Lead) proposed in the Assessment Component Cost Proposal has been omitted to insure compliance with current State Underground Petroleum Environmental Response Bank (SUPERB) program criteria per Section 44-2-20(2).

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by the Department for the cost to be paid. **The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, 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 work.

Rehabilitation activities at the site should be resumed immediately upon receipt of this letter. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. **Please be advised that only EPA Method 8260B will be accepted for purgeable aromatics.** The required Monitoring Well Approval (MWA) permitting the installation of monitoring wells has been provided to your environmental consultant. A copy is enclosed for your records. **The Department shall be contacted prior to well installation for concurrence regarding the final well locations.**

UST PROGRAM
DOCKETING # 83Tech

The Assessment Report submitted at the conclusion of these activities should include the following:

- A narrative portion documenting current site conditions and noting the names of field personnel, date, time, ambient air temperature, and general weather conditions during the sampling event. The report shall also contain well purging data, pH, specific conductivity, water temperature, PID readings (where applicable) and turbidity comments.

- Ground-water elevations, depth to groundwater, measurable free product thickness (where applicable), total well depth and screened interval for all monitoring wells associated with the site shall be presented in tabular form, unless otherwise directed by the Department. Ground-water laboratory analytical data for all monitoring wells shall be presented in a tabular format.

- Total well depth and screened interval for all potable and non-potable wells within a 250' radius of the site shall be presented in tabular form, unless otherwise directed by the Department. Ground-water laboratory analytical data for all potable and non-potable wells sampled along with the well owner's name, address, and telephone number shall be presented in a tabular format.

- A ground-water elevation contour map of the site based on current ground-water potentiometric data.

- A CoC map based on current ground-water laboratory analytical data. The ground-water data should be adjacent to the relevant monitoring well.

- A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included in the Assessment Report.

- The report must be signed and sealed by a professional geologist or engineer registered in the State of South Carolina.

The Bureau grants preapproval for the transportation of the investigative derived waste (virgin petroleum contaminated soil and groundwater) from the referenced site to a permitted treatment facility. All investigative derived waste must be properly stored in labeled containers or covered with plastic as appropriate. All contaminated investigated derived waste must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and approval letter from the receiving facility must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below treatment levels, please contact the project manager for approval to dispose of the investigative waste on site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or ground water.

The report and associated invoice (form enclosed) should be submitted within 60 days. If the invoice is not submitted in 120 days, 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.

On all future correspondence, please reference the UST Permit # 05981. On the invoice please reference the UST Permit number and Cost Proposal #13956. If you have any questions concerning this correspondence, please contact me at (803) 898-4327 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division
Underground Storage Tank Program

enc: Approved Assessment Component Cost Agreement
Assessment Component Cost Invoice (Form #3664)

cc: Kleen Sites Geoservices, Inc., 171 Lott Ct, W Columbia, SC, 29169 (w/ enc)
Financial Section (w/ copy of Approved Assessment Component Cost Agreement)
Technical File

DHEC/UST/010518/RLW/05981.approval

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PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

JUN 06 2001

Date of Issue: May 18, 2001

Approval No.: 15212

Approval is hereby granted to: Kleen Sites Geoservices, Inc.
(On behalf of): Gail Smith
UST Permit #: 05981
County: Saluda

This approval is for the construction of permanent monitoring wells in accordance with the South Carolina Well Standards and Regulations. The wells are to be constructed within the surficial 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 Rodney Wilson at (803) 898-4327 or wilsonrl@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 and temporary 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 and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Program.

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:

Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Underground Storage Tank Program

cc: Upper Savannah District EQC
Gail Smith
Technical File

UST PROGRAM
DOCKETING # 84 Tech

D H E C
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2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, SC 29201
Phone (803) 898-4350 Fax (803) 898-4330

CS&S
Attention: Gail Smith
143 Pioneer Dr
Leesville, SC 29070

APR 11 2001

Re: Circle Stop N Shop (UST Permit # 05981)
Tier II Assessment Report Received April 9, 2001
Saluda County

Dear Ms. Smith:

The Underground Storage Tank Program has reviewed the referenced Tier II Assessment Report submitted by Kleen Sites Geoservices, Inc.

The results of the assessment indicate the concentrations of chemicals of concern were above allowable risk based screening levels (RBSL). Based on these results, the facility priority classification is 2AA. Therefore, State Underground Petroleum Environmental Response Bank (SUPERB) funds are available to implement the next necessary scope of work. The necessary actions include field screening and permanent monitoring well installation to define the chemical of concern plume horizontally and vertically, as well as a comprehensive round of ground water sampling.

Our records show that you have selected Kleen Sites Geoservices, Inc. as the contractor to perform assessment activities at the site for the necessary scope of work. Please have your contractor complete and submit the enclosed Assessment Component Cost Proposal form and Assessment Plan 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.

On all correspondence or inquiries regarding this project, please reference **UST Permit #05981**. If you have any questions concerning this correspondence, please contact me at (803) 898-4327 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Assessment & Corrective Action Division
Underground Storage Tank Program

enc: Assessment Plan/Assessment Component Cost Proposal

cc: Kleen Sites Geoservices, Inc., 171 Lott Ct, W Columbia, SC, 29169 (w/ enc.)
Technical File

DHEC/UST/010410/rlw/05981.req

UST PROGRAM
DOCKETING # 85Tech

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

January 24, 2001

Mr. Stephen E. Dorn
Resident Maintenance Engineer
South Carolina Department of Transportation (SCDOT) Saluda Maintenance Facility
P.O. Box 715
Saluda, SC 29138-0715

Re: Application for Encroachment Permit received January 18, 2001
Circle Stop N Shop
UST Permit #05981
Saluda County

Dear Mr. Dorn:

The South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced Application for Encroachment Permit submitted by Kleen Sites Geoservices, Inc. on behalf of Mrs. Gail Smith. The application requests permission to install six temporary sampling points (Geoprobe™) and four permanent monitoring wells in the rights-of-way of US-378 and SC-391 at the US-378/SC-391 traffic circle.

The SCDHEC considers the proposed location of the sampling points and monitoring wells within the rights-of-way as necessary and appropriate to assess the severity and extent of ground-water contamination at the Circle Stop N Shop site. This assessment is in the public interest of protecting the ground-water supply of the State of South Carolina. The Department, therefore, respectfully requests that the SCDOT approve the application as submitted. Should you require additional information regarding this site, feel free to contact Kimberly Wilson at (803)898-4320 or Kleen Sites Geoservices, Inc. at (803)791-1996.

Sincerely,

Joel P. Padgett, P.G.
SCDOT Liaison

JPP/jpp
05981off

SCANNED

UST PROGRAM
DOCKETING # 86 Tech

DHEC/JPP/012401

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2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, SC 29201
Phone (803) 898-4350 Fax (803) 898-4330

NOV 08 2000

Test America
Attention: Karen Moore
9440 Two Notch Road Suite B
Columbia, SC 29223

Re: Circle Stop N Shop
UST Permit # 05981; Purchase Order #179220; Cost Agreement #12700
Saluda County

Dear Ms. Moore:

The Underground Storage Tank Program of the South Carolina Department of Health and Environmental Control (SC DHEC) has approved the cost proposal for $82.50. This includes costs for the laboratory analysis of one BTEX+MtBE+Naphthalene samples. SC DHEC personnel will be delivering the collected samples on or about November 8, 2000. Please provide the results by November 9, 2000, in accordance with the contract.

The invoice should be submitted within 30 days form the date of this letter. If the invoice is not submitted within 120 days 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. Questions concerning the above should be addressed to my attention at (803) 898-4327.

Sincerely,

Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division
Underground Storage Tank Program

enc.: Approved Assessment Component Cost Agreement

cc: Gail Smith, CS&S, 143 Pioneer Dr, Leesville, SC 29070
Debra Thoma, State Lead Section
Technical File
Financial File

UST PROGRAM
DOCKETING # 87 Tech

DHEC/UST/rlw/05981/TESTLTR

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2600 Bull Street
Columbia, SC 29201-1708

UNDERGROUND STORAGE TANK PROGRAM
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, SC 29201
Phone (803) 898-4350 Fax (803) 898

NOV 06 2000

CS&S
Attention: Gail Smith
143 Pioneer Dr
Leesville, SC 29070

Re: Circle Stop N Shop
UST Permit # 05981; Cost Agreement #12653; MWA #13405
Release Date: December 27, 1991
Assessment Component Cost Proposal received October 31, 2000
Saluda County

Dear Ms. Smith:

The Underground Storage Tank (UST) Program recognizes your commitment to continue work at this site utilizing your own contractor. The South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the Assessment Component Cost Proposal for a Tier II Assessment submitted by Kleen Sites Geoservices.

Cost Agreement #12653 has been approved up to the amount of the enclosed approved Assessment Component Cost Agreement form. This amount represents the components as outlined in the approved cost agreement form, and the approved cost agreement will be kept on file. The following site rehabilitation activities proposed in the referenced cost proposal have been adjusted to insure compliance with current State Underground Petroleum Environmental Response Bank (SUPERB) program criteria per Section 44-2-20(2):

- Items 11D (lead analyses) and 11E (EDB analyses); each quantity has been omitted.
- Item 11I (Methane analyses) has been decreased to four. Only MW-1, MW-2, and MW 4 should be analyzed for Methane.

Rehabilitation activities at the site should be resumed immediately upon receipt of this letter. Characterization of all exposure pathways shall be completed using field screening points. Based on the field screening results, monitoring wells shall be installed in appropriate locations to monitor the migration of chemicals of concern along these exposure pathways and for site rehabilitation. The department shall be contacted prior to well installation for concurrence regarding the final well locations. The required Monitoring Well Approval (MWA) form has been provided to your environmental consultant, and a copy is enclosed for your records.

UST PROGRAM
DOCKETING # 88 Tech

A Report of Findings and the invoice are due within 90 days from the date of this letter. Kleen Sites Geoservices can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. **If the invoice is not submitted within 120 days from the date of this letter, monies allocated to pay this invoice will be uncommitted. This means that the invoice will not be processed for payment until all other committed funds are paid or monies become available.**

Please note that Sections 44-2-110(4) and 44-2-130 of the SUPERB Statute state that no costs will be allowed unless prior approval from the Department is obtained. If for any reason additional tasks will be completed, these additional tasks and the associated cost must be preapproved by the Department for the cost to be paid. **The SCDHEC reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with established criteria. Further, 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 work.**

The Bureau grants preapproval for transportation of virgin petroleum contaminated groundwater/soil from the referenced site to a permitted treatment facility. The contaminated groundwater/soil must be properly stored in labeled containers or covered with plastic as appropriate. The contaminated groundwater/soil 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.

On all correspondence concerning this site, please reference **UST Permit #05981** and **Cost Agreement #12653.** If you have any questions concerning this correspondence, please contact me at (803) 898-4327 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Division
Underground Storage Tank Program

enc: Tier II Assessment Document
Approved Assessment Component Cost Agreement
Assessment Component Cost Invoice (Form #3664)
Monitoring Well Approval

cc: Financial File (Approved Assessment Component Cost Agreement)
Technical File (with copy of MWA)
Kleen Sites Geoservices, Inc., 171 Lott Ct, W Columbia, SC, 29169 (w/ enc.)

DHEC/UST/001101/rlw/05981.approval

D H E C
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2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: November 1, 2000 Approval No.: 13405

Approval is hereby granted to: Kleen Sites Geoservices, Inc.
(On behalf of): Gail Smith
UST Permit #: 05981
County: Saluda

This approval is for the construction of nine (9) permanent monitoring wells in accordance with the South Carolina Well Standards and Regulations. The wells are to be constructed within the surficial 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 Rodney Wilson at (803) 898-4327 or wilsonrl@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 and temporary 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 and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Bureau.

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: _____
Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Underground Storae Tank Program

cc: Upper Savannah District EQC
Gail Smith
Technical File

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

JUL 12 2000

CS&S
Attention: Gail Smith
143 Pioneer Dr
Leesville, SC 29070

Re: Circle Stop N Shop
UST Permit # 05981; Cost Agreement #11468; MWA #12929
Release Date: December 27, 1991
Initial Ground-Water Assessment Report Received April 19, 2000
Tier I Assessment Approval
Saluda County

Dear Ms. Smith:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced Assessment. The referenced report indicates concentration of chemicals of concern in the soil and ground water. 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, a **Tier I Assessment** is the next scope of work deemed necessary at the referenced.

The Tier I Assessment is detailed in the enclosed Tier I Assessment Guidance Document. Therefore, a separate plan is not required. Approval for sampling ground water from the permanent monitoring well installed during the Initial Ground-Water Assessment has been granted by the Department. Sampling all wells should be in accordance with the Tier I Assessment Guidance Document. Therefore, Cost Agreement #11468 has been approved for $11,380.00.

Implementation of the Tier I Assessment may proceed upon receipt of this correspondence. Please note that all applicable South Carolina certification requirements apply to the laboratory services, well installation, and report preparation. The required Monitoring Well Approval form has been provided to your environmental consultant, and a copy is enclosed for your records. **Please be advised that only EPA Method 8260B will be accepted for purgeable aromatics. Tax map information and the location of receptors on the applicable topographic map are required as part of the Tier I Report.**

UST PROGRAM
DOCKETING # 89 Tech

The Tier I Assessment report and associated invoice should be submitted within **60 days from the date of this letter.** If the invoice is not submitted **within 120 days** from the date of this correspondence, 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.

The Bureau of Underground Storage Tank Management grants preapproval for transportation of virgin petroleum contaminated groundwater/soil from the referenced site to a permitted treatment facility. The contaminated groundwater/soil must be properly stored in labeled containers or covered with plastic as appropriate. The contaminated groundwater/soil 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 State Underground Petroleum Environmental Response Bank (SUPERB) account will not compensate for transportation or treatment of clean soil and/or ground water.

On all correspondence regarding this facility and scope of work, please reference **UST Permit #05981** and **Cost Agreement #11468.** If you have any questions concerning this correspondence, please contact me at (803) 898-4327 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Bureau of Underground Storage Tank Management

enc: Tier I Assessment Document
Tier I Assessment Invoice (form #3665)
Monitoring Well Approval

cc: Kleen Sites Geoservices, Inc., 171 Lott Ct, W Columbia, SC, 29169 (w/ enc)
Technical File (copy of Monitoring Well Approval)
Financial File

DHEC/UST/000626/rlw/05981.approval

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: June 19, 2000 Approval No.: 12929

Approval is hereby granted to: Kleen Sites Geoservices, Inc.
(On behalf of): Circle Stop N Shop
UST Permit #: 05981
County: Saluda

This approval is for the construction of three permanent monitoring wells in accordance with the South Carolina Well Standards and Regulations. The wells are to be constructed within the surficial 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 Rodney Wilson at (803) 898-4327 or wilsonrl@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 and temporary 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 and temporary monitoring wells will be abandoned by or under the direct supervision of a licensed well driller certified by the State of South Carolina. Temporary monitoring wells shall not remain in place for longer than 30 days from the date of installation. Monitoring wells may be abandoned only upon concurrence by this Bureau.

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:

Rodney L. Wilson, Hydrogeologist
Owner/Operator Assistance Section
Bureau of UST Management

cc: Upper Savannah District EQC
Gail Smith
Technical File

~~UST PROGRAM~~
~~DOCKETING #~~ 90-1001

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

APR 10 2008

RANDY CASEY
SEI ENVIRONMENTAL INC
2025 PROGRESS CT
RALEIGH NC 27608

Re: **CASE Review**
Circle Stop-N-Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit # 05981; CA #17203
SB-21914-03/25/03, PO # 463655
Corrective Action System Evaluation received March 7, 2008
Saluda County

Dear Mr. Casey:

As you are aware, free product has re-appeared in monitoring well MW-7 and that well was ignored when SEI calculated the mass reduction. After incorporating MW-7 into the equation, the mass reduction has been re-calculated as –0.77% (see enclosed spreadsheet).

SEI Environmental originally estimated a clean-up time frame of 3 years. It is now approaching 5 years and the CASE did not document the completion of any corrective actions during this reporting period. SEI's approach of solely monitoring is unacceptable.

Please submit a detailed plan for resuming corrective actions. This plan should be submitted on or before May 1, 2008. In addition, the next Corrective Action System Evaluation (CASE) report should be submitted on or before June 1, 2008.

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me at (803) 896-6584 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner

Read S. Miner, P.G., Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: spreadsheet

CC: Technical File (with enclosure)
Joan Boozer, 273 Aull Rd., Leesville, SC 29070 (without enclosure)
Louise Clark, 2920 Prosperity Hwy, Leesville, SC 29070 (without enclosure)

UST PROGRAM DOCKETING # 9 Tech

05981 Circle Stop N Shop 12/13/07 sampling

Enter Initial, SSTL and subsequent CoC Reduction: -0.7684 %

Well		Benzene	Toluene	Ethylbenzene	Xylene	MtBE	Naphthalene	EDB	Totals
MW-1	Initial	2300	29000	3300	18900	2100	710	0	56310
	SSTL	65	24700	3300	18900	43	27	0	47035
	Initial > SSTL	2235	4300	0	0	2057	683	0	9275
	Subsequent	1960	16400	3760	20200	1500	432	0	44252
	Subsequent > SSTL	1895	0	460	1300	1457	405	0	5517
MW-2	Initial	10000	26000	2600	9400	1300	520	0	49820
	SSTL	120	24700	2600	9400	43	27	0	36890
	Initial > SSTL	9880	1300	0	0	1257	493	0	12930
	Subsequent	20500	41000	2920	15300	5530	338	0	85588
	Subsequent > SSTL	20380	16300	320	5900	5487	311	0	48698
MW-3	Initial	85	93	5	102	5	5	0	295
	SSTL	85	93	5	102	5	5	0	295
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	75	99	33	93	1	2	0	303
	Subsequent > SSTL	0	6	28	0	0	0	0	34
MW-4	Initial	5500	47000	3900	17900	6400	590	0	81290
	SSTL	110	24700	3900	17900	43	27	0	46680
	Initial > SSTL	5390	22300	0	0	6357	563	0	34610
	Subsequent	6820	53800	3780	19300	3070	275	0	87045
	Subsequent > SSTL	6710	29100	0	1400	3027	248	0	40485
MW-5	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-6	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	18	6	26	1	2	0	54
	Subsequent > SSTL	0	13	1	11	0	0	0	25
MW-7	Initial	226000	301000	280000	278000	5110000	2000	0	6197000
	SSTL	120	24700	2600	9400	43	27	0	36890
	Initial > SSTL	225880	276300	277400	268600	5109957	1973	0	6160110
	Subsequent	226000	301000	280000	278000	5110000	2000	0	6197000
	Subsequent > SSTL	225880	276300	277400	268600	5109957	1973	0	6160110
MW-8	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-9R	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	2	2	0	10
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-10R	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	38	1	2	17	24	8	0	90
	Subsequent > SSTL	33	0	0	2	19	3	0	57
MW-11	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0

Well		Benzene	Toluene	Ethylbenzene	Xylene	MtBE	Naphthalene	EDB	Mass > SSTL
MW-12	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-13	Initial	7400	14000	2500	7700	69000	290	0	100890
	SSTL	110	14000	2500	7700	43	27	0	24380
	Initial > SSTL	7290	0	0	0	68957	263	0	76510
	Subsequent	8470	15600	1070	6610	71200	2000	0	104950
	Subsequent > SSTL	8360	1600	0	0	71157	1973	0	83090
MW-14	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	11	12	2	11	1	2	0	39
	Subsequent > SSTL	6	7	0	0	0	0	0	13
MW-15	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-17	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	1	1	3	1	2	0	9
	Subsequent > SSTL	0	0	0	0	0	0	0	0
MW-18	Initial	5	7	5	139	2300	24	0	2480
	SSTL	5	7	5	139	2300	24	0	2480
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	100	100	100	300	5080	200	0	5880
	Subsequent > SSTL	95	93	95	161	2780	176	0	3400
MW-24	Initial	5	5	5	15	32	5	0	67
	SSTL	5	5	5	15	32	5	0	67
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	3	1	1	3	276	2	0	286
	Subsequent > SSTL	0	0	0	0	244	0	0	244
MW-25	Initial	5	5	5	15	9	5	0	44
	SSTL	5	5	5	15	9	5	0	44
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	2	2	6	200	4	0	215
	Subsequent > SSTL	0	0	0	0	191	0	0	191
MW-26	Initial	5	5	5	15	110	5	0	145
	SSTL	5	5	5	15	43	5	0	78
	Initial > SSTL	0	0	0	0	67	0	0	67
	Subsequent	1	1	1	3	28	2	0	36
	Subsequent > SSTL	0	0	0	0	0	0	0	0
WSW-1	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	5	5	5	15	5	5	0	40
	Subsequent > SSTL	0	0	0	0	0	0	0	0
WSW-2	Initial	5	5	5	15	5	5	0	40
	SSTL	5	5	5	15	5	5	0	40
	Initial > SSTL	0	0	0	0	0	0	0	0
	Subsequent	1	5	1	3	1	5	0	16
	Subsequent > SSTL	0	0	0	0	0	0	0	0

05981 Circle Stop N Shop

Total Concentration Reduction

Total Initial Conc. :	6488821	µg/L
Total Subseqent Conc. :	6525858	µg/L
Total SSTL Conc. :	195319	µg/L
Initial > SSTL :	6293502	µg/L
Subsequent > SSTL :	6341864	µg/L

Total Reduction: -0.7684 %

Individual Constituent Reductions

CoC	Initial	Subseq.	Initial >SSTL	Subseq. > SSTL	CoC % Reduction
Benzene	251365	263993	250675	263359	-5.059938167
Toluene	417175	428051	304200	323419	-6.317882972
Ethylbenzene	292385	291690	277400	278304	-0.325883201
Xylenes	332366	339908	268600	277374	-3.266567386
MtBE	5191316	5196925	5188652	5194319	-0.109219119
Naphthalene	4214	5291	3975	5089	-28.02515723
EDB	0	0	0	0	non-SSTL CoC

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

BUREAU
UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

MAY 30 2000

Ms. Gail Smith
143 Pioneer Drive
Leesville, SC 29070

Re: Circle Stop N Shop
UST Permit #05981, Release # 2
Request for Amnesty Review received May 26, 2000
Closure Report received December 27, 1991
Closure Report received August 6, 1999
Saluda County

Dear Ms. Smith:

After reviewing the above cited documents, the Bureau has determined that releases #2 is a result of the first release. As a consequence, releases #2 has been deleted and the No Further Action (NFA) letter issued on July 6, 1992 for release #1 has been rescinded. Release #1 has been designated as an amnesty release and is qualified to receive direct funding from the State Underground Petroleum Environmental Response Bank (SUPERB). **The costs that you incurred for the Initial Groundwater Assessment can be reimbursed from the SUPERB Account.**

The Tier I request and cost proposal # 10925 that was sent to you on April 25, 2000 has been canceled. You are not required to complete the Tier I assessment at this time. You will be notified when the Tier I Assessment will need to be completed, and a new cost proposal will be established to track the costs for the Tier I Assessment. Currently, the release reported at the referenced site has a priority classification of 2B and may pose a potential risk to human health or the environment.

All assessment activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor. If you wish to choose your own contractor, and need assistance finding one, we will provide you a list of those that are certified. Once you have selected the contractor, please submit the enclosed Owner/Operator Information Sheet within 10 days of the date on this letter. If you wish, the SCDHEC can directly procure a contractor on your behalf. If you select this State Lead option, please complete and submit the appropriate Permission and Right of Entry statement within 10 days of this letter.

On all future correspondence, please reference the **UST Permit #05981**. **Note that technical and financial approval from the Bureau must be issued before work begins.** Should you have questions, please feel free to contact me at (803) 898-4339 or 1-(800)-826-5435 (within South Carolina only).

Sincerely,

Charles J. Williams, III, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

Encl.: Owner/Operator Information Sheet
Right of Entry Statement

PROGRAM DOCKETING # 90Hecu

cc: Kleen Sites, 171 Lott Court, W. Columbia, SC 29169
Technical/Read File

SCDHEC/UST/SLFS/05981amr/5/26/2000

RECEIVED
JUN 26 2000
Bureau of Underground Storage Tank Management

RECEIVED
JUN 1 . 2000
Bureau of Underground Storage Tank Management

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORMATION SHEET

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of UST Permit #05981, I would like to use the contractor or person(s)* listed below and request that they represent me for:

☐ SLA
☑ All future assessment scopes. **

Name of Contractor/Person(s) Kleen Sites Geoservices, Inc.
Address 171 Lott Court
West Cola, SC 29169

Telephone Number 803 791-1996

Note: After September 20, 1997, rehabilitation activities must be performed by a SC Certified Site Rehabilitation Contractor.

~~UST PROGRAM~~
~~DOCKETING~~ # _____

*indicate if the person listed is your own employee

** if you would like the contractor to perform all future assessent activities at this and/or other UST sites that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter.

2. FINANCIAL OR FAMILIAL RELATIONSHIP

Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above? _____ Yes ✓ No (please initial)

Financial Relationship: A connection or association through a material interest of sources of income which exceed five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancee.

3. PAYMENT

The first $25,000.00 in eligible site rehabilitation costs will be applied against the applicable SUPERB deductible, upon submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment.

For eligible costs exceeding the $25,000.00 deductible, you can pay the contractor and, upon the submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment, be compensated from the SUPERB Account, or have payment issued directly from the SUPERB Account to the contractor. (check one)

* _____ For eligible costs exceeding the deductible, I request that payment be made to me after I have paid the contractor.

_____ For eligible costs exceeding the deductible, I request that payment be made directly to the contractor.

(Note: all costs must receive prior financial approval from the Department regardless of payment option.)

Underground Storage Tank Owner/Operator Signature Gary L. Smith

Date 6/21/00

* This site reclassified back into the zero deductible category where it originally entered into the SUPERB Fund system. Please see your records for correspondence from Bill Dunnagan dated 5/23/2000.

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

APR 25 2000

Ms. Gail Smith
143 Pioneer Drive
Leesville, SC 29070

Re: Circle Stop N Shop
UST Permit #05981, Cost Proposal #10925, Release # 2
Initial Groundwater Assessment Report received April 19, 2000
Saluda County

Dear Ms. Smith:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report. The referenced report indicates that there are concentrations of chemicals of concern in the groundwater. 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 I Assessment document is necessary. Since the above scope of work is detailed in the Tier I document, a separate plan is not required. . **Please note that if the UST System was in operation prior to 1991, Lead and EDB analyses is required. Also, all water wells within 250 feet of the former UST must be sampled. Please be advised that only EPA Method 8260B will be accepted for purgeable aromatics.**

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(D) 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.

Please note that the maximum pre-approved amount for the Tier I is for $10,880.00. Upon receipt of the signed Tier I Invoice, Tier I 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, up to the approved amount may be applied toward your deductible. Cost proposal #10925 has been established to track the allowable costs associated with this Tier I. Please include the cost proposal number when submitting your invoice.

UST PROGRAM
DOCKETING # 9 Tech

Implementation of the Tier I should proceed upon receipt of this correspondence. The required monitoring well approval is enclosed. **The report should be submitted within 90 days from the date of this letter. If the referenced Invoice and proof of payment are not received within 120 days from receipt of this letter, then the referenced cost proposal will be closed and any eligible costs will not be applied to your deductible.** All investigative derived waste must be properly stored in labeled containers or covered with plastic as appropriate. The Bureau grants pre-approval for the transportation of the investigative derived waste (virgin petroleum contaminated soil and groundwater) from the referenced site to a permitted treatment facility. All contaminated investigated derived waste must be accepted by the approved treatment facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and approval letter from the receiving facility must be included as an appendix to the final report. If the levels of petroleum contamination based on laboratory analysis are below treatment levels, please contact the project manager for approval to dispose of the investigative derived waste on site. The SUPERB Account will not compensate for transportation or treatment of clean soil and/or ground water. The SCDHEC reserves the authority to only apply costs to your deductible for work properly performed and/or technically justified in accordance with established criteria.

On all correspondence regarding this site and scope of work, please reference UST Permit #05981 and cost proposal #10925. If you have any questions concerning this correspondence, please contact me at (803) 898-4339 or 1-800-826-5435.

Sincerely,

Charles J. Williams, III, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

enc: Monitoring Well Approval
Tier I Assessment document

cc: Kleen Sites, 171 Lott Court, W. Columbia, SC 29169 (w/original MWA)
Technical File (Copy of MWA)
Financial File
Read File

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: April 19, 2000 Approval No.: 12733

Approval is hereby granted to: Kleen Sites
UST Permit #: 05981
County: Saluda

This approval is for the construction of three Type II monitoring well(s) 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 Division
Bureau of UST Management

cc: Upper Savannah District EQC
Ms. Gail Smith, 143 Pioneer Drive, Leesville, SC 29070
Technical File

~~UST PROGRAM~~
~~LOCKETING #~~

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2600 Bull Street
Columbia, SC 29201-1708

BUREAU OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

APR 20 2000

CERTIFIED MAIL
Z 326 810 140

Frontis Smith
143 Pioneer Drive
Leesville, SC 29070

Re: Circle Shop N Stop
UST Permit #05981, Cost Proposal #09653, Release #1
Saluda County
Notice of Violation and Invoice

Dear Frontis Smith:

The Bureau of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete a Initial Groundwater Assessment Report in November 1999 with the assessment report due in February 2000. To date the required report has not been received. In accordance with Section 280.65 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 and the invoice for the work must be submitted within 60 days from the date of this letter. If the Initial Groundwater Assessment Report and the Initial Groundwater Assessment Invoice are not received in accordance with this schedule, the referenced cost proposal will be closed and any eligible costs will not be applied to your deductible.**

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions concerning this correspondence, please call me at (803) 898-4339 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Charles J. Williams, III, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Division
Bureau of Underground Storage Tank Management

Enc.: Initial Groundwater Assessment Invoice

SCANNED

cc: Technical/Read File
Financial File

UST PROGRAM
DOCKETING # 9 Teen

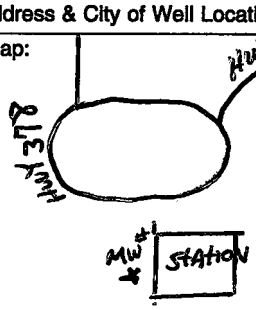
SCDHEC/UST/05981niv/cjw/04/12/2000

05981

DHEC
PROMOTE PROTECT PROSPER

Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:
County: SALUDA System Name:
Latitude: Longitude:
Distance and Direction from Road Intersections: 50' west of Hwy 378
Street Address & City of Well Location:
Sketch Map:



2. CUTTING SAMPLES: ☐ Yes ☒ No
Geophysical Logs: ☐ Yes (please enclose) ☒ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
orange silt	0	49'

PROGRAM DOCKETING # 93 Tech

RECEIVED
APR 5 2000
PRIVATE WELL SECTION

*Indicate Water Bearing Zones
(Use a 2nd sheet if needed)

3. REMARKS: SCANNED

4. OWNER OF WELL: Circle Stop & Shop
Address: Hwy 378 & Hwy 391
Telephone No.: SALUDA, S.C.
Engineer: Kleen Sites Geoservices, Inc.
Address: 409 Burton Rd.
Telephone No.: Lexington, S.C. (803) 791-1996

5. WELL DEPTH (completed) 49' ft. Date Started: 3/17/00 Date Completed: 3/17/00

6. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dug ☐ Air Rotary ☐ Driven ☐ Cable tool ☐ Other

7. USE: ☐ Domestic ☐ Public Supply–Permit No. ____ ☐ Industry ☐ Irrigation ☐ Air Conditioning ☐ Commercial ☐ Test Well ☒ Monitor Well ☐ ____

8. CASING: ☒ Threaded ☐ Welded
Diam.: 2"
Type: ☒ PVC ☐ Galvanized ☐ Steel ☐ Other
0 in. to 29' ft. depth
____ in. to ____ ft. depth
Height: Above/Below Surface ____ ft.
Weight ____ lb./ft.
Drive Shoe? ☐ Yes ☐ No

9. SCREEN
Type: PVC Diam.: 2"
Slot/Gauge: 0.01 Length: 20'
Set Between: 29' ft. and 49' ft.
____ ft. and ____ ft.
NOTE: MULTIPLE SCREENS USE SECOND SHEET
Sieve Analysis ☐ Yes (please enclose) ☒ No

10. STATIC WATER LEVEL 39' ft. below land surface after 24 hours

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

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

13. ARTIFICIAL FILTER (gravel pack) ☒ Yes ☐ No
Installed from 27' ft. to 49' ft.
Effective size 20/30 Uniformity Coefficient ____

14. WELL GROUTED? ☒ Yes ☐ No
☒ Neat Cement ☐ Sand Cement ☐ Concrete ☐ Other ____
Depth: From 0 ft. to 27' ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ____ ft. ____ direction
____ Type well disinfected upon completion ☐ Yes ☐ No Type: ____ Amount: ____

16. 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

17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.
Registered Business Name: SAEDACCO Date: 3/17/00
Address: 10401 John Price Rd. Charlotte, N.C.
Signed: Robert L. Miner Cert. No.: 1472
Authorized Representative

DHEC 1903 (10/96) COPY 1 MAIL TO: S.C. DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL (ADDRESS ABOVE)

RECEIVED
DEC 0 2 1999
DIVISION OF UNDERGROUND STORAGE TANK MGMT.

UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD INFORMATION SHEET

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of UST Permit #05981, I would like to use the contractor or person(s) listed below and request that they represent me for:

☐ IGWA
☐ All future assessment scopes.**

Name of Contractor/Person(s) Kleen Qites Geoenvironmental Inc
Address 409 Burton Rd
Lexington, S.C 29072

Telephone Number 803-957 7988

Note: After September 20, 1997, rehabilitation activities must be performed by a SC Certified Site Rehabilitation Contractor.

*indicate if the person listed is your own employee

** if you would like the contractor to perform all future assessent activities at this and/or other UST sites that have confirmed releases, please provide a list of all sites on your letterhead and provide the information requested in items 2 and 3 below within the context of the letter.

2. FINANCIAL OR FAMILIAL RELATIONSHIP

Does a financial or familial relationship, as defined below, exist between you and the contractor/person that you listed above? _____ Yes ✓ No (please initial)

Financial Relationship: A connection or association through a material interest of sources of income which exceed five percent of annual gross income from a business entity.

Familial Relationship: A connection or association by family or relatives, in which a family member or relative has a material interest. Family or relatives include: father, mother, son, daughter, brother, sister, uncle, aunt, first cousin, nephew, niece, husband, wife, father-in-law, mother-in-law, son-in-law, daughter-in-law, stepfather, stepmother, stepson, stepdaughter, stepbrother, stepsister, half brother, half sister, grandparent, grandchild, great grandchild, step grandparent, step great grandparent, step grandchild, step great grandchild, or fiancee.

3. PAYMENT

The first $25,000.00 in eligible site rehabilitation costs will be applied against the applicable SUPERB deductible, upon submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment.

For eligible costs exceeding the $25,000.00 deductible, you can pay the contractor and, upon the submittal of the canceled check (front and back) or a notarized statement from the contractor verifying payment, be compensated from the SUPERB Account, or have payment issued directly from the SUPERB Account to the contractor. (check one)

✓ For eligible costs exceeding the deductible, I request that payment be made to me after I have paid the contractor.

_____ For eligible costs exceeding the deductible, I request that payment be made directly to the contractor.

(Note: all costs must receive prior financial approval from the Department regardless of payment option.)

Underground Storage Tank Owner/Operator Signature [signature]
UST PROGRAM DOCKETING # 99-Tech Date 11/29/99

UST-Permit-05981
Cost Proposal-09653 Dated 10/31/99

D H E C
PROMOTE PROTECT PROSPER
2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF UNDERGROUND STORAGE TANK MANAGEMENT

Phone (803) 898-4350 Fax (803) 898-4330

OCT 21 1999

Ms. Gail Smith
143 Pioneer Drive
Leesville, SC 29070

Re: Circle Stop N Shop
UST Permit #05981, Cost Proposal #09653, Release # 2
Assessment Report received August 6, 1999
Saluda County

Dear Ms. Smith:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced report. The report confirms a release of petroleum chemicals of concern at this site. 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 Initial Groundwater Assessment (IGWA) document is required.

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 (B) of the SUPERB Act) can be compensated. As the responsible party, you are 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 Department must pre-approve any such costs along with your technical plan of action. Since the scope of work for the IGWA is detailed in the attached document, this work is pre-approved and a separate work plan is not required.

To proceed with the qualification process for the SUPERB Act, the following information is required:

- **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 list of certified UST contractors is attached for your information. **Please complete and return the enclosed Owner/Operator Information Sheet within 14 days from the date of this letter.**

UST PROGRAM DOCKETING # 95 Tech

SCDHEC/UST/ACA/CJW/05981i25/101899

Please note that the maximum approvable amount for the IGWA is **$1,395.00**. Upon receipt of the signed IGWA Invoice, IGWA Report, and a copy of your canceled check (front and back) or a notarized statement from the contractor verifying payment for this work, up to **$1,395.00** may be applied toward your deductible if the release is qualified to receive funding from the SUPERB Account. Cost proposal #09653 has been established to track the allowable costs associated with this SLA. Please include the cost proposal number when submitting your invoice. **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.**

Implementation of the IGWA should proceed upon receipt of this correspondence. The required monitoring well approval is enclosed. **The report should be submitted within 90 days from the date of this letter.** All investigative derived waste must be properly stored in labeled containers or covered with plastic as appropriate. The Division grants pre-approval for the transportation of the investigative derived waste (virgin petroleum contaminated soil and groundwater) from the referenced site to a permitted facility. There can be no spillage or leakage in transport. A copy of the disposal manifest and approval letter from the receiving facility must be included as an appendix to the final report. If laboratory analysis of the investigation derived waste shows levels of petroleum contamination are below treatment levels, please contact the project manager for approval to dispose of the investigation derived waste on site. The SUPERB Account will not compensate for the transportation or treatment of clean soil and/or groundwater. The Department reserves the authority to only apply costs to your deductible for work properly performed and/or technically justified in accordance with established criteria.

On all correspondence regarding this site and scope of work, please reference UST Permit #05981 and cost proposal #09653. If you have any questions concerning this correspondence, please contact me at (803) 898-4339 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Charles J. Williams, III, Hydrogeologist
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

enc: Monitoring Well Approval
Owner/ Operator Lead Information Sheet
Certified Contractors List
Initial Groundwater Assessment Document

cc: Technical File (Copy of Monitoring Well Approval)
Financial File
Read File

D H E C

PROMOTE PROTECT PROSPER

2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: October 18, 1999 Approval No.: 12168

Approval is hereby granted to: Gail Smith
UST Permit #: 05981
County: Saluda

This approval is for the construction of one Type II monitoring well(s) 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: Upper Savannah District EQC
Technical File

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2600 Bull Street
Columbia, SC 29201-1708

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Rodney L. Grandy

Larry R. Chewning, Jr., DMD

June 10, 1998

SAEDACCO
Attn: Steve Poloniewicz & Timothy L. Thomas
210 Beaty Road
Belmont, NC 28012

05981

Re: Water Well Record Forms

Dear Mr. Poloniewicz & Mr. Thomas:

The enclosed Water Well Record Forms were received recently by this office. They appear to represent monitoring wells installed at sites with underground storage tanks (USTs) or removed USTs. It is presumed that the construction information will be part of a report of site conditions submitted to Division of Underground Storage Tank Management. In accordance with the Well Standards and Regulations: R.61-71.11E(3), you are not required to submit duplicate reports for monitoring wells.

Therefore, if the information on the attached forms are contained within other reports submitted to the agency, you may discard the forms. If the forms are to be utilized by the Division of Underground Storage Tank Management, write the Site ID# on each form and forward the forms to the appropriate project manager.

If you need any additional information, please call me at (803) 734-5329 or e-mail at hessjr@columb32.dhec.state.sc.us.

Sincerely,

James R. Hess

James R. Hess, P.G., Manager
Groundwater Management Section
Water Monitoring, Assessment & Protection Division
Bureau of Water

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enclosures

UST PROGRAM
DOCKETING # 9[illegible]ech

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Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

SEP 2 3 2014

UST DOCKETING

GAIL SMITH
143 PIONEER DR
LEESVILLE SC 29070

Re: **Site Specific Work Plan Directive**
Circle Stop-N-Shop, 3287 Columbia Hwy., Leesville, SC
Permit # 05981
Release reported December 27, 1991
Monitoring Report received August 27, 2013
Saluda County

Dear Ms. Smith:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced report.

To evaluate the current site conditions, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, please have your contractor develop a Site Specific Work Plan for a groundwater sampling event. Sampling should include all of the monitoring wells, trip blanks, field blanks, and field duplicates for BTEX, naphthalene, 1,2-DCA, MTBE, oxygenates, and EDB. The groundwater sampling event should be conducted in accordance with the UST Quality Assurance Program Plan Revision 2.0 and must be conducted in compliance with all applicable regulations. A copy of QAPP Revision 2.0 for the Underground Storage Tank Division is available at http://www.scdhec.gov/environment/docs/QAPP_Rev-2_April2013.pdf.

Please have your contractor submit the Site Specific Work Plan and Cost Agreement within thirty days of the date of this letter. The State Underground Petroleum Environmental Response Bank (SUPERB) Account allowable cost for each component is included on the Assessment Component Cost Agreement Form. **Please note that technical and financial pre-approval from the Agency must be issued before work begins**.

On all correspondence concerning this site, please reference UST Permit #05981. If you have any questions, please contact me at (803) 898-0608 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Technical File
Midlands Environmental Consultants, PO Box 854, Lexington, SC 29071

Midlands
Environmental
Consultants, Inc.

October 15, 2014

UST
OCT 20 2014
PROGRAM

UST
98 tech
DOCKETING

Mr. Read Miner, P.G., 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: Site-Specific Work Plan
Circle Stop-N-Shop
Leesville, South Carolina
SCDHEC Site ID Number 05981
MECI Project Number 14-4962
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Site-Specific Work Plan for the referenced site.

On October 8, 2014, 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.

For
Kyle V. Pudney
Project 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

Midlands Environmental Consultants, Inc.

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

To: Ms. Debra Thoma (SCDHEC Project Manager)
From: Mr. Jeff Coleman (Contractor Project Manager)
Contractor: Midlands Environmental Consultants, Inc. UST Contractor Certification Number: 009

Facility Name: Circle Stop-N-Shop UST Permit #: 05981
Facility Address: 3287 Columbia Highway, Leesville, SC 29070
Responsible Party: Joan Boozer Phone: 803-532-4119
RP Address: 273 Aull Road, Leesville, SC 29070
Property Owner (if different): Louise Clark
Property Owner Address: 2920 Prosperity Highway, Leesville, SC 29070
Current Use of Property: Vacant Building

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	2 Water Supply Wells	____ Air	1 Field Blank
26 Monitoring Wells	____ 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 #: 05981 Facility Name: Circle Stop-N-Shop

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 10/28/2014 Field Work Completion: 11/28/2014
Report Submittal: 12/28/2014 # of Copies Provided to Property Owners: 2

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

Investigation Derived Waste Disposal
Soil: _____ Tons Purge Water: 200.0 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.
-Monitoring wells MW-12, MW-16, and MW-23 were not located during the initial site visit. Monitoring wells MW-17, MW-21, and MW-22 were also not located due to a locked gate at the recycling center. MECI will try to coordinate with the hours of operation for the recycling center in order to sample the monitoring wells behind the locked gate.
-If any of these wells are located during the sampling event, they will be sampled accordingly.

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: _____

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
   - 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

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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
May 15, 2014

Facility Name: Circle Stop-N-Shop

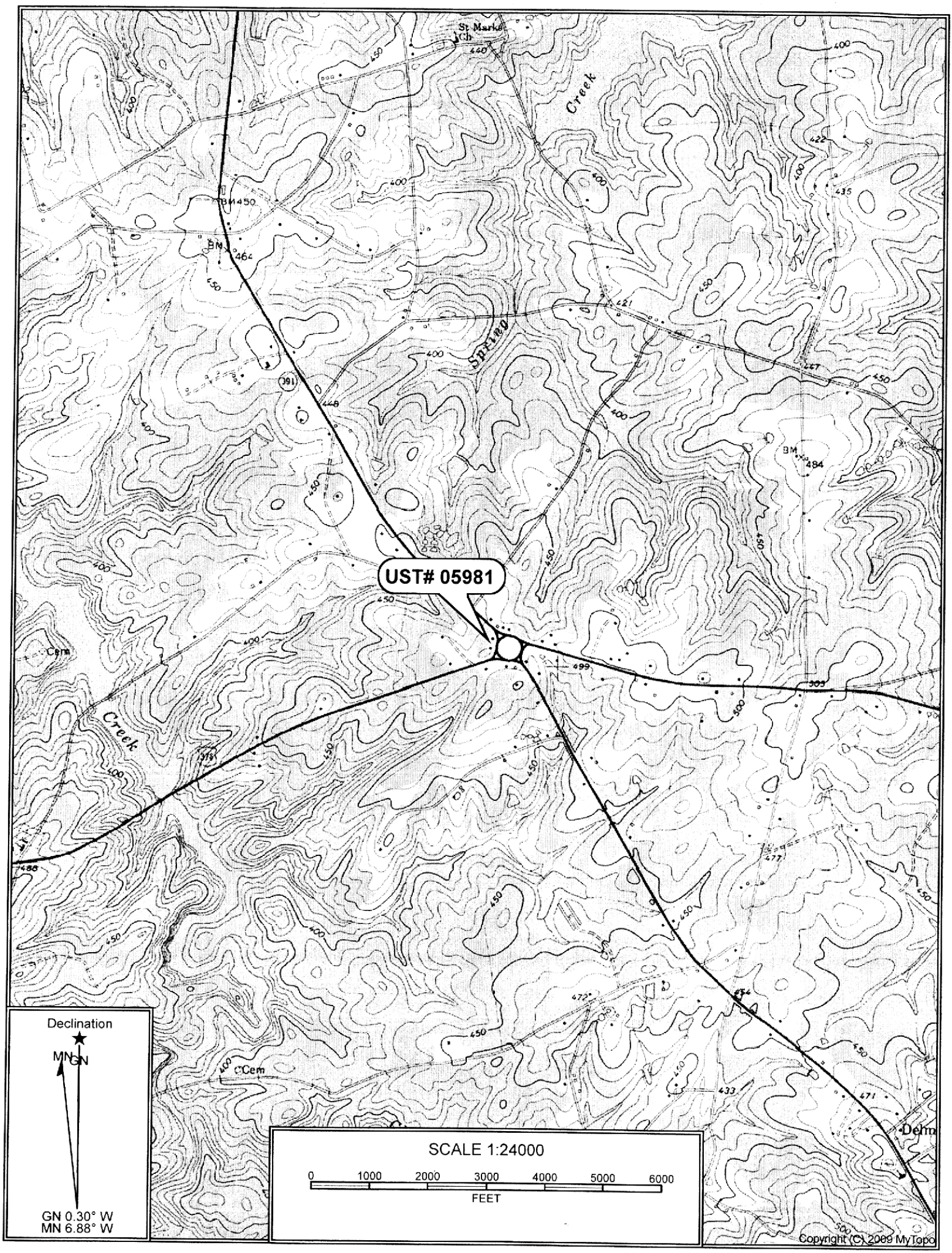
UST Permit #: 05981 **Cost Agreement #:** Proposal

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan Preparation				
A1. Site-specific Work Plan	1	each	$150.00	$150.00
B1. Tax Map		each	$70.00	$0.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	$250.00	$0.00
2. A1. Receptor Survey *		each	$551.00	$0.00
3. Survey (500 ft x 500 ft)				
A1. Comprehensive Survey		each	$1,040.00	$0.00
B. Subsurface Geophysical Survey				
1B. < 10 meters below grade		each	$1,300.00	$0.00
2B. > 10 meters below grade		each	$2,310.00	$0.00
C1. Geophysical UST or Drum Survey		each	$910.00	$0.00
4. Mob/Demob				
A1. Equipment		each	$1,020.00	$0.00
B1. Personnel	2	each	$423.00	$846.00
C1. Adverse Terrain Vehicle		each	$500.00	$0.00
5. A1. Soil Borings (hand auger)*		foot	$5.00	$0.00
6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water ssample, soil sample, soil gas sample, etc.)*				
AA. Standard		per foot	$15.00	$0.00
C1. Fractured Rock		per foot	$20.20	$0.00
7. A1. Soil Leachability Model		each	$60.00	$0.00
8. Abandonment (per foot)*				
A1. 2" diameter or less		per foot	$3.10	$0.00
B1. Greater than 2" to 6" diameter		per foot	$4.50	$0.00
C1. Dug/Bored well (up to 6 feet diameter)		per foot	$15.00	$0.00
9. Well Installation (per foot)*				
A1. Water Table (hand augered)		per foot	$10.60	$0.00
B1. Water Table (drill rig)		per foot	$38.00	$0.00
CC. Telescoping		per foot	$50.00	$0.00
DD. Rock Drilling		per foot	$58.00	$0.00
E1. 2" Rock Coring		per foot	$30.90	$0.00
G1. Rock Multi-sampling ports/screens		per foot	$33.40	$0.00
HH. Recovery Well (4" diameter)		per foot	$45.00	$0.00
II. Pushed Pre-packed screen (1.25" dia)		per foot	$15.00	$0.00
J1. Rotosonic (2" diameter)		per foot	$44.00	$0.00
K. Re-develop Existing Well		per foot	$11.00	$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product *				
A1. Groundwater Purge	26	per well/receptor	$60.00	$1,560.00
B1. Air or Vapors		per receptor	$12.00	$0.00
C1. Water Supply	2	per well/receptor	$22.00	$44.00
D1. Groundwater No Purge or Duplicate		per well/receptor	$28.00	$0.00
E1. Gauge Well only		per well	$7.00	$0.00
F1. Sample Below Product		per well	$12.00	$0.00
G1. Passive Diffusion Bag		each	$26.00	$0.00
H1. Field Blank	1	each	$24.60	$24.60

11. Laboratory Analyses-Groundwater					
A2. BTEXNM+Oxyg's+1,2 DCA+Eth(8260B)	32	per sample	$122.00		$3,904.00
AA1. Lead, Filtered		per sample	$13.80		$0.00
B2. Rush EPA Method 8260B (All of item A.)		per sample	$153.60		$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		per sample	$36.40		$0.00
D1. PAH's		per sample	$60.60		$0.00
E1. Lead		per sample	$16.00		$0.00
F1. EDB by EPA 8011	31	per sample	$45.20		$1,401.20
FF1. EDB by EPA Method 8011 Rush		per sample	$68.20		$0.00
G1. 8 RCRA Metals		per sample	$63.40		$0.00
H1. TPH (9070)		per sample	$41.00		$0.00
II. pH		per sample	$5.20		$0.00
J1. BOD		per sample	$20.00		$0.00
PP. Ethanol		per sample	$14.80		$0.00
11. Analyses-Soil					
Q1. BTEX + Naphth.		per sample	$64.00		$0.00
R1. PAH's		per sample	$64.04		$0.00
S1. 8 RCRA Metals		per sample	$56.40		$0.00
U1. TPH-DRO (3550C/8015C)		per sample	$40.00		$0.00
V1. TPH- GRO (5030B/8015C)		per sample	$35.96		$0.00
W1. Grain size/hydrometer		per sample	$104.00		$0.00
X1. Total Organic Carbon		per sample	$30.60		$0.00
11. Analyses-Air					
Y1. BTEX + Naphthalene		per sample	$216.00		$0.00
11. Analyses-Free Phase Product					
Z1. Hydrocarbon Fuel Identification		per sample	$357.00		$0.00
12. Aquifer Characterization					
A1. Pumping Test*		per hour	$23.00		$0.00
B1. Slug Test*		per test	$191.00		$0.00
C1. Fractured Rock		per test	$100.00		$0.00
13. A1. **Free Product Recovery Rate Test***		each	$38.00		$0.00
14. Fate/Transport Modeling					
A1. Mathematical Model		each	$100.00		$0.00
B1. Computer Model		each	$100.00		$0.00
15. Risk Evaluation					
A. Tier I Risk Evaluation		each	$300.00		$0.00
B1. Tier II Risk Evaluation		each	$100.00		$0.00
16. A1. **Subsequent Survey***		each	$260.00		$0.00
17. Disposal (gallons or tons)*					
AA. Wastewater	200	gallon	$0.56		$112.00
BB. Free Product		gallon	$0.50		$0.00
C1. Soil Treatment/Disposal		ton	$60.00		$0.00
D1. Drilling fluids		gallon	$0.42		$0.00
18. Miscellaneous (attach receipts)					
		each	$0.00		$0.00
		each	$0.00		$0.00
		each	$0.00		$0.00
20. Tier I Assessment (Use DHEC 3665 form)		standard			$0.00
21. IGWA (Use DHEC 3666 form)		standard			$0.00
22. Corrective Action (Use DHEC 3667 form)		PFP Bid			$0.00

23. Aggressive Fluid & Vapor Recovery (AFVR)					
A1. 8-hour Event*		each	$1,375.00		$0.00
AA. 24-hour Event*		each	$3,825.00		$0.00
A3. 48-hour Event*		each	$6,265.00		$0.00
A4. 96-hour Event*		each	$12,567.50		$0.00
C1. Off-gas Treatment 8 hour		per event	$122.50		$0.00
C2. Off-gas Treatment 24 hour		per event	$241.50		$0.00
C3. Off-gas Treatment 48 hour		per event	$327.00		$0.00
C4. Off-gas Treatment 96 hour		per event	$780.00		$0.00
D. Site Reconnaissance		each	$203.25		$0.00
E1. Additional Hook-ups		each	$25.75		$0.00
F1. Effluent Disposal		gallon	$0.44		$0.00
G. AFVR Mobilization/Demobilization		each	$391.50		$0.00
24. Granulated Activated Carbon (GAC) filter system installation & service:					
A1. New GAC System Installation*		each	$1,900.00		$0.00
BB. Refurbished GAC Sys. Install*		each	$900.00		$0.00
C1. Filter replacement/removal*		each	$350.00		$0.00
DD. GAC System removal, cleaning, & refurbishment*		each	$275.00		$0.00
E1. GAC System housing*		each	$250.00		$0.00
F. In-line particulate filter		each	$150.00		$0.00
G1. Additional piping & fittings		foot	$1.50		$0.00
25. Well Repair					
A1. Additional Copies of the Report Delivered		each	$50.00		$0.00
B1. Repair 2x2 MW pad*		each	$50.00		$0.00
C1. Repair 4x4 MW pad*		each	$88.00		$0.00
D1. Repair well vault*		each	$118.00		$0.00
F1. Replace well cover bolts		each	$2.60		$0.00
G. Replace locking well cap & lock		each	$15.00		$0.00
H1. Replace/Repair stick-up*		each	$134.00		$0.00
II. Convert Flush-mount to Stick-up*		each	$150.00		$0.00
J1. Convert Stick-up to Flush-mount*		each	$130.00		$0.00
K1. Replace missing/illegible well ID plate		each	$12.00		$0.00
Report Prep & Project Management	12%	percent	$8,041.80		$965.02
TOTAL					$9,006.82

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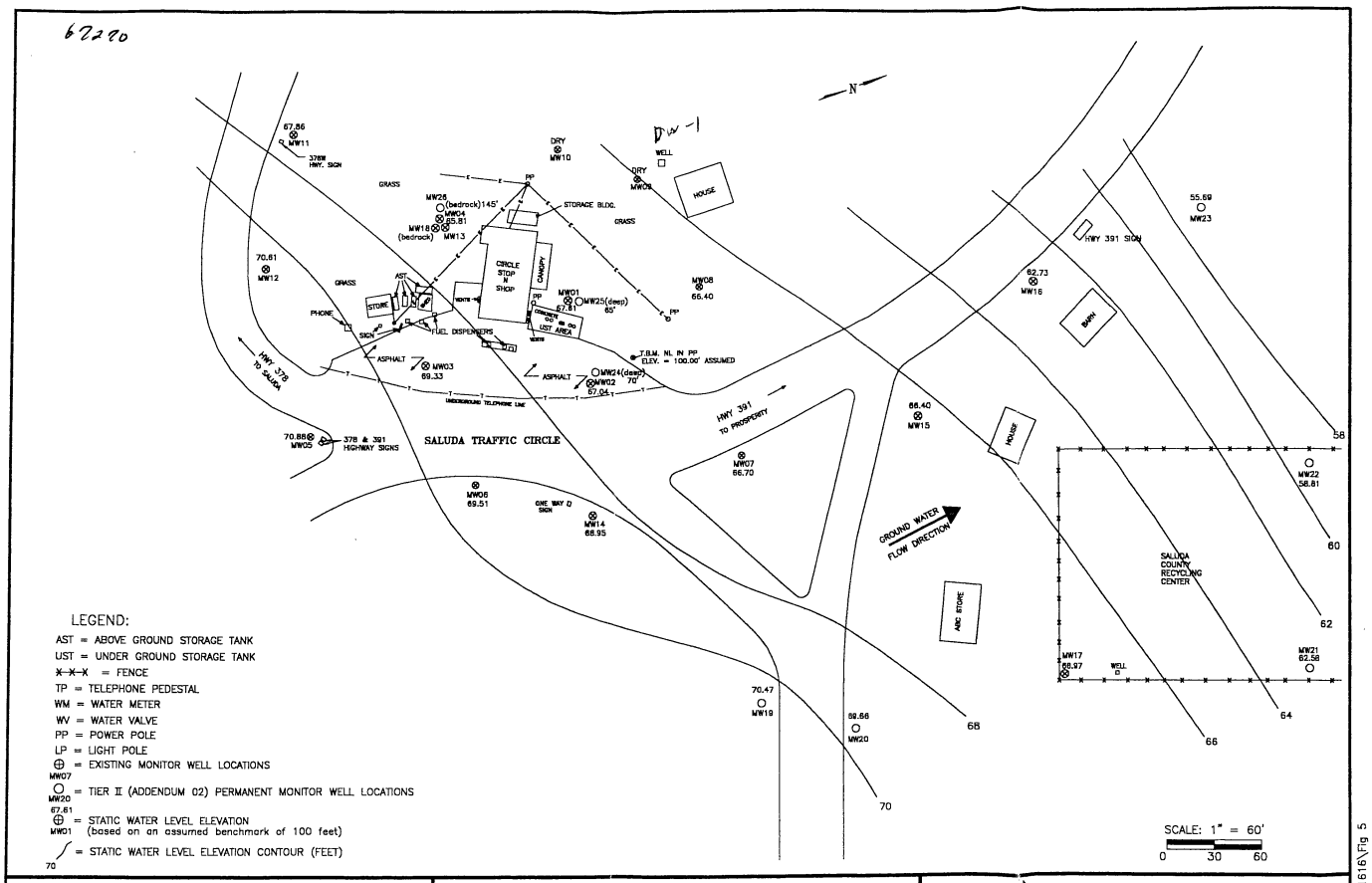

LEGEND:

AST = ABOVE GROUND STORAGE TANK
UST = UNDER GROUND STORAGE TANK
X-X-X = FENCE
TP = TELEPHONE PEDESTAL
WM = WATER METER
WV = WATER VALVE
PP = POWER POLE
LP = LIGHT POLE
⊕ = EXISTING MONITOR WELL LOCATIONS
MW07
○ = TIER II (ADDENDUM 02) PERMANENT MONITOR WELL LOCATIONS
MW20
67.61
⊕ = STATIC WATER LEVEL ELEVATION
MW01 (based on an assumed benchmark of 100 feet)
70 = STATIC WATER LEVEL ELEVATION CONTOUR (FEET)

CIRCLE STOP N SHOP
HIGHWAY 378/391
SALUDA COUNTY
SOUTH CAROLINA

FIGURE 5:
STATIC WATER LEVEL
ELEVATION MAP

KLEEN
SITES
GEOSERVICES

F:\KSG\CAD\2001\01616\Fig 5

D H E C
PROMOTE PROTECT PROSPER
Catherine B. Templeton, Director
Promoting and protecting the health of the public and the environment

GAIL SMITH
143 PIONEER DR
LEESVILLE SC 29070

OCT 2 3 2014

UST DOCKETING

Re: **Sample Directive**
Circle Stop-N-Shop, 3287 Columbia Hwy., Leesville, SC
UST Permit #05981; CA #48879
Release reported December 27, 1991
Site-Specific Work Plan received October 20, 2014
Saluda County

Dear Ms. Smith:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced plan submitted on your behalf by Midlands Environmental Consultants. Sampling of the monitoring wells is necessary. All work should be conducted in accordance with the UST Quality Assurance Program Plan (QAPP) and must be conducted in compliance with all applicable regulations. A copy of Agency QAPP Revision 2.0 for the UST Management Division is available at http://www.scdhec.gov/environment/docs/QAPP_Rev-2_April2013.pdf.

Activities at the site should begin immediately upon receipt of this letter. Cost agreement # 48879 has been approved for the amount shown on the enclosed cost agreement form for the sampling of the monitoring wells and analysis for BTEX, naphthalene, MTBE, 1,2-DCA, oxygenates, and EDB. Analyses should be in accordance with Appendix E of the QAPP to include duplicate samples, field and trip blanks.

As soon as the beginning date of the event has been scheduled, please contact Read Miner at minerrs@dhec.sc.gov.

The Monitoring Report and invoice are due within 60 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

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

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

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

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

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0608 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S Miner

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Approved Cost Agreement

cc: Midlands Environmental Consultants, Inc., PO Box 854, Lexington, SC 29071 (with enclosure)
Technical File (with enclosure)

Approved Cost Agreement 48879

Facility: 05981 CIRCLE STOP N SHOP
MINERRS
PO Number:

Task / Description	Categories	Item	Description	Qty / Pct	Unit Price	Amount
01 PLAN						
		A1	SITE SPECIFIC WORK PLAN	1.0000	150.00	150.00
04 MOB/DEMOB						
		B1	PERSONNEL	2.0000	423.00	846.00
10 SAMPLE COLLECTION						
		A1	GROUNDWATER (PURGE)	26.0000	60.00	1,560.00
		C1	WATER SUPPLY	2.0000	22.00	44.00
		H1	FIELD BLANK	1.0000	24.60	24.60
11 ANALYSES						
	GW GROUNDWATER	A2	BTEXNM+OXYGS+1,2-DCA+ETH-8260B	32.0000	122.00	3,904.00
		F1	EDB BY 8011	31.0000	45.20	1,401.20
17 DISPOSAL						
		AA	WASTEWATER	200.0000	0.56	112.00
19 RPT/PROJECT MNGT & COORDINATIO						
		PRT	REPORT PREPARATION	0.1200	8,041.80	965.02
				Total Amount		9,006.82

SEI Environmental, Inc.

130 Penmarc Drive, Suite 108
Raleigh, NC 27603
919.832.2535
Fax 919.832.5914

RECEIVED
JUN 04 2007
UNDERGROUND STORAGE TANK PROGRAM

May 23, 2007

Ms. Sonya Utz, Hydrogeologist
South Carolina Department of Health and Environmental Control
Underground Storage Tank Program
2600 Bull Street
Columbia, South Carolina 29201

RE: Corrective Action System Evaluation Report
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Dear Mr. Surber:

Please find enclosed the quarterly Corrective Action System Evaluation (C.A.S.E) Report for the April 25, 2007, groundwater sampling event at the above referenced site. If you have any questions or comments, please contact me at (919) 832-2535.

Sincerely,
SEI Environmental, Inc.

Chris L. Boggs, P.G.
Project Manager

cc: Mr. & Mrs. Steve & Joan Boozer, Property Owners

UST PROGRAM
DOCKETING #

RECEIVED
JUN 04 2007
UNDERGROUND STORAGE
TANK PROGRAM

CORRECTIVE ACTION SYSTEM EVALUATION REPORT
January 2007 through April 2007

Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

PREPARED FOR:

Mr. & Mrs. Steve & Joan Boozer
3287 Columbia Highway
Leesville, South Carolina 29070-7216

PREPARED BY:

SEI ENVIRONMENTAL, INC.
130 Penmarc Drive, Suite 108
Raleigh, North Carolina 27603
UST Site Rehabilitation Contractor No. 354

May 23, 2007

CORRECTIVE ACTION SYSTEM EVALUATION REPORT

Submittal Date: May 23, 2007

Monitoring Report Number: 11

For Period Covering: January 2007 to April 2007

Facility Name : Circle Stop-N-Shop

Street Address: 3287 Columbia Highway

UST Permit Number: 05981

City: Leesville, South Carolina

County: Saluda

Zip Code: 29070-7216

Latitude: N 34°02'28.08"

Longitude : W 81°32'53.78"

Submitted by UST Owner/Operator:	Prepared by Consultant/Contractor:
Name: Steve & Joan Boozer	Name: Chris L. Boggs
Company: Property Owners	Company: SEI Environmental, Inc.
Address: 3287 Columbia Highway	Address: 130 Penmarc Drive, Suite 108
City: Leesville State: SC	City: Raleigh State: NC
Zip Code: 29070-7216	Zip Code: 27603
Telephone: (803) 532-4119	Telephone: (919) 832-2535
SEI Project Number: 303064	UST Site Rehabilitation Contractor No. 354

Registered Professional Engineer or Professional Geologist Certification

I hereby certify that I have directed and supervised the fieldwork and preparation of this Plan, in accordance with State Rules and Regulations. As a registered professional geologist and/or professional engineer, I certify that I am a qualified groundwater professional, as defined by the South Carolina State Board of Professional Geologists. 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.

Name: Chris L. Boggs, P.G.

SC Reg. No. 2101

Signature:

Date: 5/31/07

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APPENDIX C Field Data Information Sheets for Groundwater Sampling
APPENDIX D Laboratory Reports and Chain-of-Custody Forms

LIMITATIONS

This investigation is intended to be a non-biased assessment of on-site environmental conditions proximate to the location of the former 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.

This report has been prepared under the guidance of a Licensed Geologist registered in South Carolina to meet the requirements of the South Carolina Department of Health and Environmental Control. The information and conclusions expressed in this report are based upon normal standards of the profession and limited to information available at this time. Chemical analyses of the samples associated with this report were performed by a subcontracted, independent, and certified laboratory. All data have been reviewed for accuracy and, excepting obvious errors, have been accepted as correct. SEI Environmental, Inc. reserves the right to revise estimates of performances as required by changes in the data supplied by AccuTest Laboratories.

1.0 INTRODUCTION

Circle Stop-N-Shop is a convenience and retail fuel store located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina. Figure 1 in Appendix A is a portion of the United States Geological Survey (USGS) 7.5-minute topographical quadrangle map identifying the location of the site.

The following is a brief summary of recent events occurring at the site:

- October 1, 2003 & December 19, 2002 – Groundwater Sampling Event
- August 18, 2003 – Groundwater Sampling Event
- November 19, 2003 – Groundwater Sampling Event
- March 21, 2005 – Groundwater Sampling Event
- October 12, 2005 – Groundwater Sampling Event
- February 02, 2006 – Groundwater Sampling Event
- April 25, 2006 – Groundwater Sampling Event
- July 17, 2006 – Groundwater Sampling Event
- October 17, 2006 – Groundwater Sampling Event
- January 15, 2007 – Groundwater Sampling Event
- April 25, 2007 – Groundwater Sampling Event

On April 25, 2007, thirteen groundwater monitoring wells were sampled in accordance with the requirements of the PFP contract. This report provides details of the groundwater sampling event.

2.0 FIELD MEASUREMENTS AND SAMPLING

On April 25, 2007, fourteen groundwater samples were collected (MW-1 through MW-4, MW-7, MW-10R, MW-13 through MW-16, MW-18, MW-23, MW-25 and MW-26) of the twenty-six existing groundwater monitoring wells. Two (MW-8, and MW-24) monitoring wells were not sampled because they were not located. Five (MW-5, MW-6, MW-9R, MW-17, MW-19, and MW-20) monitoring wells are only gauged for groundwater depth. Three (MW-17, MW-21, and MW-22) monitoring wells have been closed. Figure 2 in Appendix A is a site map depicting well locations.

Twenty groundwater monitoring wells were gauged utilizing an oil-water interface probe to measure depth to groundwater, and to detect any free product present. The depth to groundwater measurement is used to calculate the groundwater elevation used in determining the current groundwater potentiometric surface, along with hydraulic gradient, and groundwater flow direction. Free product was not detected.

Figure 3 in Appendix A presents a groundwater potentiometric map for the current sampling event. The latest groundwater data indicate that groundwater flow at the site is predominately north to northwest with a hydraulic gradient of 0.026 feet per foot between monitoring wells MW-19 and MW-16. This flow direction is consistent with previous determinations of groundwater movement. Table 1 in Appendix B summarizes groundwater measurement data.

Representative groundwater samples were collected utilizing new, disposable bailers. Samples were placed in laboratory supplied containers, maintained at 4° Celsius, and shipped via FedEx under chain-of-custody to AccuTest, Inc. Laboratories in Orlando, Florida. The groundwater samples were analyzed by EPA Method 8260B (for benzene, toluene, ethylbenzene, xylenes (BTEX), methyl-tert-butyl-ether (MTBE), and naphthalene). Appendix C contains Field Data Information Sheets for Groundwater Sampling.

3.0 LABORATORY ANALYTICAL RESULTS

Chemicals of Concern (CoC) were detected in seven (MW-2, MW-4, MW-7, MW-10R, MW-13, MW-18, MW-25, and MW-26) of the fourteen monitoring wells sampled at concentrations exceeding their respective SSTL. Figure 4 in Appendix A is a site map presenting monitoring well locations and their CoC concentrations. Table 2 in Appendix B summarizes historical groundwater analytical results. Site Specific Target Levels (SSTLs) have been designated for twenty (MW-1 through MW-18 and MW-24 through MW-26) monitoring wells. A copy of the laboratory report and completed chain-of-custody form is included in Appendix D.

4.0 REMEDIATION SYSTEM EFFECTIVENESS

In awarding the Pay-For-Performance (PFP) site remediation contract, the South Carolina Department of Health and Environmental Control (SCDHEC) set remediation goals for this site via site specific target levels (SSTLs). The monitoring wells have individual target concentrations for seven (benzene, toluene, ethylbenzene, xylenes, MTBE, and naphthalene) identified chemicals of concern (CoC).

Remediation system effectiveness can be calculated comparing the initial CoC concentrations that exceeded the SSTLs with the current CoC concentrations that exceeded the SSTLs.

$$\left[\frac{\text{[Initial Sample Concentration Above SSTL]} - \text{[Current Sample Concentration Above SSTL]}}{\text{[Initial Sample Concentration Above SSTL]}}\right] * 100 = \%\ \text{Reduction}$$

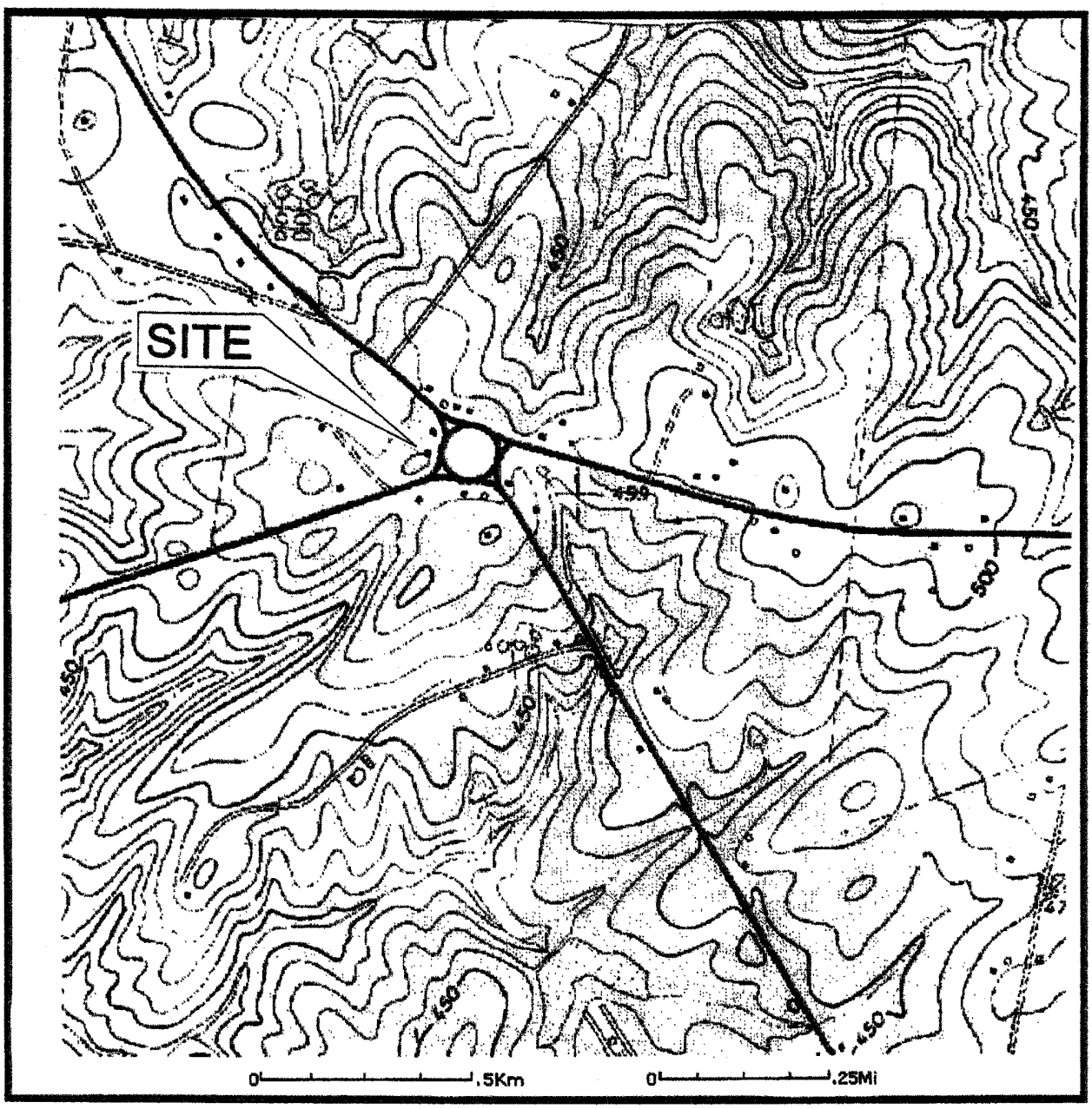
Using the current analytical results, the concentration reduction is 99.24%.

5.0 CONCLUSIONS

The groundwater flow direction for this sampling event was towards the north-northeast with a hydraulic gradient of 0.026 feet per foot. CoC were detected in nine of the thirteen monitoring wells sampled above their respective SSTLs. The percent concentration reduction has been calculated at 99.24%. SEI Environmental, Inc recommends continuing the quarterly monitoring to evaluate the continued reduction of chemicals of concern in the monitoring wells on site. The next sampling event is scheduled for October 2007.

APPENDIX A
FIGURES

7.5 MINUTE SERIES(TOPOGRAPHIC)

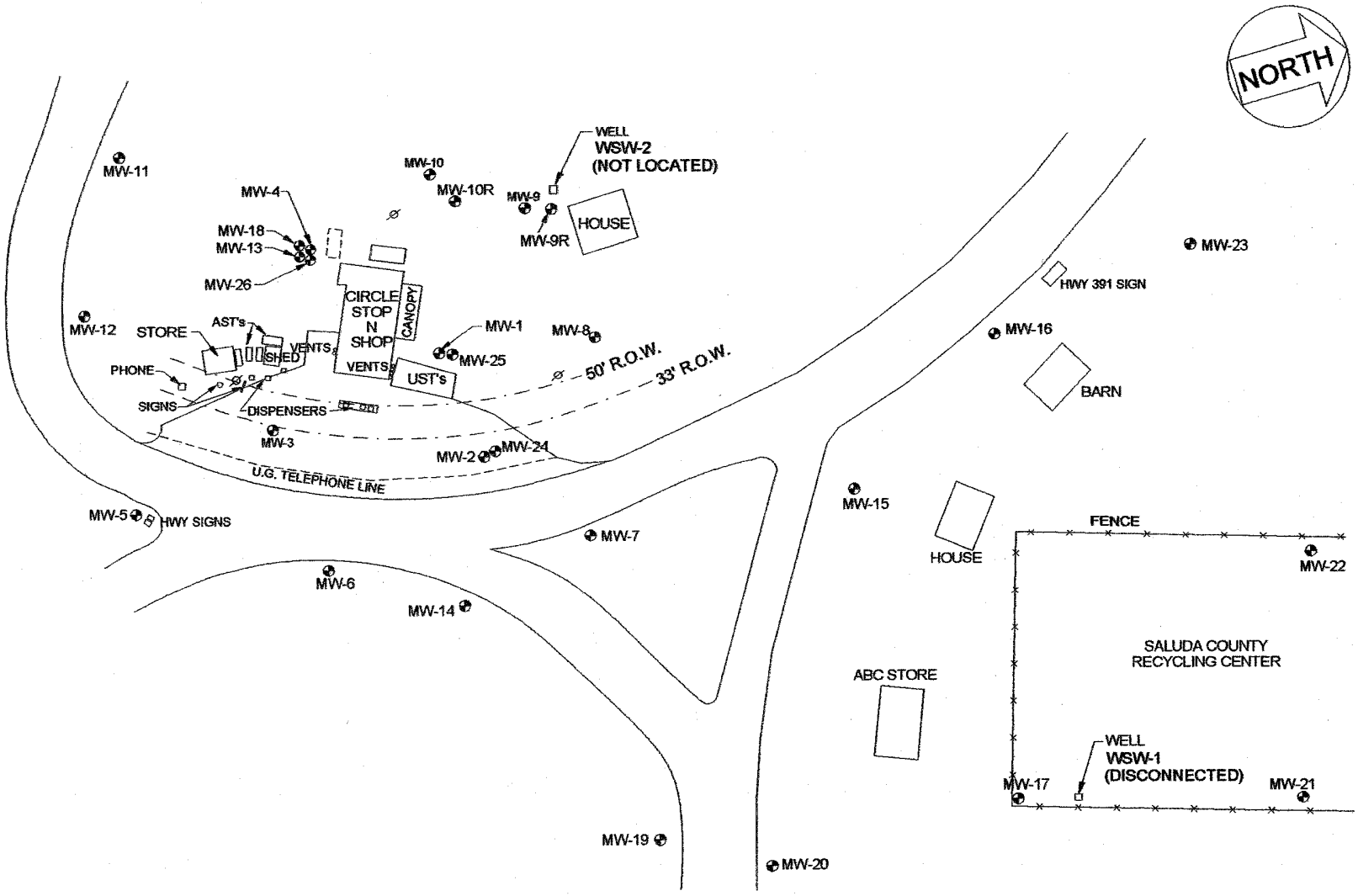


NORTH

SEI Environmental, Inc.

FIGURE 1: SITE LOCATION MAP(U.S.G.S. TOPO)
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064 DWG #	DATE: 10/10/05 DRAWN BY: JCJ



LEGEND:

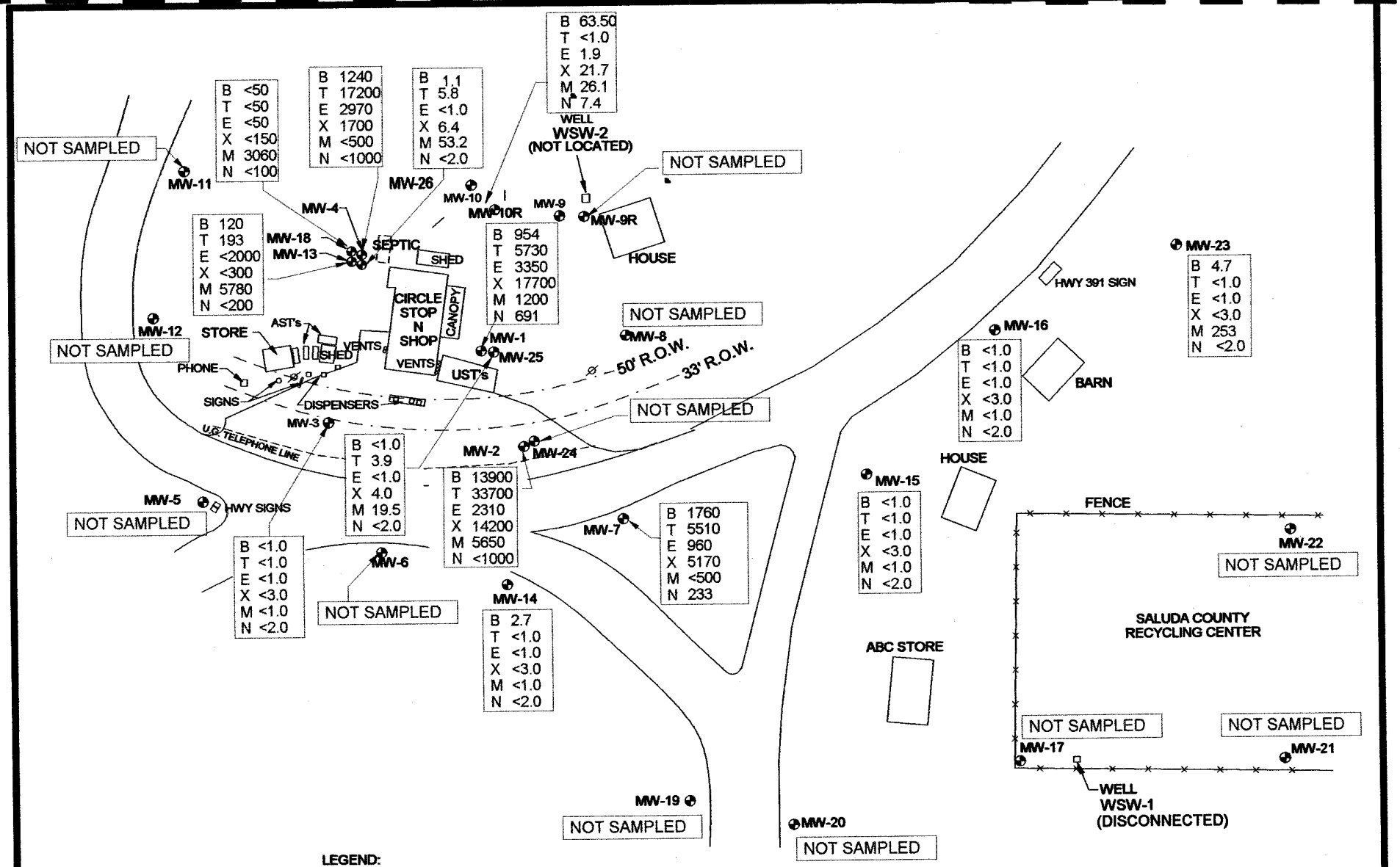
- MONITORING WELL
- POWER POLE

0 40 80 FT.

SEI Environmental, Inc.

FIGURE 2: SITE MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

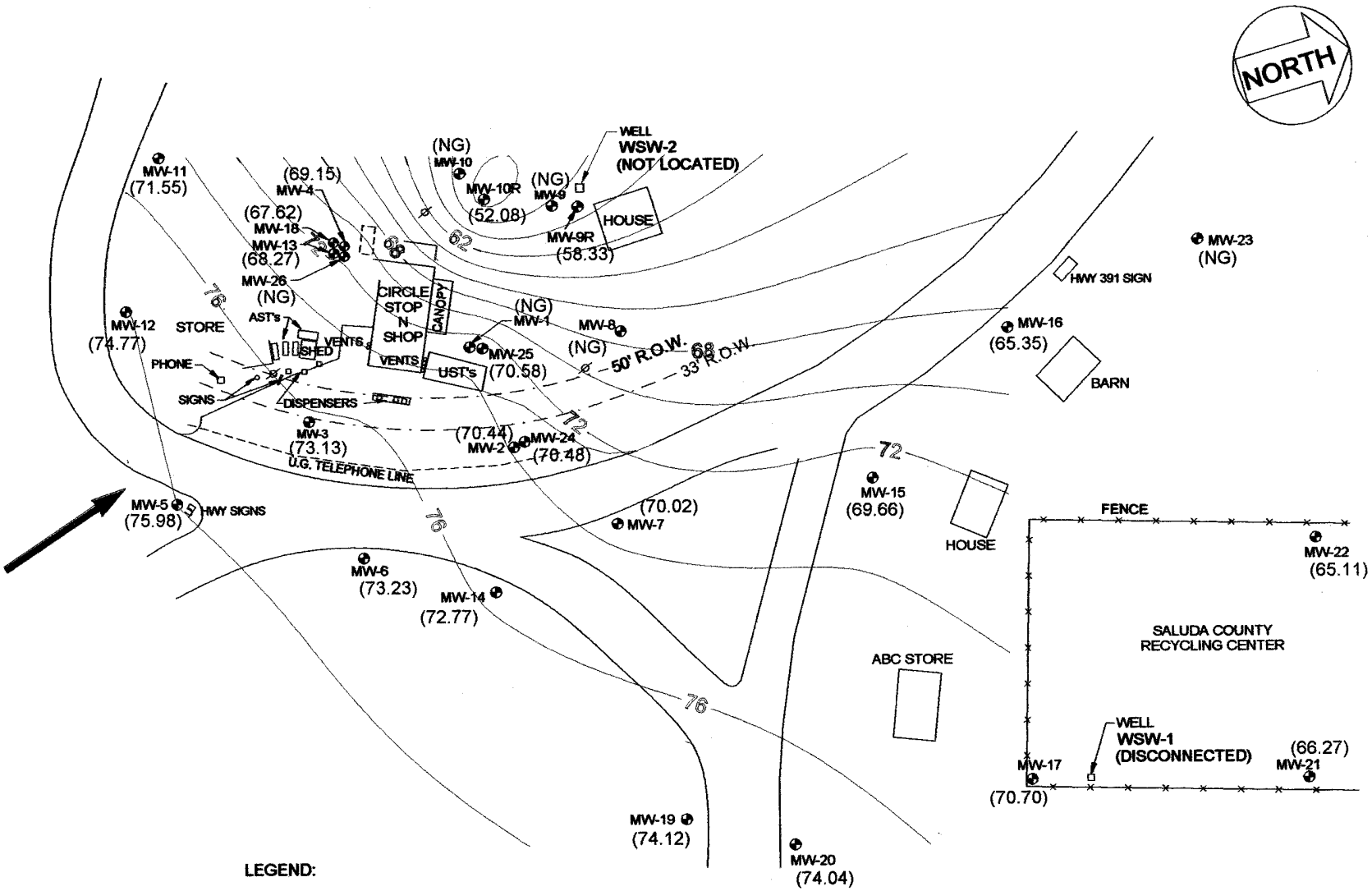
WO #303-064	DATE: 3/22/05
DWG #CS00642G	DRAWN BY: JCJ



SEI Environmental, Inc.

FIGURE 4: GROUNDWATER COC SITE MAP, 1/15/07
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303064	DATE: 2/2/06
DWG #CS00644J	DRAWN BY: JCJ



LEGEND:

- MONITORING WELL
- POWER POLE

(XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT.
NG = NOT GAUGED
NL = NOT LOCATED

GROUNDWATER ELEVATION CONTOUR

GROUNDWATER FLOW DIRECTION

0 40 80 FT.

NOTE: WELLS GAUGED 04/25/07.

SEI Environmental, Inc.

FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC

WO #303-064	DATE: 2/2/06
DWG #CS00643J	DRAWN BY: JCJ

APPENDIX B
TABLES

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-1	08/18/03	21.39			99.59	78.20
	11/17/03	23.34				76.25
	03/11/04	23.96				75.63
	06/30/04	25.22				74.37
	03/21/05	24.12				75.47
	10/14/05	Well Not Located				0.00
	02/02/06	Well Not Located				0.00
	04/25/06	25.11				74.48
	07/17/06	Well Not Located				0.00
	10/17/06	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	01/15/07	Well Not Located				0.00
	04/25/07	25.95				73.64
MW-2	08/18/03	19.82			97.68	77.86
	11/17/03	21.39				76.29
	03/11/04	22.38				75.30
	06/30/04	23.49				74.19
	03/21/05	23.47				74.21
	10/14/05	24.41				73.27
	02/02/06	24.38				73.30
	04/25/06	22.70				74.98
	07/17/06	24.90				72.78
	10/17/06	27.79				69.89
	01/15/07	27.24				70.44
	04/25/07	23.83				73.85
MW-3	08/18/03	18.04			99.53	81.49
	11/17/03	22.14				77.39
	03/11/04	20.98				78.55
	06/30/04	24.08				75.45
	03/21/05	22.05				77.48
	10/14/05	25.35				74.18
	02/02/06	23.48				76.05
	04/25/06	22.45				77.08
	07/17/06	25.65				73.88
	10/17/06	28.73				70.80
	01/15/07	26.40				73.13
	04/25/07	23.43				76.10
MW-4	08/18/03	23.31			100.28	76.97
	11/17/03	25.11				75.17
	03/11/04	25.58				74.70
	06/30/04	27.13				73.15
	03/21/05	27.01				73.27
	10/14/05	28.16				72.12
	02/02/06	27.69				72.59
	04/25/06	26.35				73.93
	07/17/06	28.50				71.78
	10/17/06	31.51				68.77
	01/15/07	31.13				69.15

Table 1

Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
	04/25/07	28.16				72.12

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-5	08/18/03	15.89			100.88	84.99
	11/17/03	21.84				79.04
	03/11/04	19.61				81.27
	06/30/04	22.30				78.58
	03/21/05	20.70				80.18
	10/14/05	24.40				76.48
	02/02/06	22.43				78.45
	04/25/06	22.03				78.85
	07/17/06	26.59				74.29
	10/17/06	28.67				72.21
	01/15/07	24.90				75.98
	04/25/07	22.90				77.98
MW-6	08/18/03	16.31			97.43	81.12
	11/17/03	19.13				78.30
	03/11/04	18.62				78.81
	06/30/04	21.84				75.59
	03/21/05	19.78				77.65
	10/14/05	23.13				74.30
	02/02/06	21.15				76.28
	04/25/06	20.19				77.24
	07/17/06	23.39				74.04
	10/17/06	26.49				70.94
	01/15/07	24.20				73.23
	04/25/07	21.14				76.29
MW-7	08/18/03	19.78			97.26	77.48
	11/17/03	22.14				75.12
	03/11/04	22.38				74.88
	06/30/04	23.78				73.48
	03/21/05	23.31				73.95
	10/14/05	24.75				72.51
	02/02/06	24.29				72.97
	04/25/06	22.62				74.64
	07/17/06	25.10				72.16
	10/17/06	27.99				69.27
	01/15/07	27.24				70.02
	04/25/07	23.74				73.52
MW-8	08/18/03	21.72			98.70	76.98
	11/17/03	24.61				74.09
	03/11/04	24.30				74.40
	06/30/04	26.21				72.49
	03/21/05	25.25				73.45
	10/14/05	24.78				73.92
	02/02/06	26.39				72.31
	04/25/06	24.97				73.73
	07/17/06	27.65				71.05
	10/17/06	30.56				68.14
	01/15/07	Well Not Located				
	04/25/07	Well Not Located				

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-9R	08/18/03	30.33			99.68	69.35
	11/17/03	32.11				67.57
	03/11/04	33.15				66.53
	06/30/04	34.62				65.06
	03/21/05	36.35				63.33
	10/14/05	Well Not Located				N/A
	02/02/06	Well Not Located				N/A
	04/25/06	Well Not Located				N/A
	07/17/06	Well Not Located				N/A
	10/17/06	40.84				58.84
	01/15/07	41.35				58.33
	04/25/07	37.09				62.59
MW-10R	08/18/03	Well Not Located			100.22	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	42.57				57.65
	02/02/06	44.69				55.53
	04/25/06	Well Not Located				N/A
	07/17/06	44.04				56.18
	10/17/06	46.71				53.51
	01/15/07	48.14				52.08
	04/25/07	45.41				54.81
MW-11	08/18/03	19.96			100.47	80.51
	11/17/03	21.45				79.02
	03/11/04	23.01				77.46
	06/30/04	25.96				74.51
	03/21/05	23.56				76.91
	10/14/05	27.31				73.16
	02/02/06	25.79				74.68
	04/25/06	23.15				77.32
	07/17/06	27.66				72.81
	10/17/06	30.65				69.82
	01/15/07	28.92				71.55
	04/25/07	25.55				74.92
MW-12	08/18/03	17.51			100.62	83.11
	11/17/03	21.51				79.11
	03/11/04	19.95				80.67
	06/30/04	23.62				77.00
	03/21/05	21.06				79.56
	10/14/05	25.18				75.44
	02/02/06	22.43				78.19
	04/25/06	21.78				78.84
	07/17/06	25.40				75.22
	10/17/06	28.55				72.07
	01/15/07	25.85				74.77
	04/25/07	22.55				78.07

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-13	08/18/03	24.11			100.22	76.11
	11/17/03	26.78				73.44
	03/11/04	26.73				73.49
	06/30/04	27.79				72.43
	03/21/05	28.18				72.04
	10/14/05	28.88				71.34
	02/02/06	32.46				67.76
	04/25/06	27.03				73.19
	07/17/06	29.34				70.88
	10/17/06	32.29				67.93
	01/15/07	31.95				68.27
	04/25/07	28.62				71.60
MW-14	08/18/03	15.29			96.30	81.01
	11/17/03	19.35				76.95
	03/11/04	18.18				78.12
	06/30/04	21.22				75.08
	03/21/05	19.20				77.10
	10/14/05	22.55				73.75
	02/02/06	20.69				75.61
	04/25/06	16.69				79.61
	07/17/06	22.84				73.46
	10/17/06	25.92				70.38
	01/15/07	23.53				72.77
	04/25/07	20.61				75.69
MW-15	08/18/03	17.51			94.59	77.08
	11/17/03	20.39				74.20
	03/11/04	20.07				74.52
	06/30/04	21.95				72.64
	03/21/05	21.02				73.57
	10/14/05	23.10				71.49
	02/02/06	22.12				72.47
	04/25/06	20.70				73.89
	07/17/06	23.42				71.17
	10/17/06	26.35				68.24
	01/15/07	24.93				69.66
	04/25/07	21.67				72.92
MW-16	08/18/03	Well Not Located			92.01	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	23.86				68.15
	03/21/05	22.72				69.29
	10/14/05	26.00				66.01
	02/02/06	24.21				67.80
	04/25/06	22.98				69.03
	07/17/06	26.06				65.95
	10/17/06	29.26				62.75
	01/15/07	26.66				65.35
	04/25/07	23.60				68.41

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-17	08/18/03	14.26			91.65	77.39
	11/17/03	16.51				75.14
	03/11/04	Well Not Located				N/A
	06/30/04	17.42				74.23
	03/21/05	16.85				74.80
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/17/07	20.95				70.70
	04/25/07	Well Closed				#VALUE!
MW-18	08/18/03	24.82			100.05	75.23
	11/17/03	21.97				78.08
	03/11/04	27.00				73.05
	06/30/04	28.50				71.55
	03/21/05	29.10				70.95
	10/14/05	29.34				70.71
	02/02/06	29.23				70.82
	04/25/06	27.78				72.27
	07/17/06	30.07				69.98
	10/17/06	33.00				67.05
	01/17/07	32.43				67.62
	04/25/07	29.23				70.82
MW-19	08/18/03	11.21			94.32	83.11
	11/17/03	16.22				78.10
	03/11/04	Well Not Located				N/A
	06/30/04	17.47				76.85
	03/21/05	16.31				78.01
	10/14/05	19.44				74.88
	02/02/06	17.88				76.44
	04/25/06	20.15				74.17
	07/17/06	18.69				75.63
	10/17/06	23.09				71.23
	01/15/07	20.20				74.12
	04/25/07	17.06				77.26
MW-20	08/18/03	12.36			94.88	82.52
	11/17/03	17.18				77.70
	03/11/04	Well Not Located				N/A
	06/30/04	18.98				75.90
	03/21/05	16.40				78.48
	10/14/05	20.55				74.33
	02/02/06	18.27				76.61
	04/25/06	19.98				74.90
	07/17/06	20.83				74.05
	10/17/06	24.12				70.76
	01/17/07	20.84				74.04
	04/25/07	18.14				76.74

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-21	08/18/03	10.17			84.61	74.44
	11/17/03	14.41				70.20
	03/11/04	Well Not Located				N/A
	06/30/04	16.34				68.27
	03/21/05	14.51				70.10
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	18.34				66.27
	04/25/07	Well Closed				N/A
MW-22	08/13/03	10.61			84.71	74.10
	11/17/03	17.79				66.92
	03/11/04	Well Not Located				N/A
	06/30/04	21.31				63.40
	03/21/05	17.42				67.29
	10/14/05	Well Not Located				N/A
	02/02/06	Well Closed				N/A
	10/17/06	Well Closed				N/A
	01/15/07	19.60				N/A
	04/25/07	Well Closed				N/A
MW-23	08/18/03	Well Not Located			92.05	N/A
	11/17/03	Well Not Located				N/A
	03/11/04	Well Not Located				N/A
	06/30/04	Well Not Located				N/A
	03/21/05	Well Not Located				N/A
	10/14/05	Well Not Located				N/A
	02/02/06	24.40				67.65
	04/25/06	Well Not Located				N/A
	07/17/06	25.48				66.57
	10/17/06	Well Not Located				N/A
	01/15/07	Well Not Located				N/A
	04/25/07	24.00				68.05
MW-24	08/18/03	19.76			97.74	77.98
	11/17/03	22.42				75.32
	03/11/04	22.44				75.30
	06/30/04	24.04				73.70
	03/21/05	23.35				74.39
	10/14/05	25.15				72.59
	02/02/06	Well Not Located				N/A
	04/25/06	23.00				74.74
	07/17/06	Well Not Located				N/A
	10/17/06	28.37				69.37
	01/15/07	27.26				70.48
	04/25/07	Well Not Located				N/A

Table 1
Historical Groundwater Elevation And Product Thickness Data
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Location	Date	Depth To Water	Depth To Product	Product Thickness	Well Head Elevation	Groundwater Elevation
MW-25	08/18/03	21.94			99.63	77.69
	11/17/03	24.49				75.14
	03/11/04	24.44				75.19
	06/30/04	26.08				73.55
	03/21/05	27.75				71.88
	10/14/05	26.70				72.93
	02/02/06	26.72				72.91
	04/25/06	Well Not Located				N/A
	07/17/06	26.68				72.95
	10/17/06	30.03				69.60
	01/15/07	29.05				70.58
	04/25/07	26.42				73.21
MW-26	08/18/03	100+			100.22	N/M*
	11/17/03	90.02				10.20
	03/11/04	100+				N/M*
	06/30/04	100+				N/M*
	03/21/05	100+				N/M*
	10/14/05	100+				N/M*
	02/02/06	100+				N/M*
	04/25/06	100+				N/M*
	07/17/06	100+				N/M*
	07/17/06	100+				N/M*
	01/15/07	100+				N/M*
	04/25/07	100+				N/M*

N/A = Not Applicable
N/M* = Not Measured Due To Depth of Well Exceeding 100 feet. Measuring Tape Ends at 100 feet.
*Groundwater Elevation = [(Top of Casing Elevation) - (DTW)] + (0.78*Product Thickness) ---- where applicable

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-1*	10/01/02 & 12/19/02	**2,300.00**	**29,000.00**	3,300.00	18,900.00	43.00	27.00			53,570.00
	08/18/03	**1,700.00**	1,300.00	2,600.00	13,000.00	**2,200.00**	**1,200.00**			22,000.00
	11/19/03	**1,900.00**	17,000.00	3,100.00	18,000.00	**1,700.00**	**680.00**			42,380.00
	03/11/04	**1,800.00**	14,000.00	3,300.00	16,000.00	**1,600.00**	**1,200.00**			37,900.00
	06/30/04	**1,640.00**	14,200.00	**3,490.00**	**20,200.00**	**1,770.00**	**380.00**			41,680.00
	03/21/05	**1,210.00**	8,540.00	2,440.00	13,100.00	**1,430.00**	<400			26,720.00
	10/14/05	Not Located								0.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**158.00**	**106.00**			264.00
	07/17/06	Not Located								0.00
	10/17/06	Not Located								0.00
	01/15/07	Not Located								0.00
	04/25/07	**954.00**	5,730.00	**3,350.00**	17,700.00	**1,200.00**	**691.00**			29,625.00
	SSTL	65.00	24,700.00	3,300.00	18,900.00	43.00	27.00			
	> SSTL	889.00	0.00	50.00	0.00	1,157.00	664.00			
MW-2	10/01/02 & 12/19/02	**10,000.00**	**26,000.00**	2,600.00	9,400.00	**1,300.00**	**520.00**			49,820.00
	08/18/03	**9,300.00**	22,000.00	2,200.00	**12,000.00**	**1,900.00**	**5,000.00**			52,400.00
	11/19/03	**12,000.00**	**29,000.00**	**3,000.00**	**15,000.00**	**5,100.00**	**2,500.00**			66,600.00
	03/11/04	**8,400.00**	21,000.00	2,100.00	**12,000.00**	**3,400.00**	**2,500.00**			49,400.00
	06/30/04	**9,890.00**	**29,900.00**	2,460.00	**14,400.00**	**3,510.00**	**1,000.00**			61,160.00
	03/21/05	**9,970.00**	21,800.00	2,060.00	**12,400.00**	**4,620.00**	<1,000			50,850.00
	10/14/05	**11,600.00**	**30,200.00**	2,180.00	**12,800.00**	**5,360.00**	<1,000			62,140.00
	02/02/06	**16,200.00**	**33,700.00**	2,450.00	**14,000.00**	**6,400.00**	<1,000			72,750.00
	04/25/06	**16,800.00**	**34,400.00**	2,290.00	**12,800.00**	**7,010.00**	**4,430.00**			77,730.00
	07/17/06	**21,900.00**	**46,200.00**	**3,150.00**	**16,400.00**	**11,700.00**	<1,000			99,350.00
	10/17/06	**20,200.00**	**49,700.00**	**2,710.00**	**13,400.00**	**12,400.00**	<1,000			98,410.00
	01/15/07	**16,700.00**	**37,800.00**	**2,720.00**	**14,800.00**	**8,650.00**	<1,000			
	04/25/07	**13,900.00**	**33,700.00**	2,310.00	**14,200.00**	**5,650.00**	<1,000			69,760.00
	SSTL	120.00	24,700.00	2,600.00	9,400.00	43.00	27.00			
	> SSTL	13,780.00	9,000.00	0.00	4,800.00	5,607.00	0.00			
MW-3	10/01/02 & 12/19/02	85.00	93.00	5.00	102.00	5.00	5.00			295.00
	08/18/03	1.60	<5.0	<1.0	<3.0	<1.0	<5.0			1.60
	11/19/03	31.00	<5.0	1.30	9.00	<1.0	<5.0			41.30
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	72.30	4.10	<2.0	19.30	<2.0	<2.0			95.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	75.40	2.80	2.30	12.10	<1.0	<2.0			92.60
	02/02/06	1.60	<1.0	<1.0	<3.0	<1.0	<2.0			1.60
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	07/17/06	21.20	<1.0	<1.0	4.60	<1.0	<2.0			25.80
	10/17/06	62.30	7.50	1.30	19.10	<1.0	<2.0			90.20
	01/15/07	10.50	6.80	<1.0	<3.0	<1.0	<2.0			17.30
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	85.00	93.00	5.00	102.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-4	10/01/02 & 12/19/02	**5,500.00**	4,700.00	3,900.00	17,900.00	**6,400.00**	**590.00**			38,990.00
	08/18/03	**1,000.00**	15,000.00	2,900.00	14,000.00	**100.00**	**500.00**			33,500.00
	11/19/03	**1,200.00**	14,000.00	2,700.00	14,000.00	**4,900.00**	**5,000.00**			41,800.00
	03/11/04	**540.00**	8,000.00	1,000.00	8,400.00	**250.00**	**1,200.00**			19,390.00
	06/30/04	**884.00**	20,100.00	2,750.00	16,000.00	**1,000.00**	**1,000.00**			41,734.00
	03/21/05	**4,010.00**	**25,300.00**	3,020.00	16,500.00	<500	<1,000			48,830.00
	10/14/05	**1,450.00**	20,000.00	3,070.00	16,000.00	<500	<1,000			40,520.00
	02/02/06	**2,110.00**	22,400.00	3,240.00	17,700.00	<500	<1,000			45,450.00
	04/25/06	**387.00**	8,780.00	2,240.00	12,200.00	<50	<50			23,607.00
	07/17/06	**1,600.00**	23,900.00	3,850.00	**19,000.00**	<200	<400			48,350.00
	10/17/06	**4,430.00**	47,300.00	3,780.00	**19,000.00**	598.00	<1000			75,108.00
	01/15/07	**3,060.00**	**31,800.00**	3,170.00	**17,600.00**	<500	<1000			55,630.00
	04/25/07	**1,240.00**	17,200.00	2,970.00	1,700.00	<500	<1000			23,110.00
	SSTL	**110.00**	**24,700.00**	**3,900.00**	**17,900.00**	**43.00**	**27.00**			
	> SSTL	1,130.00	0.00	0.00	0.00	0.00	0.00			
MW-5	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	**20.00**	<1.0	<3.0	<1.0	<5.0			20.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-6	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-7	10/01/02 & 12/19/02	**226,000.00**	**301,000.00**	**280,000.00**	**278,000.00**	**5,110,000.00**	**2,000.00**			6,197,000.00
	08/18/03	**3,900.00**	23,000.00	6,600.00	**37,000.00**	**500.00**	**2,500.00**			73,500.00
	11/19/03	**5,000.00**	15,000.00	**3,800.00**	**19,000.00**	**100.00**	**770.00**			43,670.00
	03/11/04	**6,200.00**	12,000.00	**3,300.00**	**15,000.00**	**500.00**	**2,500.00**			39,500.00
	06/30/04	**5,340.00**	18,400.00	**2,990.00**	**15,200.00**	**1,000.00**	**1,000.00**			43,930.00
	03/21/05	**7,710.00**	17,200.00	**2,820.00**	**13,400.00**	<500	<1,000			41,130.00
	10/14/05	**4,660.00**	12,600.00	1,730.00	7,610.00	<200	<400			26,600.00
	02/02/06	**9,810.00**	20,500.00	2,450.00	**10,800.00**	<200	<400			43,560.00
	04/25/06	**2,040.00**	5,530.00	715.00	3,190.00	<100	**102.00**			11,577.00
	07/17/06	**3,360.00**	9,310.00	1,520.00	7,050.00	<100	**321.00**			21,561.00
	10/17/06	**7,460.00**	24,700.00	2,920.00	13,700.00	<100	**471.00**			49,251.00
	01/15/07	**3,700.00**	16,900.00	4,370.00	28,200.00	<500	**5,670.00**			58,840.00

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
	04/25/07	**1,760.00**	5,510.00	960.00	5,170.00	<500	**233.00**			13,633.00
	SSTL	120.00	24,700.00	2,600.00	9,400.00	43.00	27.00			
	> SSTL	1,640.00	0.00	0.00	0.00	0.00	206.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-8	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/17/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-9R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	1.50	<5.0			1.50
	11/19/03	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	03/11/04	<1.0	<5.0	<1.0	<3.0	1.80	<5.0			1.80
	06/30/04	<1.0	<2.0	<2.0	<6.0	1.70	<2.0			1.70
	03/21/05	<1.0	<1.0	<1.0	<3.0	1.90	<2.0			1.90
	10/14/05	Not Located								0.00
	02/02/06	Gauge Only (Semi-Annual/April & October)								0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	1.40	<2.0			1.40
	01/15/07	Gauge Only (Semi-Annual/April & October)								0.00
	04/25/07	Gauge Only (Semi-Annual/April & October)								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-10R	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	10/14/05	**73.30**	1.60	**5.60**	**57.90**	**38.20**	**10.40**			187.00
	02/02/06	**27.80**	<1.0	2.80	**16.50**	**28.70**	3.00			78.80
	04/25/06	Not Located								0.00
	07/17/06	123.00	8.90	32.20	233.00	29.90	26.80			453.80
	10/17/06	23.80	<1.0	4.60	18.80	21.40	4.50			73.10
	01/15/07	Dry								0.00
	04/25/07	**63.50**	<1.0	1.90	**21.70**	**26.10**	**7.40**			120.60
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	58.50	0.00	0.00	6.70	21.10	2.40			
MW-11	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-12	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-13	10/01/02 & 12/19/02	**7,400.00**	14,000.00	2,500.00	7,700.00	**69,000.00**	**290.00**			100,890.00
	08/18/03	**9,500.00**	12,000.00	2,000.00	5,700.00	**7,600.00**	**5,000.00**			41,800.00
	11/19/03	**4,800.00**	6,500.00	1,000.00	5,400.00	**51,000.00**	**2,500.00**			71,200.00
	03/11/04	**9,500.00**	9,500.00	2,200.00	**7,800.00**	**93,000.00**	**1,200.00**			123,200.00
	06/30/04	**2,770.00**	4,000.00	**4,000.00**	**12,000.00**	**77,100.00**	**4,000.00**			103,870.00
	03/21/05	**11,600.00**	**13,900.00**	2,360.00	6,720.00	**104,000.00**	<4,000			138,580.00
	10/14/05	**10,600.00**	**20,500.00**	2,200.00	**8,870.00**	**88,100.00**	<2,000			130,270.00
	02/02/06	**14,300.00**	**24,900.00**	**2,710.00**	**10,600.00**	**79,400.00**	<2,000			131,910.00
	04/25/06	**11,800.00**	**23,400.00**	2,310.00	**10,900.00**	**85,800.00**	**8,420.00**			142,630.00
	07/17/06	**12,300.00**	**22,200.00**	2,300.00	**9,010.00**	**81,000.00**	<4,000			126,810.00
	10/17/06	**10,000.00**	**28,400.00**	2,280.00	**7,010.00**	**76,500.00**	<4,000			124,190.00
	01/15/07	**9,510.00**	**18,200.00**	<2000	**7,260.00**	**77,600.00**	<4,000			112,570.00
	04/25/07	**120.00**	193.00	<2000	<300	**5,780.00**	<200			6,093.00
	SSTL	**110.00**	**14,000.00**	**2,500.00**	**7,700.00**	**43.00**	**27.00**			
	> SSTL	10.00	0.00	0.00	0.00	5,737.00	0.00			
MW-14	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	**8.80**	**7.80**	2.20	12.00	**16.00**	<5.0			46.80
	11/19/03	3.70	<5.0	<1.0	3.60	<1.0	<5.0			7.30
	03/11/04	1.20	<5.0	<1.0	<3.0	<1.0	<5.0			1.20
	06/30/04	4.50	<2.0	<2.0	<6.0	<2.0	<2.0			4.50
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	**5.90**	<1.0	<1.0	<3.0	<1.0	<2.0			5.90
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	2.10	<1.0	<1.0	<3.0	<1.0	<1.0			2.10
	07/17/06	**13.00**	<1.0	<1.0	<3.0	<1.0	<2.0			13.00
	10/17/06	**8.90**	<1.0	<1.0	<3.0	<1.0	<2.0			8.90
	01/15/07	**<1.0**	4.60	4.20	32.50	<1.0	27.10			68.40
	04/25/07	2.70	<1.0	<1.0	<3.0	<1.0	<2.0			2.70
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-15	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	1.30	<5.0	<1.0	<3.0	**9.80**	<5.0			11.10
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	0.74	<2.0			0.74
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	1.20	<2.0			1.20
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	**5.00**	**5.00**	**5.00**	**15.00**	**5.00**	**5.00**			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-16	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	02/02/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/06	<1.0	<1.0	<1.0	<3.0	<1.0	<1.0			0.00
	07/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/17/06	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
	01/15/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
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Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Napbthalene	FP	Initial Mass	Current Mass
MW-17	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	<5.0	<5.0			0.00
	08/18/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	<1.0	<5.0			0.00
	03/11/04	Not Sampled								0.00
	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Not Sampled								0.00
	02/02/06	Well Closed								0.00
	02/02/06	Well Closed								0.00
	04/25/07	Well Closed								0.00
	SSTL	5.00	5.00	5.00	15.00	5.00	5.00			0.00
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-18	10/01/02 & 12/19/02	5.00	7.00	5.00	139.00	**2,300.00**	24.00			2,480.00
	08/18/03	**370.00**	**9.90**	**6.00**	**180.00**	**520.00**	**40.00**			1,125.90
	11/19/03	**210.00**	**50.00**	**10.00**	110.00	**1,700.00**	**50.00**			2,130.00
	03/11/04	**170.00**	**25.00**	<5.0	54.00	**840.00**	**25.00**			1,114.00
	06/30/04	3.50	<2.0	<2.0	15.60	**4,420.00**	<2.0			4,439.10
	03/21/05	**121.00**	<50	<50	<150	**1,970.00**	<100			2,091.00
	10/14/05	<1.0	<1.0	<1.0	<3.0	**3,270.00**	<2.0			3,270.00
	02/02/06	<50	<50	<50	<150	<50	<100			0.00
	04/25/06	<50	<50	<50	<150	**4,160.00**	<50			4,160.00
	07/17/06	<50	<50	<50	<150	**4,480.00**	<100			4,480.00
	10/117/06	<50	<50	<50	<150	**4,930.00**	<100			4,930.00
	01/15/07	<50	<50	<50	<150	**4,890.00**	<100			4,890.00
	04/25/07	<50	<50	<50	<150	**3,060.00**	<100			3,060.00
	SSTL	5.00	7.00	5.00	139.00	43.00	24.00			
	> SSTL	0.00	0.00	0.00	0.00	3,017.00	0.00			
MW-19	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-20	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Gauge Only								0.00
	04/25/07	Gauge Only								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-21	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-22	06/30/04	<1.0	<2.0	<2.0	<6.0	<2.0	<2.0			0.00
	03/21/05	<1.0	<1.0	<1.0	<3.0	<1.0	<2.0			0.00
	10/14/05	Well Closed								0.00
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			
MW-23	02/02/06	76.40	2.60	<1.0	3.00	244.00	<2.0			326.00
	04/25/06	Not Located								0.00
	07/17/06	1.50	<1.0	<1.0	<3.0	209.00	<2.0			210.50

Table 2

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Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
	10/17/06	Not Located								
	04/25/07	4.70	<1.0	<1.0	<3.0	253.00	<2.0			257.70
	SSTL	NE	NE	NE	NE	NE	NE			
	> SSTL	0.00	0.00	0.00	0.00	0.00	0.00			

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Circle Stop-N-Shop
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Leesville, Saluda County, South Carolina
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Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass
MW-24*	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	32.00	<5.0			32.00
	08/18/03	4.80	<5.0	<1.0	<3.0	**70.00**	<5.0			74.80
	11/19/03	**34.00**	<5.0	<1.0	5.60	**82.00**	<5.0			121.60
	03/11/04	**30.00**	<5.0	<1.0	<3.0	**54.00**	<5.0			84.00
	06/30/04	**63.40**	<2.0	<2.0	10.20	**186.00**	1.20			260.80
	03/21/05	**154.00**	<5.0	<5.0	**15.60**	**233.00**	<10			402.60
	10/14/05	<1.0	<1.0	<1.0	<3.0	**211.00**	**19.00**			230.00
	02/02/06	Not Located								0.00
	04/25/06	<5.0	<5.0	<5.0	<15	**170.00**	**60.50**			230.50
	07/17/06	Not Located								0.00
	10/17/06	6.20	<5.0	<1.0	<3.0	**198.00**	<5.0			204.20
	01/15/07	9.30	<1.0	<1.0	<3.0	**191.00**	<2.0			200.30
	04/25/07	Not Located								0.00
	SSTL	5.00	5.00	5.00	15.00	32.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	138.00	55.50			
MW-25	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	9.00	<5.0			9.00
	08/18/03	**170.00**	<5.0	1.40	**110.00**	**140.00**	**42.00**			463.40
	11/19/03	**42.00**	<5.0	<1.0	**47.00**	**44.00**	**6.00**			139.00
	03/11/04	**82.00**	**7.60**	2.90	**120.00**	**62.00**	**11.00**			285.50
	06/30/04	**147.00**	4.50	0.52	**113.00**	**304.00**	**15.30**			584.32
	03/21/05	**82.20**	<5.0	<5.0	**17.10**	**275.00**	<10			374.30
	10/14/05	**32.60**	<5.0	<5.0	<15	**254.00**	**99.90**			386.50
	02/02/06	**15.80**	<1.0	<1.0	<3.0	**366.00**	**12.00**			393.80
	04/25/06	Not Located								0.00
	07/17/06	<1.0	>1.0	<1.0	<3.0	**185.00**	<2.0			185.00
	10/17/06	<1.0	>1.0	<1.0	<3.0	**147.00**	<2.0			147.00
	01/15/07	<1.0	>1.0	<1.0	<3.0	<1.0	<2.0			0.00
	04/25/07	<1.0	3.90	<1.0	4.00	**19.50**	<2.0			27.40
	SSTL	5.00	5.00	5.00	15.00	9.00	5.00			
	> SSTL	0.00	0.00	0.00	0.00	10.50	0.00			
MW-26	10/01/02 & 12/19/02	<5.0	<5.0	<5.0	<15	110.00	<5.0			110.00
	08/18/03	**150.00**	**620.00**	**160.00**	**830.00**	**930.00**	**250.00**			2,940.00
	11/19/03	<1.0	<5.0	<1.0	<3.0	**59.00**	<5.0			59.00
	03/11/04	<1.0	<5.0	<1.0	<3.0	3.10	<5.0			3.10
	06/30/04	1.20	**7.50**	0.69	5.50	**208.00**	<2.0			222.89
	03/21/05	<2.0	<2.0	<2.0	<6.0	**80.90**	<4.0			80.90
	10/14/05	1.60	**5.60**	<1.0	3.50	**73.10**	<2.0			83.80
	02/02/06	1.30	**5.50**	<1.0	6.10	38.80	<2.0			51.70
	04/25/06	1.10	4.80	<1.0	4.70	**77.70**	**7.50**			95.80
	07/17/06	1.00	4.20	<1.0	4.20	**78.80**	<2.0			88.20
	10/17/06	1.10	6.00	<1.0	5.20	**93.70**	<2.0			106.00
	01/15/07	1.20	6.30	<1.0	4.30	**33.90**	<2.0			45.70
	04/25/07	1.10	**5.80**	<1.0	6.40	**53.20**	<2.0			66.50
	SSTL	5.00	5.00	5.00	15.00	43.00	5.00			
	> SSTL	0.00	0.80	0.00	0.00	10.20	0.00			
TOTAL MASS										116,625.40
TOTAL SSTL MASS		685	112,970	14,980	63,751	402	234		193,022	
INITIAL MASS ABOVE SSTL									6,295,759	
CURRENT MASS ABOVE SSTL									47,990.70	
PERCENT TOTAL MASS REDUCTION ABOVE SSTL									99.24	

Table 2

Historical Groundwater Analytical Results
Circle Stop-N-Shop
3287 Columbia Highway
Leesville, Saluda County, South Carolina
UST Permit Number: 05981
SEI Project Number: 303064

Well	Date	Benzene	Toluene	Ethylbenzene	Xylenes	MTBE	Naphthalene	FP	Initial Mass	Current Mass

- Reported in parts per billion (µg/l)
- SSTL: Site Specific Target Level
- NE = Not Established
- **Bold** denotes concentrations over respective SSTL & RBSL

- * = SSTL Data for Concentration Reduction Calculation for Monitoring WellS MW-1
04/26/06 Sampling Date Due to Inability to Locate Said Monitoring Wells During Current Sampling Event.

APPENDIX C
Field Data Information Sheets for Groundwater Sampling

Leesville, SC

Near Columbia & Newberry

SEI Environmental

SC Monitoring Well Gauging Data Sheet

Site Name: Circle Stop N Shop WO# 303064

Date 4.25.07

Well ID	Total Depth (feet)	Well Dia. (in.)	Depth to Product (feet)	Product Thickness (feet)	Depth to Water (feet)	Notes TIME
MW-1	49	2			25.95	1235
MW-2	40	2			23.83	1225
MW-3	40	2			23.43	1230
MW-4	40	2			28.16	1305
MW-5	45	2			22.90	Gauge only
MW-6	40	2			21.14	Gauge only Semi-annual (Apr/Oct)
MW-7	34	2	23.70		23.74	1245
MW-8	40	2			NL	Gauge only Semi-annual (Apr/Oct)
MW-9R	67	2			37.09	Gauge only Semi-annual (Apr/Oct)
MW-10R					45.41	1215
MW-11	40	2			25.55	Gauge only
MW-12	40	2			22.55	Gauge only
MW-13	62	2			28.62	1315
MW-14	40	2			20.61	1250
MW-15	35	2			21.67	1055
MW-16	35	2			23.60	1114
MW-17	37	2		Closed Facility		Gauge only
MW-18	102	2			29.23	1310
MW-19	37	2			17.06	Gauge only
MW-20	40	2			18.14	Gauge only
MW-21	41	2		Closed Facility		Gauge only
MW-22	46	2		Closed Facility		Gauge only
MW-23	70	2			24.00	1220
MW-24	70	2			NL	CNF
MW-25	65	2			26.42	1240
MW-26	100+	2			TOO DEEP	1300

Analysis: **EPA Method 8260B for BTEX, MTBE, and Naphthalene**

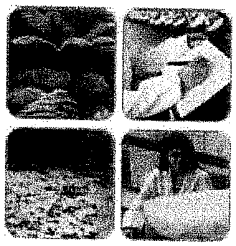
2-inch diameter well: Well Volume = (water column) x (0.163 gallon/foot)
4-inch diameter well: Well Volume = (water column) x (0.652 gallon/foot)
Purge amount = Well Volume x 3

APPENDIX D
Laboratory Analytical Results and Chain-of-Custody

Southeast ACCUTEST Laboratories

IT'S ALL IN THE CHEMISTRY

05/08/07



Technical Report for

SEI-Columbia, SC

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC

303064

Accutest Job Number: F49086

Sampling Date: 04/25/07

Report to:

SEI Environmental-Raleigh

cboggs@sei-environmental.com

ATTN: Chris Boggs

Total number of pages in report: 23

ACCUTEST LABORATORIES 50 YEARS 1956-2006

ACCREDITED IN ACCORDANCE WITH nelac

Test results contained within this data package meet the requirements of the National Environmental Laboratory Accreditation Conference and/or state specific certification programs as applicable.

Harry Behzadi, Ph.D.
Laboratory Director

Certifications: FL (DOH E83510), NC (573), NJ (FL002), MA (FL946), IA (366), LA (03051), KS (E-10327), SC, AK

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Sample Summary

SEI-Columbia, SC

Job No: F49086

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F49086-1	04/25/07	10:55	RRZS	04/27/07	AQ	Ground Water	MW-15
F49086-2	04/25/07	11:14	RRZS	04/27/07	AQ	Ground Water	MW-16
F49086-3	04/25/07	12:15	RRZS	04/27/07	AQ	Ground Water	MW-10R
F49086-4	04/25/07	12:20	RRZS	04/27/07	AQ	Ground Water	MW-23
F49086-5	04/25/07	12:25	RRZS	04/27/07	AQ	Ground Water	MW-2
F49086-6	04/25/07	12:30	RRZS	04/27/07	AQ	Ground Water	MW-3
F49086-7	04/25/07	12:35	RRZS	04/27/07	AQ	Ground Water	MW-1
F49086-8	04/25/07	12:40	RRZS	04/27/07	AQ	Ground Water	MW-25
F49086-9	04/25/07	12:45	RRZS	04/27/07	AQ	Ground Water	MW-7
F49086-10	04/25/07	12:50	RRZS	04/27/07	AQ	Ground Water	MW-14
F49086-11	04/25/07	13:00	RRZS	04/27/07	AQ	Ground Water	MW-26
F49086-12	04/25/07	13:05	RRZS	04/27/07	AQ	Ground Water	MW-4
F49086-13	04/25/07	13:10	RRZS	04/27/07	AQ	Ground Water	MW-18

Sample Summary
(continued)

SEI-Columbia, SC

Job No: F49086

Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC
Project No: 303064

Sample Number	Collected Date	Time	By	Received	Matrix Code	Type	Client Sample ID
F49086-14	04/25/07	13:15	RRZS	04/27/07	AQ	Ground Water	MW-13

Sample Results

Report of Analysis

Report of Analysis

Client Sample ID:	MW-15		
Lab Sample ID:	F49086-1	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045512.D	1	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	111%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	107%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-16		
Lab Sample ID:	F49086-2		
Matrix:	AQ - Ground Water	Date Sampled:	04/25/07
Method:	SW846 8260B	Date Received:	04/27/07
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC	Percent Solids:	n/a

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045513.D	1	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	111%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	106%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

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Report of Analysis

Client Sample ID:	MW-10R		
Lab Sample ID:	F49086-3	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045514.D	1	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	63.5	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	1.9	1.0	ug/l	
1330-20-7	Xylene (total)	21.7	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	26.1	1.0	ug/l	
91-20-3	Naphthalene	7.4	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	102%		87-116%
17060-07-0	1,2-Dichloroethane-D4	110%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	102%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-23		
Lab Sample ID:	F49086-4	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045515.D	1	05/01/07	KW	n/a	n/a	VB1928
Run #2	B045652.D	5	05/02/07	KW	n/a	n/a	VB1929

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	4.7	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	253 [a]	5.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	103%	109%	87-116%
17060-07-0	1,2-Dichloroethane-D4	111%	117%	76-127%
2037-26-5	Toluene-D8	100%	102%	86-112%
460-00-4	4-Bromofluorobenzene	103%	108%	84-120%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-2		
Lab Sample ID:	F49086-5	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045519.D	500	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	13900	500	ug/l	
108-88-3	Toluene	33700	500	ug/l	
100-41-4	Ethylbenzene	2310	500	ug/l	
1330-20-7	Xylene (total)	14200	1500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5650	500	ug/l	
91-20-3	Naphthalene	ND	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	113%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	103%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

ACCUTEST F49086

Report of Analysis

Client Sample ID:	MW-3		
Lab Sample ID:	F49086-6	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045520.D	1	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	105%		87-116%
17060-07-0	1,2-Dichloroethane-D4	115%		76-127%
2037-26-5	Toluene-D8	99%		86-112%
460-00-4	4-Bromofluorobenzene	104%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-1		
Lab Sample ID:	F49086-7	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045653.D	20	05/02/07	KW	n/a	n/a	VB1929
Run #2	C0047928.D	100	05/03/07	KW	n/a	n/a	VC1939

	Purge Volume
Run #1	5.0 ml
Run #2	5.0 ml

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	954	20	ug/l	
108-88-3	Toluene	5730 [a]	100	ug/l	
100-41-4	Ethylbenzene	3350 [a]	100	ug/l	
1330-20-7	Xylene (total)	17700 [a]	300	ug/l	
1634-04-4	Methyl Tert Butyl Ether	1200	20	ug/l	
91-20-3	Naphthalene	691	40	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	108%	94%	87-116%
17060-07-0	1,2-Dichloroethane-D4	120%	104%	76-127%
2037-26-5	Toluene-D8	97%	108%	86-112%
460-00-4	4-Bromofluorobenzene	98%	105%	84-120%

(a) Result is from Run# 2

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Report of Analysis

Client Sample ID:	MW-25		
Lab Sample ID:	F49086-8	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045654.D	1	05/02/07	KW	n/a	n/a	VB1929
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	1.0	ug/l	
108-88-3	Toluene	3.9	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	4.0	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	19.5	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		87-116%
17060-07-0	1,2-Dichloroethane-D4	121%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	105%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-7		
Lab Sample ID:	F49086-9	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045655.D	100	05/02/07	KW	n/a	n/a	VB1929
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1760	100	ug/l	
108-88-3	Toluene	5510	100	ug/l	
100-41-4	Ethylbenzene	960	100	ug/l	
1330-20-7	Xylene (total)	5170	300	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	100	ug/l	
91-20-3	Naphthalene	233	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	109%		87-116%
17060-07-0	1,2-Dichloroethane-D4	120%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	100%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-14		
Lab Sample ID:	F49086-10	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045656.D	1	05/02/07	KW	n/a	n/a	VB1929
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	2.7	1.0	ug/l	
108-88-3	Toluene	ND	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	ND	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		87-116%
17060-07-0	1,2-Dichloroethane-D4	120%		76-127%
2037-26-5	Toluene-D8	102%		86-112%
460-00-4	4-Bromofluorobenzene	108%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-26		
Lab Sample ID:	F49086-11	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045525.D	1	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1.1	1.0	ug/l	
108-88-3	Toluene	5.8	1.0	ug/l	
100-41-4	Ethylbenzene	ND	1.0	ug/l	
1330-20-7	Xylene (total)	6.4	3.0	ug/l	
1634-04-4	Methyl Tert Butyl Ether	53.2	1.0	ug/l	
91-20-3	Naphthalene	ND	2.0	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	107%		87-116%
17060-07-0	1,2-Dichloroethane-D4	119%		76-127%
2037-26-5	Toluene-D8	98%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-4		
Lab Sample ID:	F49086-12	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045526.D	500	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	1240	500	ug/l	
108-88-3	Toluene	17200	500	ug/l	
100-41-4	Ethylbenzene	2970	500	ug/l	
1330-20-7	Xylene (total)	17000	1500	ug/l	
1634-04-4	Methyl Tert Butyl Ether	ND	500	ug/l	
91-20-3	Naphthalene	ND	1000	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		87-116%
17060-07-0	1,2-Dichloroethane-D4	115%		76-127%
2037-26-5	Toluene-D8	97%		86-112%
460-00-4	4-Bromofluorobenzene	101%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-18		
Lab Sample ID:	F49086-13	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	B045527.D	50	05/01/07	KW	n/a	n/a	VB1928
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	ND	50	ug/l	
108-88-3	Toluene	ND	50	ug/l	
100-41-4	Ethylbenzene	ND	50	ug/l	
1330-20-7	Xylene (total)	ND	150	ug/l	
1634-04-4	Methyl Tert Butyl Ether	3060	50	ug/l	
91-20-3	Naphthalene	ND	100	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	106%		87-116%
17060-07-0	1,2-Dichloroethane-D4	113%		76-127%
2037-26-5	Toluene-D8	101%		86-112%
460-00-4	4-Bromofluorobenzene	105%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Accutest LabLink@63005 11:41 08-May-2007

Report of Analysis

Client Sample ID:	MW-13		
Lab Sample ID:	F49086-14	Date Sampled:	04/25/07
Matrix:	AQ - Ground Water	Date Received:	04/27/07
Method:	SW846 8260B	Percent Solids:	n/a
Project:	Circle Stop N Shop; 3287 Columbia Hwy, Leesville, SC		

	File ID	DF	Analyzed	By	Prep Date	Prep Batch	Analytical Batch
Run #1	C0047937.D	100	05/03/07	KW	n/a	n/a	VC1939
Run #2							

	Purge Volume
Run #1	5.0 ml
Run #2	

Purgeable Aromatics, MTBE, Naphthalene

CAS No.	Compound	Result	RL	Units	Q
71-43-2	Benzene	120	100	ug/l	
108-88-3	Toluene	193	100	ug/l	
100-41-4	Ethylbenzene	ND	100	ug/l	
1330-20-7	Xylene (total)	ND	300	ug/l	
1634-04-4	Methyl Tert Butyl Ether	5780	100	ug/l	
91-20-3	Naphthalene	ND	200	ug/l	

CAS No.	Surrogate Recoveries	Run# 1	Run# 2	Limits
1868-53-7	Dibromofluoromethane	93%		87-116%
17060-07-0	1,2-Dichloroethane-D4	106%		76-127%
2037-26-5	Toluene-D8	109%		86-112%
460-00-4	4-Bromofluorobenzene	110%		84-120%

ND = Not detected
RL = Reporting Limit
E = Indicates value exceeds calibration range

J = Indicates an estimated value
B = Indicates analyte found in associated method blank
N = Indicates presumptive evidence of a compound

Misc. Forms

Custody Documents and Other Forms

Includes the following where applicable:

- Chain of Custody

ACCUTEST Laboratories

21533

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F49086
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI ENVIRONMENTAL
ADDRESS: 5100 REGENCY DR SUITE 5
CITY, STATE, ZIP: CHARLOTTE N.C.
SEND REPORT TO:
PHONE #: 704-596-8624

FACILITY INFORMATION

PROJECT NAME: CIRCLE STOP + SHOP
LOCATION: 3287 COLUMBIA HWY LEESVILLE SC.
PROJECT NO.:
FAX #: 704-596-8605

ANALYTICAL INFORMATION

8260 B BTEX MTBE

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NONE	NaOH	NONE	HNO3	NONE	8260 B BTEX MTBE	LAB USE ONLY
1	MW-15	4/25	1055	RR-25	GW	3	3						X	
2	MW-16		1114											
3	MW-10R		1215											
4	MW-23		1220											
5	MW-2		1225											
6	MW-3		1230											
7	MW-1		1235											
8	MW-25		1240											
9	MW-7		1245											
10	MW-14		1250											
11	MW-26		1300											

DATA TURNAROUND INFORMATION

☒ STANDARD
☐ 48 HOUR RUSH
☐ 24 HOUR EMERGENCY
☐ OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

☐ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESSION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. RR	4/26 1500	1. FX	2. FX	4-27-07	2. J. Copple 09:00
3.		3.	4.		4.
5.		5.			

SEAL # | PRESERVE WHERE APPLICABLE ☐ | ON ICE ☐ | TEMPERATURE 1.2 C

F49086: Chain of Custody
Page 1 of 3

ACCUTEST Laboratories

CHAIN OF CUSTODY

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST JOB #: F49086
ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI Environmental
ADDRESS: 5100 Beacon Dr. Suite 5
CITY, STATE, ZIP: Charlotte NC
SEND REPORT TO:
PHONE #: 704-596-8624

FACILITY INFORMATION

PROJECT NAME: Circle Stop + Shop
LOCATION: 3287 Columbia Hwy Leesville SC.
PROJECT NO.:
FAX #: 704-596-8605

ANALYTICAL INFORMATION

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION ICE	HNO3	H2SO4	NaOH	NONE	8260 & BTEX MTBE	LAB USE ONLY
12	MW-4	4/25	1305	RR-ZS	GW	3	3					X	
13	MW-18	↓	1310	↓	↓	↓	↓					↓	
14	MW-13	↓	1315	↓	↓	↓	↓					↓	

DATA TURNAROUND INFORMATION

☑ STANDARD
☐ 48 HOUR RUSH
☐ 24 HOUR EMERGENCY
☐ OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

☐ STANDARD
☐ COMMERCIAL "B"
☐ DISK DELIVERABLE
☐ STATE FORMS
☐ OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. RR	4/26 1500	1. FX	2. FX	4-27-07	2. J. Cowell 09:30
3.		3.	4.		4.
5.		5.			

SEAL # | PRESERVE WHERE APPLICABLE ☐ | ON ICE ☐ | TEMPERATURE 1.2 C

F49086: Chain of Custody
Page 2 of 3

ACCUTEST LABORATORIES SAMPLE RECEIPT CONFIRMATION

ACCUTEST'S JOB NUMBER: F49086 CLIENT: SEI PROJECT: CIRCLE STOP + SHOP

DATE/TIME RECEIVED: 4-27-07 09:00 # OF COOLERS RECEIVED: 1 COOLER TEMPS: 1.2

METHOD OF DELIVERY: (FEDEX) UPS ACCUTEST COURIER GREYHOUND DELIVERY OTHER

AIRBILL NUMBERS: 8536 3067 9737

COOLER INFORMATION

- [ ] CUSTODY SEAL NOT PRESENT OR NOT INTACT
- [ ] CHAIN OF CUSTODY NOT RECEIVED (COC)
- [ ] ANALYSIS REQUESTED IS UNCLEAR OR MISSING
- [ ] SAMPLE DATES OR TIMES UNCLEAR OR MISSING
- [ ] TEMPERATURE CRITERIA NOT MET

TRIP BLANK INFORMATION

- [x] TRIP BLANK PROVIDED
- [ ] TRIP BLANK NOT PROVIDED
- [x] TRIP BLANK NOT ON COC
- [x] TRIP BLANK INTACT
- [ ] TRIP BLANK NOT INTACT
- [x] RECEIVED WATER TRIP BLANK
- [ ] RECEIVED SOIL TRIP BLANK

SAMPLE INFORMATION

- [ ] SAMPLE LABELS NOT PRESENT ON ALL BOTTLES
- [ ] CORRECT NUMBER OF CONTAINERS USED
- [ ] SAMPLE RECEIVED IMPROPERLY PRESERVED
- [ ] INSUFFICIENT VOLUME FOR ANALYSIS
- [ ] TIMES ON COC DOES NOT MATCH LABEL(S)
- [ ] ID'S ON COC DOES NOT MATCH LABEL(S)
- [ ] VOC VIALS HAVE HEADSPACE (MACRO BUBBLES)
- [ ] BOTTLES RECEIVED BUT ANALYSIS NOT REQUESTED
- [ ] NO BOTTLES RECEIVED FOR ANALYSIS REQUESTED
- [ ] UNCLEAR FILTERING INSTRUCTIONS
- [ ] UNCLEAR COMPOSITING INSTRUCTIONS
- [ ] SAMPLE CONTAINER(S) RECEIVED BROKEN
- [ ] % SOLIDS JAR NOT RECEIVED
- [ ] 5035 FIELD KIT NOT FROZEN WITHIN 48 HOUR'S
- [ ] RESIDUAL CHLORINE PRESENT

(APPLICABLE TO EPA 600 SERIES OR NORTH CAROLINA ORGANICS)

MISC. INFORMATION

NUMBER OF ENCORES ? Ø

NUMBER OF 5035 FIELD KITS ? Ø

NUMBER OR LAB FILTERED METALS ? Ø

SUMMARY OF COMMENTS:

TECHNICIAN SIGNATURE/DATE JC 4-27-07 TECHNICIAN SIGNATURE/DATE ASBD 10/03/06

F49086: Chain of Custody
Page 3 of 3

CHAIN OF CUSTODY

ACCUTEST Laboratories

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST [illegible] #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI ENVIRONMENTAL
ADDRESS: 5100 REACAN DR SUITE 5
CITY, STATE, ZIP: CHARLOTTE N.C.
SEND REPORT TO:
PHONE #: 704-596-8624

FACILITY INFORMATION

PROJECT NAME: CIRCLE STOP + SHOP 3287 COLUMBIA HWY
LOCATION: LEESVILLE SC
PROJECT NO.:
FAX #: 704-596-8605

ANALYTICAL INFORMATION

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	8260 B BTEX NAPHTHALENE	LAB USE ONLY
	MW-15	4/25	1055	RR-ZS	GW	3	3					X	
	MW-16	↓	1114	↓	↓	↓	↓					↓	
	MW-10R		1215										
	MW-23		1220										
	MW-2		1225										
	MW-3		1230										
	MW-1		1235										
	MW-25		1240										
	MW-7		1245										
	MW-14		1250										
	MW-26	↓	1300	↓	↓	↓	↓					↓	

DATA TURNAROUND INFORMATION

- [x] STANDARD
- [ ] 48 HOUR RUSH
- [ ] 24 HOUR EMERGENCY
- [ ] OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] STANDARD
- [ ] COMMERCIAL "B"
- [ ] DISK DELIVERABLE
- [ ] STATE FORMS
- [ ] OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. RR	4/26 1500	1.	2.		2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE ____ C

CHAIN OF CUSTODY

ACCUTEST Laboratories

4405 VINELAND ROAD • SUITE C-15
ORLANDO, FL 32811
TEL: 407-425-6700 • FAX: 407-425-0707

ACCUTEST #:

ACCUTEST QUOTE #:

CLIENT INFORMATION

NAME: SEI ENVIRONMENTAL
ADDRESS: 5100 BEAU-AN DR. SUITE 5
CITY, STATE, ZIP: CHARLOTTE NC.
SEND REPORT TO:
PHONE #: 704-596-8624

FACILITY INFORMATION

PROJECT NAME: CIRCLE STOP + SHOP
LOCATION: 3287 COLUMBIA HWY LEESVILLE SC
PROJECT NO.:
FAX #: 704-596-8605

ANALYTICAL INFORMATION

8260 6 BTEX MTBE

ACCUTEST SAMPLE #	FIELD ID / POINT OF COLLECTION	COLLECTION DATE	COLLECTION TIME	SAMPLED BY:	MATRIX	# OF BOTTLES	PRESERVATION HCl	NaOH	HNO3	H2SO4	NONE	8260 6 BTEX MTBE	LAB USE ONLY
	MW-4	4/25	1305	RR-ZS	GW	3	3					X	
	MW-18	↓	1310	↓	↓	↓	↓					↓	
	MW-13	↓	1315	↓	↓	↓	↓					↓	

MATRIX CODES

DW - DRINKING WATER
GW - GROUND WATER
WW - WASTE WATER
SO - SOIL
SL - SLUDGE
OI - OIL
LIQ - OTHER LIQUID
SOL - OTHER SOLID

DATA TURNAROUND INFORMATION

- [x] STANDARD
- [ ] 48 HOUR RUSH
- [ ] 24 HOUR EMERGENCY
- [ ] OTHER

APPROVED BY:

EMERGENCY OR RUSH IS FAX DATA UNLESS PREVIOUSLY APPROVED

DATA DELIVERABLE INFORMATION

- [ ] STANDARD
- [ ] COMMERCIAL "B"
- [ ] DISK DELIVERABLE
- [ ] STATE FORMS
- [ ] OTHER (SPECIFY)

COMMENTS/REMARKS

SAMPLE CUSTODY MUST BE DOCUMENTED BELOW EACH TIME SAMPLES CHANGE POSSESION, INCLUDING COURIER DELIVERY

RELINQUISHED BY SAMPLER:	DATE TIME:	RECEIVED BY:	RELINQUISHED BY:	DATE TIME:	RECEIVED BY:
1. RR	4/26 1500	1.	2.		2.
RELINQUISHED BY: 3.	DATE TIME:	RECEIVED BY: 3.	RELINQUISHED BY: 4.	DATE TIME:	RECEIVED BY: 4.
RELINQUISHED BY: 5.	DATE TIME:	RECEIVED BY: 5.	SEAL #	PRESERVE WHERE APPLICABLE ☐	ON ICE ☐ TEMPERATURE C

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ORLANDO, FL 32811
(407)425-6700

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Date Received 1-15-15

Permit Number 05981

Project Manager Reed Miner

Name of Contractor MECI

UST Certification Number

Docket Number 100tech

Scanned

GWS / Chemical Analysis

REPORT OF GROUNDWATER SAMPLING AND CHEMICAL ANALYSES

Cirlce Stop N Shop
3287 Columbia Highway
Leesville, South Carolina
SCDHEC SITE ID 05981
CA # 48879

Prepared By:

Midlands
Environmental
Consultants, Inc.

231 Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

January 12, 2015

MECI Project No. 14-4962

Midlands
Environmental
Consultants, Inc.

January 12, 2015

Mr. Read S. Miner, P.G., 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: Report of Groundwater Sampling and Chemical Analyses
Circle Stop N Shop
3287 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID# 05981, CA # 48879
MECI Project Number 14-4962
Certified Site Rehabilitation Contractor UCC-0009

Dear Mr. Miner

On behalf of Ms. Gail Smith, Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling and Chemical Analyses 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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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:	Circle Stop N Shop	UST Permit #:	05981
Facility Address:	3287 Columbia Highway, Leesville, SC 29070		
Name:	Ms. Gail Smith		
Address:	143 Pioneer Drive, Leesville, SC 29070		
Telephone #:	(803) 532-4780		

B. **Property Owner Information**

Name	Louise Northey Clark
Tax Map #:	Saluda Co. Tax Map#: 190-30
Address	2920 Prosperity Highway, Leesville, SC 29070
Telephone #	(803) 532-6038

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:	N/A
Driller:	N/A
Certification #:	N/A
Address:	N/A
Telephone #:	N/A

E. **SCDHEC Certified Laboratory**

Name:	Pace Analytical Services, Inc.
Certification #:	99006001
Address:	9800 Kincey Ave., Suite 100, Huntersville, NC 28078
Telephone #:	(704) 875-9092

1.1 PROJECT INFORMATION

The subject site (Circle Stop N Shop) is located at 3287 Columbia Highway in Leesville, Saluda County, South Carolina (See Figure 1). The subject site previously maintained one 550 gallon kerosene underground storage tank (UST), one 1,000 gallon diesel UST, one 2,000 gasoline UST, two 3,000 gallon gasoline UST's, and one 8,000 multiple petroleum UST. The 550 gallon kerosene, 1,000 gallon diesel, and 2,000 gallon gasoline UST were abandoned by removal from ground in September of 1998. The two 3,000 gallon gasoline UST's were abandoned by removal ground in December of 1998. The 8,000 gallon multiple petroleum UST was abandoned by removal from ground in October of 2006. The South Carolina Department of Health and Environmental Control (SCDHEC) reported and confirmed a release of petroleum product in December of 1991. The subject site is currently rated a Class 2BB.

Previous assessment activities performed at the site included an Initial Groundwater Assessment (IGWA), Tier I Assessment, and Tier II Assessment. In April of 2000, Kleen Sites Geoservices, Inc. (KSG), completed an IGWA at the referenced site. This IGWA included the installation of one groundwater monitoring well along the northeastern corner of the onsite structure. Analytical data from the IGWA, concluded the presence of elevated chemicals of concern (CoC's) in the local surficial aquifer at the site. The Tier I Assessment by KSG was completed in September of 2000. This assessment included the collection of soil samples from areas surrounding the UST system, installation and sampling of three additional groundwater monitoring wells, and aquifer slug test. From April 2001 to March 2002, KSG performed an Tier II Assessment at the site. This assessment and subsequent addendums included field screening of soil and groundwater samples, installation of twenty-two additional monitoring wells, sampling/chemical analysis of monitoring wells and two nearby water supply wells, and aquifer slug test. Analytical results from the Tier I Assessment and Tier II Assessment, reported potential petroleum impact to two nearby by water supply wells (WSW-1 and WSW-2).

In April of 2003, SCDHEC awarded SEI Environmental, Inc. a contract to perform Active Corrective Action (ACA) activities at the referenced site to meet Site Specific Target Levels (SSTL's) of CoC's in the groundwater. ACA activities consisted of conducting mobile dual phase extraction system events (Multi-Array-Vacuum system (MAV)) and the injection of hydrogen peroxide into the subsurface to remove adsorbed phase hydrocarbons from the soil and dissolved free-phase hydrocarbons from the groundwater at the site. According to SCDHEC files, active corrective action efforts commenced in June of 2003, were terminated in October of 2009, and remedial goals were not met.

The above project information is based on MECI field notes and SCDHEC files.

2.0 SURROUNDING PROPERTY USAGE

The site is located outside the town limits of Leesville in Saluda County, South Carolina. The site is located at 3287 Columbia Highway (U.S. Highway 378) at a traffic circle separating S.C. Highway 391 and U.S. Highway 378. The site is currently vacant of any occupants in the structure which once operated as the Cirlce Stop N Shop. South of the site is another vacant structure, beyond which is Columbia Highway (U.S. Highway 378.). North of the site is a residential property, beyond which is Prosperity Highway (S.C. Highway 391. Wooded area are located along the western border of the property, beyond which are residential properties. The Saluda Traffic Circle forms the eastern boundary of the subject site, beyond which are generally commercial properties.

3.0 AREA GEOLOGY AND HYDROGEOLOGY

The mean elevation of the property, as depicted on the local USGS quadrangle (Delmar, SC), appears to be approximately 490 feet above sea level. The site is located in the Piedmont Physiographic Province of South Carolina, an area underlain by ancient igneous and metamorphic rocks. The soils in this province are generally residual soils that are underlain by rock at highly varying depths.

The soils encountered in this area are the product of in-place weathering of rocks similar to the rocks underlying the site. In areas not altered by erosion or disturbed by the activities of man, the typical residual soil profile consists of near surface clayey soils and underlying sandy silt and sand. The boundary between soil and rock is gradational. A transitional zone termed "weathered rock" is normally found overlying the parent bedrock. This zone is typically the most transmissive zone for groundwater movement. Consequently, the topography of the bedrock surface is uneven, even over

short horizontal distances. It is not unusual to find lenses and boulders of hard rock and zones of weathered rock within the soil mantle well above the general bedrock level.

Local precipitation is the source of practically all of the groundwater in Saluda County. A portion of the precipitation infiltrates into the ground and moves under the influence of gravity to the surficial aquifer. After the water has reached the surficial aquifer, the direction of movement is generally parallel to the hydraulic gradient. In the Piedmont Province, the slope of the surficial aquifer's surface under static conditions (no pumping interference) approximates the topography of an area. Thus, the movement of groundwater within the soil mantel is typically in the direction of the topographic slope. Local groundwater flow patterns may be affected by disturbed areas such as tank pits, utility trenches, building foundations, borings, wells, etc. Groundwater flow in fractured rock is often difficult to interpret due to the variability of fracture connectivity and orientation.

Locally, in the surficial aquifer, groundwater discharges into streams, lakes or springs where the groundwater table intersects lows occupied by these water bodies. The apparent direction (based on hydraulic gradient) of groundwater flow from the release is to the north, towards drainage features associated with the Spring Creek.

3.1 LOCAL SUBSURFACE CONDITIONS

Piedmont soils were encountered during previous assessment activities conducted at the site by KSG. The soils encountered in their borings during the Tier II Assessment(s) conducted from April 2001 to March 2002, generally consisted of brown and tan, fine-grained silt from the surface to approximately 42 feet below ground surface (BGS). According to this Tier II report and subsequent addendums, a gradual transition to less weathered saprolitic soils was noted below 42 feet BGS to approximately 62 feet BGS, where auger refusal was encountered during the installation of MW-13. From 62 feet to approximately 122 feet BGS, it was reported that coarse-grained quartz and feldspar granules became increasingly abundant in the saprolitic soils with depth. During construction of MW-26, it was documented that competent bedrock was encountered at approximately 122 feet BGS. It should be noted that air rotary techniques were necessary to complete monitoring wells MW-18 (TD: 102 feet) and MW-26 (TD: 147 Feet).

On December 19, 2014, stabilized groundwater levels were measured in the surrounding monitoring wells. Depth to groundwater ranged from 27.89 to 127.24 feet below the top of casing (TOC) in the wells measured. The groundwater measurements are summarized in tabular form in Table 2 and on Figure 5. A groundwater contour map illustrating the groundwater flow direction at the site is also depicted 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.

3.0 FIELD EXPLORATION

Field exploration conducted at the site included:

- sampling of groundwater monitoring wells;
- sampling of one nearby water supply well; and,

- chemical analyses of water samples.

4.1 MONITORING WELL SAMPLING AND CHEMICAL ANALYSES

On December 19, 2014, MECI personnel collected groundwater samples from twenty-two (22) monitoring wells at the subject site. Monitoring well MW-10R was gauged and determined to vacant of sufficient water for sampling purposes. Monitoring well MW-12, MW-16 and MW-23 were unable to be located during the initial site visit or during the referenced sampling event. Based on the request by SCHDEC, all monitoring wells were to be purged prior to sample collection; however monitoring well MW-7 did not contain sufficient water to adequately purge prior to sample collection. Twenty-one (21) monitoring wells were purged prior to sample collection.

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, January 2014). Groundwater samples obtained were sent to Pace Analytical Services (SCDHEC Certified Laboratory # 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/Sampled	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-2	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-7		X			X	X	X	X						
MW-8	X				X	X	X	X						
MW-9R	X				X	X	X	X						
MW-10R			X											
MW-11	X				X	X	X	X						
MW-12				X										
MW-13	X				X	X	X	X						
MW-14	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

**** = Indicates Field Duplicate**

Monitoring Well	Purge	No Purge	Gauge Only	Not Located/Sampled	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-15	X				X	X	X	X						
MW-16				X										
MW-17	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						
MW-22	X				X	X	X	X						
MW-23				X										
MW-24	X				X	X	X	X						
MW-25	X				X	X	X	X						
MW-26	X				X	X	X	X						
MW-1 Dup.**		X			X	X	X	X						
MW-2 Dup.**		X			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

**** = Indicates Field Duplicate**

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 140.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is presented in Appendix G.

4.2 WATER SUPPLY WELL SAMPLING

On December 19, 2014, MECI personnel collected samples from WSW-1. MECI attempted to sample WSW-2; however according to the maintenance personnel, the adjacent recycling center has been connected to a municipal water supply for approximately six years. WSW-1 is located 140' feet west of MW-2 and WSW-2 is located 375' feet east-northeast of MW-2.

The samples obtained from the water supply well WSW-1 was 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.

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 4.1, groundwater samples obtained from the monitoring wells during the December 19, 2014 comprehensive groundwater sampling event were analyzed for dissolved phase petroleum constituents. During sampling activities, monitoring wells MW-12, MW-16 and MW-23 were unable to be located. Monitoring well MW-10R was located; however this monitoring well was gauged dry and samples were unable to be collected. The analytical results indicate petroleum impact to the surficial aquifer, with the highest dissolved concentrations being detected in the area of MW-2 and MW-13. Of the twenty-two monitoring wells sampled, ten wells (MW-1, MW-2, MW-3, MW-4, MW-7, MW-13, MW-14, MW-18, MW-24 and MW-25) 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-2, MW-3, MW-4, MW-7, MW-13, MW-14, MW-18, MW-24 & MW-25
Toluene	1,000	MW-2, MW-4 & MW-7
Ethylbenzene	700	MW-2, MW-4 & MW-7
Total Xylenes	10,000	MW-2 & MW-4
Naphthalene	25	MW-1, MW-2, MW-4, MW-7, MW-13, MW-18 & MW-25
MTBE	40	MW-2, MW-13, MW-18, MW-24 & MW-25
1,2 DCA	5	MW-2, MW-18, MW-24 & MW-25
EDB	0.05	MW-2 & MW-7

In addition, the analytical results also detected petroleum constituents above the laboratory method detection limit or "J" values in monitoring wells MW-9R, MW-15 and MW-26; 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.

5.2 WATER SUPPLY WELL ANALYTICAL RESULTS

As discussed in section 4.2, water samples were obtained from WSW-1 during the December 19, 2014 groundwater sampling event. The samples obtained from the above mentioned water supply well was analyzed for petroleum constituents. The laboratory results from the samples obtained did not indicate petroleum impact and all petroleum compounds were below detection limits. The results of the analysis for the water supply well and specific parameters are listed on Table 3, Table 3A, and provided in the laboratory reports (Appendix B).

6.0 ASSESSMENT SUMMARY & RECOMMENDATIONS

Groundwater elevation data for the December 19, 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 from the release is to the north, toward drainage features associated with the Spring Creek.

During sampling activities, monitoring wells MW-12, MW-16 and MW-23 were unable to be located. Monitoring well MW-10R was located; however this monitoring well was gauged dry and samples were unable to be collected. The analytical results indicate petroleum impact to the surficial

aquifer, with the highest dissolved concentrations being detected in the area of MW-2 and MW-13. Of the twenty-two monitoring wells sampled, ten wells (MW-1, MW-2, MW-3, MW-4, MW-7, MW-13, MW-14, MW-18, MW-24 and MW-25) 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-2, MW-3, MW-4, MW-7, MW-13, MW-14, MW-18, MW-24 & MW-25
Toluene	1,000	MW-2, MW-4 & MW-7
Ethylbenzene	700	MW-2, MW-4 & MW-7
Total Xylenes	10,000	MW-2 & MW-4
Naphthalene	25	MW-1, MW-2, MW-4, MW-7, MW-13, MW-18 & MW-25
MTBE	40	MW-2, MW-13, MW-18, MW-24 & MW-25
1,2 DCA	5	MW-2, MW-18, MW-24 & MW-25
EDB	0.05	MW-2 & MW-7

In addition, the analytical results also detected petroleum constituents above the laboratory method detection limit or "J" values in monitoring wells MW-9R, MW-15 and MW-26; 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.

Figure 4 depicts graphically the concentrations of Total BTEX dissolved in the surficial aquifer at the site. Figure 4A depicts graphically the concentrations of Naphthalene dissolved in the surficial aquifer at the site. Figure 4B depicts graphically the concentrations of MTBE dissolved in the surficial aquifer at the site. Figure 4C presents the analytical results for the eight Oxygenates.

Since the August 2, 2013 groundwater sampling event, migration of the contaminant plume does not appear to have taken place downgradient and concentrations of concentrations chemicals of concern have generally remained constant. Based on the current analytical results, the contaminant plume does not appear to be defined horizontally or vertically. MECI recommends replacing monitoring wells MW-7, MW-10R, and installing several watertable bracketing wells west of MW-4 to define the extent of petroleum contamination in the "shallow" watertable bracketing zone. In addition, MECI recommends installing several "intermediate" and "deep" monitoring wells within the saprolitic aquifer. These proposed "intermediate" and "deep" monitoring wells should be installed west/south of MW-13 and northwest/east of MW-24/MW-25. Furthermore, review of the construction details of MW-26 reveals that the outer casing of MW-26 was not advanced into competent bedrock and was not advanced to a depth greater than the adjacent MW-18. These details are very concerning and could potentially indicate an improper seal within the rock interface, causing MTBE contamination to flow into the rock interface. Based on the construction details of MW-26, MECI recommends abandoning MW-26, and replacing this well with an outer casing that properly seals into the rock interface, prior to its advancement.

Following the proposed well installation, a comprehensive groundwater sampling event should be conducted to ensure the contaminant plume is defined. A new comprehensive survey should also be conducted to obtain accurate potentiometric data and to locate all relevant structures and receptors. Once the proposed steps have been accomplished, ACA activities should commence at the subject site to meet SSTL's determined by SCDHEC.

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 Ms. Gail Smith, 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.

-oOo-

TABLES

TABLE 2
DECEMBER 19, 2014 SAMPLING EVENT
POTENTIOMETRIC DATA
CIRCLE STOP N SHOP
LEESVILLE, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4962
SCDHEC SITE ID NUMBER 05981

Well Number	Date Sampled	Screened Interval	Depth to Water (feet)	Well-head Elevation	Groundwater Elevation
MW-1 (05981)	8/2/2013	29-49	34.46	99.59	65.13
	12/19/2014	-	34.43	99.59	65.16
MW-2 (05981)	8/2/2013	20-40	33.50	97.68	64.18
	12/19/2014	-	31.92	97.68	65.76
MW-3 (05981)	8/2/2013	20-40	32.75	99.53	66.78
	12/19/2014	-	33.41	99.53	66.12
MW-4 (05981)	8/2/2013	20-40	39.52	100.28	60.76
	12/19/2014	-	32.29	100.28	67.99
MW-5 (05981)	8/2/2013	25-45	NS	100.88	NS
	12/19/2014	-	33.03	100.88	67.85
MW-6 (05981)	8/2/2013	20-40	30.45	97.43	66.98
	12/19/2014	-	31.63	97.43	65.80
MW-7 (05981)	8/2/2013	15-35	DRY	97.26	DRY
	12/19/2014	-	33.27	97.26	63.99
MW-8 (05981)	8/2/2013	20-40	36.82	98.70	61.88
	12/19/2014	-	35.53	98.70	63.17
MW-9R (05981)	8/2/2013	57-67	48.73	UNK	UNK
	12/19/2014	-	46.32	UNK	UNK
MW-10R (05981)	8/2/2013	57-67	NL	UNK	NL
	12/19/2014	-	DRY	UNK	UNK
MW-11 (05981)	8/2/2013	20-40	33.71	100.47	66.76
	12/19/2014	-	33.89	100.47	66.58
MW-12 (05981)	8/2/2013	20-40	31.33	100.62	69.29
	12/19/2014	-	NL	100.62	NL
MW-13 (05981)	8/2/2013	57-62	38.49	100.22	61.73
	12/19/2014	-	37.35	100.22	62.87
MW-14 (05981)	8/2/2013	25-40	30.00	96.30	66.30
	12/19/2014	-	33.18	96.30	63.12
MW-15 (05981)	8/2/2013	25-35	31.60	94.59	62.99
	12/19/2014	-	31.31	94.59	63.28
MW-16 (05981)	8/2/2013	25-35	33.46	92.01	58.55
	12/19/2014	-	NL	92.01	NL
MW-17 (05981)	8/2/2013	22-37	27.85	91.65	63.80
	12/19/2014	-	31.84	91.65	59.81
MW-18 (05981)	8/2/2013	97-102	40.43	100.05	59.62
	12/19/2014	-	38.02	100.05	62.03
MW-19 (05981)	8/2/2013	22-37	25.64	94.32	68.68
	12/19/2014	-	27.89	94.32	66.43
MW-20 (05981)	8/2/2013	25-40	28.44	94.88	66.44
	12/19/2014	-	29.54	94.88	65.34
MW-21 (05981)	8/2/2013	TD: 41.20	25.36	84.61	59.25
	12/19/2014	-	32.12	84.61	52.49
MW-22 (05981)	8/2/2013	TD: 42.10	30.32	84.71	54.39
	12/19/2014	-	33.49	84.71	51.22
MW-23 (05981)	8/2/2013	30-45	NL	92.05	NL
	12/19/2014	-	NL	92.05	NL
MW-24 (05981)	8/2/2013	65-70	33.84	97.74	63.90
	12/19/2014	-	33.30	97.74	64.44
MW-25 (05981)	8/2/2013	60-65	35.91	99.63	63.72
	12/19/2014	-	35.01	99.63	64.62
MW-26 (05981)	8/2/2013	140-145	126.37	100.22	-26.15
	12/19/2014	-	127.24	100.22	-27.02

Notes:

1. Elevations based on assumed site datum.
2. Groundwater depths were measured from the top of the PVC riser pipe.
3. Groundwater levels measured on 12/19/2014.
4. NL = Not Located
5. NS = Not Sampled, Well was located underneath standing water.
6. UNK = Unknown

TABLE 3
PAGE 1 OF 2
GROUNDWATER COC CONCENTRATION DATA
DECEMBER 19, 2014 SAMPLING EVENT
CIRCLE STOP N SHOP
LEESVILLE, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4962
SCDHEC ID NUMBER 05981

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(05981)	9/16/10	304	1,380	1,800	9,290	12,774	409	352	<250	<0.019
	8/2/13	65J	490	930	5,300	6,785J	330	40J	<250	<0.019
	12/19/14	15.4	202	489	2,490	3,196.4	166	<5.0	<5.0	<0.020
MW-2(05981)	9/16/10	17,700	42,900	2,790	17,100	80,490	<1,250	8,400	990J	127
	8/2/13	18,000	37,000	3,700	19,000	77,700	480J	5,500	1,000	73
	12/19/14	20,900	44,800	3,000	18,200	86,900	481	9,620	751	82.4
MW-3(05981)	9/16/10	67.4	18.7	3.9J	11.0	101.0J	<5.0	<5.0	<5.0	<0.020
	8/2/13	80	<5.0	<5.0	3.6J	83.6J	<5.0	<5.0	2.1J	<0.020
	12/19/14	62.6	4.7J	2.8J	<10.0	70.1J	<5.0	<5.0	<5.0	0.040
MW-4(05981)	9/16/10	237J	17,100	3,750	20,300	41,387J	432J	<500	<500	0.11
	8/2/13	380J	22,000	3,900	24,000	50,280J	490J	<500	<500	<0.020
	12/19/14	310	17,400	3,270	22,900	43,880	552	<125	<125	<0.020
MW-5(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
	8/2/13	Covered	Covered	Covered	Covered	Covered	Covered	Covered	Covered	Covered
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-6(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-7(05981)	9/16/10	16.7	75.6	14.8	66.4	173.5	4.4J	<5.0	<5.0	5.8
	8/2/13	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	12/19/14	413	1,170	1,120	4,010	6,713	311	<50.0	<50.0	0.057
MW-8(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.019
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	2.3J	<5.0	<0.020
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	2.9J	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	4.6J	<5.0	<0.019
MW-10R(05981)	9/16/10	17.2	<5.0	<5.0	21.9	39.1	<5.0	43.3	<5.0	<0.018
	8/2/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	12/19/14	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-11(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.019
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-12(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.019
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-13(05981)	9/16/10	10,900	13,500	3,170	10,500	38,070	<2,500	51,600	<2,500	0.95
	8/2/13	8,300	370J	2,900	6,000	11,570J	520	44,000	<500	0.27
	12/19/14	3,480	<25.0	353	1,470	5,303	143	44,200	<25.0	<0.020
MW-14(05981)	9/16/10	102	2.6J	1.1J	6.8J	112.5J	<5.0	<5.0	<5.0	<0.020
	8/2/13	330	230J	130J	210J	900J	<250	<250	<250	<0.019
	12/19/14	271	19.5	73.9	63.7	428.1	<5.0	<5.0	<5.0	<0.021
MW-15(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	2.0J	<5.0	<0.020
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	1.4J	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	5.8	<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. EDB = 1,2 Dibromoethane
6. NL = Not Located
7. NT = Not Tested
8. Dry = Well Dry at the time of Sampling
9. Covered = Well Submerged in Puddle
10. NS = Not Sampled
11. "J" Values included in Total BTEX Calculations.
12. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).

TABLE 3
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GROUNDWATER COC CONCENTRATION DATA
DECEMBER 19, 2014 SAMPLING EVENT
CIRCLE STOP N SHOP
LEESVILLE, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4962
SCDHEC ID NUMBER 05981

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-16(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-17(05981)	9/16/10	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18(05981)	9/16/10	**115**	<5.0	<5.0	**65.6**	**180.6**	**11.7**	**3,940**	**7.7**	<0.019
	8/2/13	**110**	<50	<50	**38J**	**148J**	**43J**	**11,000**	**15J**	<0.019
	12/19/14	**233J**	<5.0	<5.0	**61.6**	**294.6J**	**29.9**	**11,700**	**15.9**	<0.020
MW-19(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.019
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-21(05981)	9/16/10	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22(05981)	9/16/10	NS	NS	NS	NS	NS	NS	NS	NS	NS
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-23(05981)	9/16/10	NL	NL	NL	NL	NL	NL	NL	NL	NL
	8/2/13	NL	NL	NL	NL	NL	NL	NL	NL	NL
	12/19/14	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-24(05981)	9/16/10	**141**	<25.0	<25.0	**18.2J**	**159.2J**	<25.0	**710**	**34.1**	**0.057**
	8/2/13	**42**	<5.0	<5.0	<5.0	**42**	**2.7J**	**1,100**	**23**	<0.020
	12/19/14	**155**	<5.0	<5.0	**14.1**	**169.1**	<5.0	**1,620**	**29.0**	<0.020
MW-25(05981)	9/16/10	**120**	<25.0	<25.0	**43.7J**	**163.7J**	**20.0J**	**1,140**	**14.2J**	<0.019
	8/2/13	**130**	<100	<100	<100	**130**	**82J**	**1,000**	<100	<0.019
	12/19/14	**110**	<5.0	<5.0	**20.2**	**130.2**	**62.9**	**1,230**	**12.8**	<0.021
MW-26(05981)	9/16/10	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	**42.4**	<5.0	<0.020
	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	**54**	<5.0	<0.019
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	**20.6**	<5.0	<0.020
WSW-1(05981)	12/19/14	<1.0	<1.0	<1.0	<2.0	BDL	<1.0	<1.0	<1.0	<0.020
WSW-2(05981)	12/19/14	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 Duplicate	12/19/14	**16.9**	**204**	**476**	**2,460**	**3,157**	**168**	**8.5**	<5.0	<0.020
MW-2 Duplicate	8/2/13	**14,000**	**26,000**	**2,400**	**12,000**	**54,400**	**350J**	**5,300**	**870J**	**60**
	12/19/14	**21,900**	**47,200**	**2,960**	**18,100**	**90,160**	**460**	**10,700**	**720**	**87.1**
MW-3 Duplicate	8/2/13	**62**	<25	<25	<25	**62**	<25	<25	<25	<0.020
Field Blank	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020
	12/19/14	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
Trip Blank	8/2/13	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT
	12/19/14	<5.0	<5.0	<5.0	<10.0	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. EDB = 1,2 Dibromoethane
6. NL = Not Located
7. NT = Not Tested
8. Dry = Well Dry at the time of Sampling
9. Covered = Well Submerged in Puddle
10. NS = Not Sampled
11. "J" Values included in Total BTEX Calculations.
12. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).

TABLE 3A
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GROUNDWATER COC CONCENTRATION DATA (OXYGENATES)
DECEMBER 19, 2014SAMPLING EVENT
CIRCLE STOP N SHOP
LEESVILLE, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4962
SCDHEC SITE ID NUMBER 05981

Well Number	Sample Date	TAA (µg/l)	TAME (µg/l)	3,3-Dimethyl-1-butanol (µg/l)	TBA (µg/l)	TBF (µg/l)	DIPE (µg/l)	Ethanol (µg/l)	ETBE (µg/l)
MW-1(05981)	9/16/10	<5,000	<500	<5,000	<5,000	<2,500	<250	<10,000	<500
	8/2/13	<5,000	<500	<5,000	<5,000	<5,000	<500	<50,000	<5,000
	12/19/14	<100	<10.0	**58.1J**	<100	<50.0	<5.0	<200	<10.0
MW-2(05981)	9/16/10	**38,800**	<2,500	<25,000	<25,000	<12,500	**4,440**	<50,000	<2,500
	8/2/13	**12,000J**	**340J**	<20,000	<20,000	<20,000	**4,000**	<200,000	<20,000
	12/19/14	**36,000**	**534**	<1,000	**2,330**	<500	**5,690**	<2,000	<100
MW-3(05981)	9/16/10	**202**	<10.0	<100	<100	<50.0	**6.9**	<200	<10.0
	8/2/13	**28J**	<10	<100	<100	<100	**9.9J**	<1,000	<100
	12/19/14	**105**	<10.0	<100	<100	<50.0	**28.6**	<200	<10.0
MW-4(05981)	9/16/10	<10,000	<1,000	<10,000	<10,000	<5,000	<500	<20,000	<1,000
	8/2/13	**1,800J**	<1,000	<10,000	<10,000	<10,000	<1,000	<100,000	<10,000
	12/19/14	<2,500	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
MW-5(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	Covered	Covered	Covered	Covered	Covered	Covered	Covered	Covered
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-6(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-7(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
	12/19/14	<1,000	<100	<1,000	<1,000	<500	**18.1J**	<2,000	<100
MW-8(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-9R(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	**2.5J**	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	**3.0J**	<200	<10.0
MW-10R(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	**26.2**	<200	<10.0
	8/2/13	NL	NL	NL	NL	NL	NL	NL	NL
	12/19/14	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-11(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-12(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	NL	NL	NL	NL	NL	NL	NL	NL
MW-13(05981)	9/16/10	<50,000	<5,000	<50,000	<50,000	<25,000	**5,050**	<100,000	<5,000
	8/2/13	**18,000**	**1,500**	<10,000	**2,400J**	<10,000	**4,200**	<100,000	<10,000
	12/19/14	<25,000	**1,470**	<500	**3,420**	<250	**4,200**	<1,000	<50.0
MW-14(05981)	9/16/10	**148**	<10.0	<100	**195**	<50.0	<5.0	<200	<10.0
	8/2/13	**760J**	<500	<5,000	<5,000	<5,000	<500	<50,000	<5,000
	12/19/14	**358**	<10.0	<100	**69.8J**	<50.0	**1.9J**	<200	<10.0
MW-15(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	**77.7J**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:

1. µg/l = micrograms per liter
2. DIPE = Diisopropyl Ether
3. ETBE = Ethyl tert-butyl Ether
4. TAA = tert-Amyl Alcohol
5. TAME = tert-Amyl Methyl Ether
6. TBA = tert-Butyl Alcohol
7. TBF = tert-Butyl Formate
8. NL = Not Located
9. Dry = Well Dry at the time of Sampling
10. Covered = Well Submerged in Puddle
11. NS = Not Sampled
12. "J" Values included in Total BTEX Calculations.

TABLE 3A
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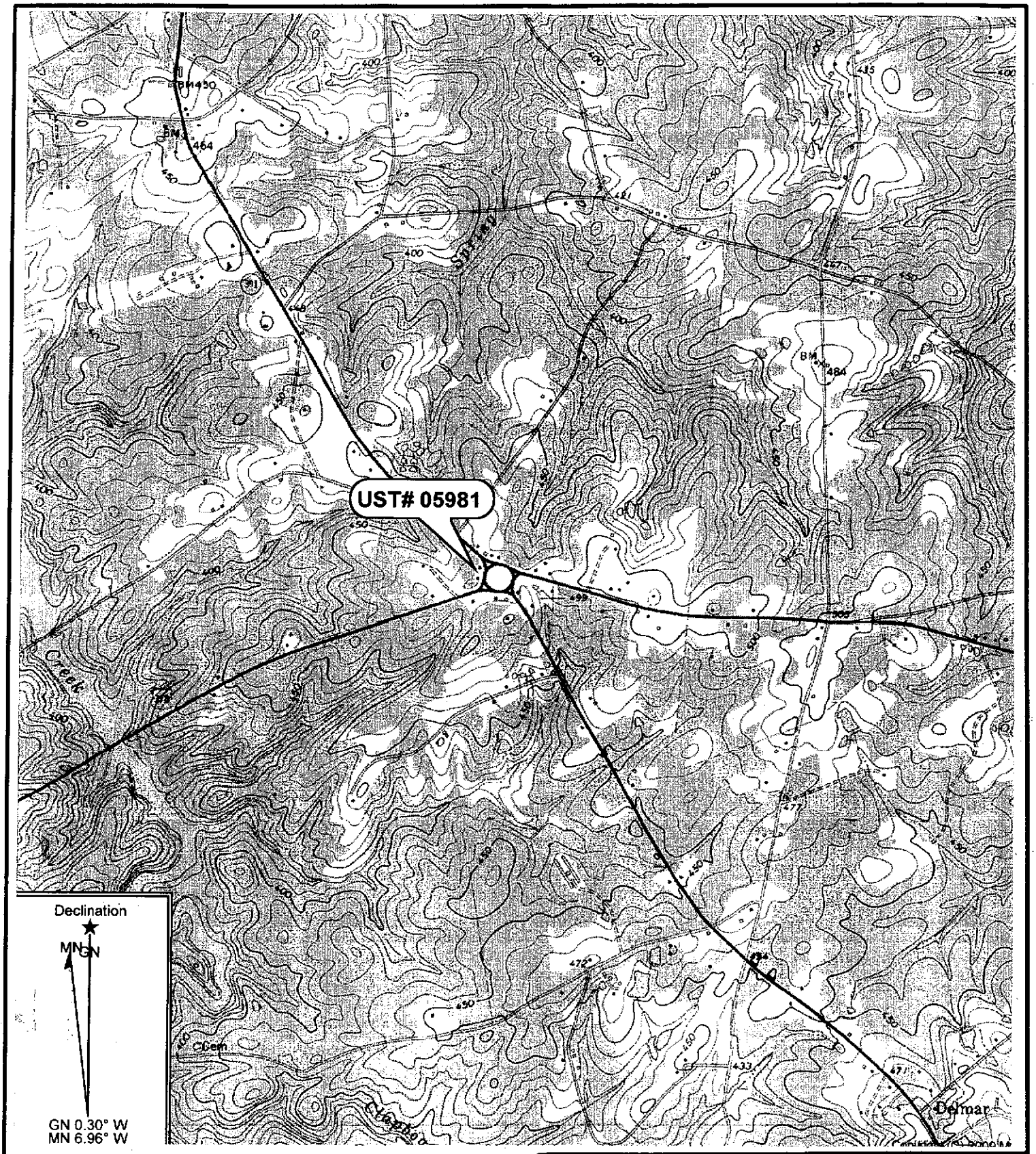
GROUNDWATER COC CONCENTRATION DATA (OXYGENATES)
DECEMBER 19, 2014 SAMPLING EVENT
CIRCLE STOP N SHOP
LEESVILLE, SOUTH CAROLINA
MECI PROJECT NUMBER 14-4962
SCDHEC SITE ID NUMBER 05981

Well Number	Sample Date	TAA (µg/l)	TAME (µg/l)	3,3-Dimethyl-1-butanol (µg/l)	TBA (µg/l)	TBF (µg/l)	DIPE (µg/l)	Ethanol (µg/l)	ETBE (µg/l)
MW-16(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	NL	NL	NL	NL	NL	NL	NL	NL
MW-17(05981)	9/16/10	NS	NS	NS	NS	NS	NS	NS	NS
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-18(05981)	9/16/10	**1,070**	**97.4**	<100	<100	<50.0	**609**	<200	<10.0
	8/2/13	**2,500**	**190**	<1,000	**350J**	<1,000	**1,700**	<10,000	<1,000
	12/19/14	<10,000	**258**	<100	**641**	<50.0	**2,120**	<200	<10.0
MW-19(05981)	9/16/10	**125**	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-20(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-21(05981)	9/16/10	NS	NS	NS	NS	NS	NS	NS	NS
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-22(05981)	9/16/10	NS	NS	NS	NS	NS	NS	NS	NS
	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-23(05981)	9/16/10	NL	NL	NL	NL	NL	NL	NL	NL
	8/2/13	NL	NL	NL	NL	NL	NL	NL	NL
	12/19/14	NL	NL	NL	NL	NL	NL	NL	NL
MW-24(05981)	9/16/10	**955**	<50.0	<500	<500	<250	**231**	<1,000	<50.0
	8/2/13	**940**	**15**	<100	**110**	<100	**280**	<1,000	<100
	12/19/14	**1,210**	**21.3**	<100	**189**	<50.0	**400**	<200	<10.0
MW-25(05981)	9/16/10	**1,670**	**72.5**	<500	<500	<250	**469**	<1,000	<50.0
	8/2/13	**1,700J**	**61J**	<2,000	**220J**	<2,000	**390**	<20,000	<2,000
	12/19/14	**1,900**	**71.3**	<100	**301**	<50.0	**450**	<200	<10.0
MW-26(05981)	9/16/10	<100	<10.0	<100	<100	<50.0	**4.9J**	<200	<10.0
	8/2/13	**16J**	**0.69J**	<100	<100	<100	**5.8J**	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	**2.1J**	<200	<10.0
WSW-1	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
WSW-2	12/19/14	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 Duplicate	12/19/14	<100	<10.0	**59.9J**	<100	<50.0	<5.0	<200	<10.0
MW-2 Duplicate	8/2/13	**12,000J**	**320J**	<20,000	<20,000	<20,000	**3,300**	<200,000	<20,000
	12/19/14	**36,400**	**552**	<1,000	**2,280**	<500	**6,220**	<2,000	<100
MW-3 Duplicate	8/2/13	**35J**	<50	<500	<500	<500	**10J**	<5,000	<500
Field Blank	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
Trip Blank	8/2/13	<100	<10	<100	<100	<100	<10	<1,000	<100
	12/19/14	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

Notes:
1. µg/l = micrograms per liter
2. DIPE = Diisopropyl Ether
3. ETBE = Ethyl tert-butyl Ether
4. TAA = tert-Amyl Alcohol
5. TAME = tert-Amyl Methyl Ether
6. TBA = tert-Butyl Alcohol
7. TBF = tert-Butyl Formate
8. NL = Not Located
9. Dry = Well Dry at the time of Sampling
10. Covered = Well Submerged in Puddle
11. NS = Not Sampled
12. "J" Values included in Total BTEX Calculations.

FIGURES



Reference: Delmar, South Carolina
USGS 7.5 Min. Quad
Contour Interval – 10 Feet

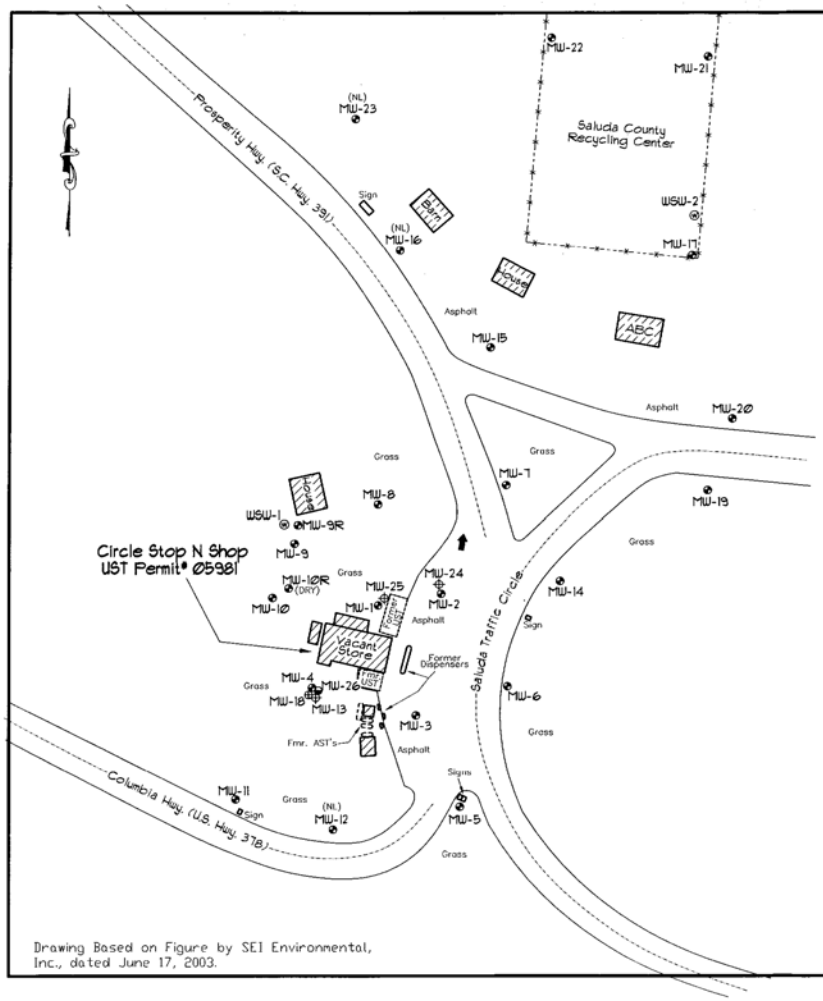
Midlands Environmental Consultants, Inc.

Site Location

Circle Stop N Shop
3287 Columbia Highway, Saluda, SC
SCDHEC Site ID# 05981

Figure 1

MECI 14-4962



Drawing Based on Figure by SEI Environmental, Inc., dated June 17, 2003.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Intermediate" Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of Double Cased Monitoring Well Installed into Bedrock
- Location of Water Supply Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Estimated Location of Former Aboveground Storage Tanks

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

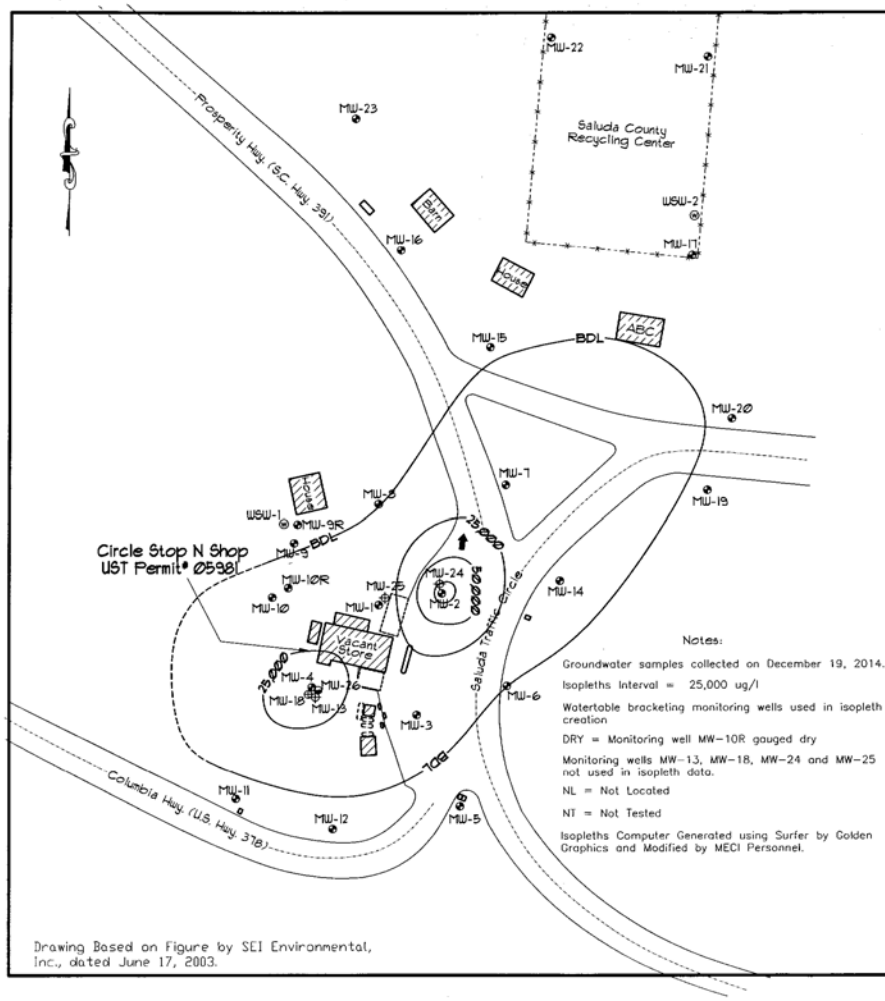
ALL LOCATIONS ARE APPROXIMATE

Site Base Map

Circle Stop N Shop
2387 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID 05981

Midlands Environmental Consultants, Inc.

JOB NO. 14-4962
DATE January 12, 2015
FIGURE 2



Drawing Based on Figure by SEI Environmental, Inc., dated June 17, 2003.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Intermediate" Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of Double Cased Monitoring Well Installed into Bedrock
- Location of Water Supply Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Estimated Location of Former Aboveground Storage Tanks
- Total BTEX 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(05981)	15.4	202	489	2,490	3,196.4	166	<5.0	<5.0	<0.020
MW-2(05981)	20,900	44,800	3,000	18,200	86,900	481	9,620	751	82.4
MW-3(05981)	62.6	4.7J	2.8J	<10.0	70.1J	<5.0	<5.0	<5.0	0.040
MW-4(05981)	310	17,400	3,270	22,900	43,880	552	<125	<125	<0.020
MW-5(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-6(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-7(05981)	413	1,170	1,120	4,010	6,713	311	<50.0	<50.0	0.057
MW-8(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	4.6J	<5.0	<0.019
MW-10R(05981)	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-11(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-12(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-13(05981)	3,480	<25.0	353	1,470	5,303	143	44,200	<25.0	<0.020
MW-14(05981)	271	19.5	73.9	63.7	428.1	<5.0	<5.0	<5.0	<0.021
MW-15(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	5.8	<5.0	<0.020
MW-16(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-17(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18(05981)	233J	<5.0	<5.0	61.6	294.6J	29.9	11,700	15.9	<0.020
MW-19(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-21(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-23(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-24(05981)	155	<5.0	<5.0	14.1	169.1	<5.0	1,620	29.0	<0.020
MW-25(05981)	110	<5.0	<5.0	20.2	130.2	62.9	1,230	12.8	<0.021
MW-26(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	20.6	<5.0	<0.020
WSW-1(05981)	<1.0	<1.0	<1.0	<2.0	BDL	<1.0	<1.0	<1.0	<0.020
WSW-2(05981)	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 Duplicate	16.9	204	476	2,460	3,157	168	8.5	<5.0	<0.20
MW-2 Duplicate	21,900	47,200	2,960	18,100	90,160	460	10,700	720	87.1
Field Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
Trip Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT

Notes:

Groundwater samples collected on December 19, 2014.

Isopleths Interval = 25,000 ug/l

Watertable bracketing monitoring wells used in isopleth creation

DRY = Monitoring well MW-10R gauged dry

Monitoring wells MW-13, MW-18, MW-24 and MW-25 not used in isopleth data.

NL = Not Located

NT = Not Tested

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

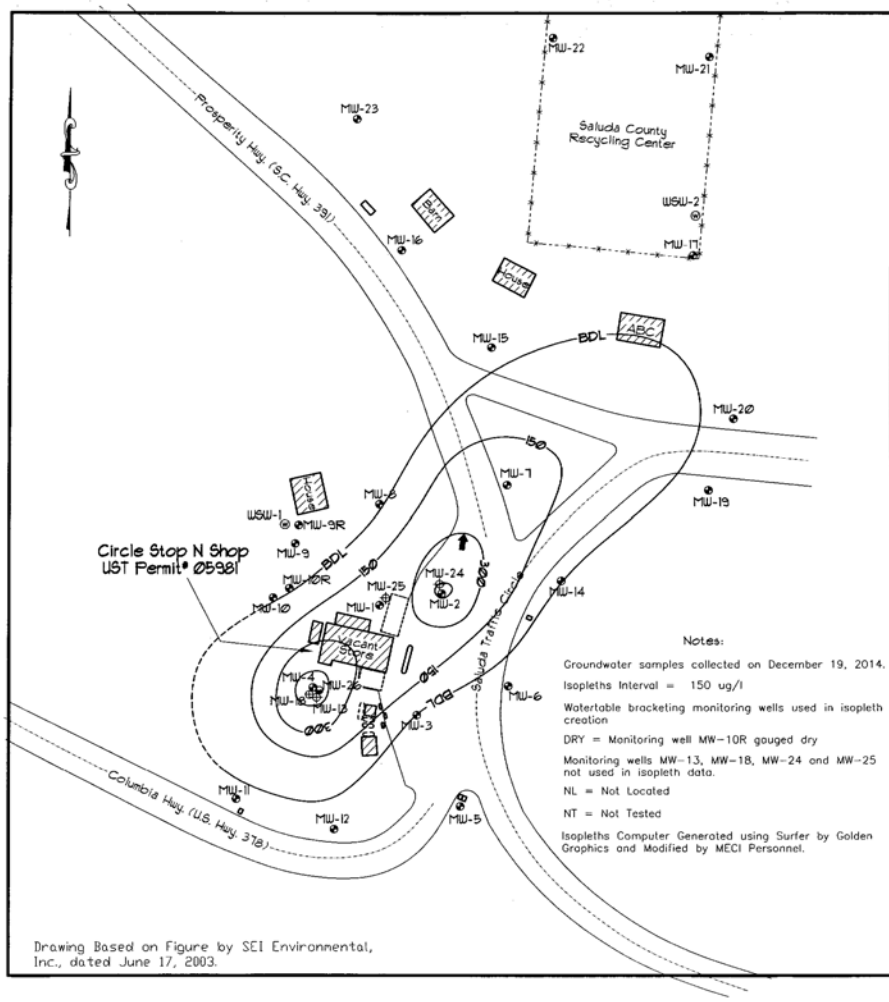
ALL LOCATIONS ARE APPROXIMATE

Groundwater CoC Site Map
(Total BTEX Isopleth)

Circle Stop N Shop
2387 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID 05981

Midlands Environmental Consultants, Inc.

JOB NO. 14-4962
DATE January 12, 2015
FIGURE 4



Drawing Based on Figure by SEI Environmental, Inc., dated June 17, 2003.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Intermediate" Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of Double Cased Monitoring Well Installed into Bedrock
- Location of Water Supply Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Estimated Location of Former Aboveground 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(05981)	15.4	202	489	2,490	3,196.4	166	<5.0	<5.0	<0.020
MW-2(05981)	20,900	44,800	3,000	18,200	86,900	481	9,620	751	82.4
MW-3(05981)	62.6	4.7J	2.8J	<10.0	70.1J	<5.0	<5.0	<5.0	0.040
MW-4(05981)	310	17,400	3,270	22,900	43,880	552	<125	<125	<0.020
MW-5(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-6(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-7(05981)	413	1,170	1,120	4,010	6,713	311	<50.0	<50.0	0.057
MW-8(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	4.6J	<5.0	<0.019
MW-10R(05981)	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-11(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-12(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-13(05981)	3,480	<25.0	353	1,470	5,303	143	44,200	<25.0	<0.020
MW-14(05981)	271	19.5	73.9	63.7	428.1	<5.0	<5.0	<5.0	<0.021
MW-15(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	5.8	<5.0	<0.020
MW-16(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-17(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18(05981)	233J	<5.0	<5.0	61.6	294.6J	29.9	11,700	15.9	<0.020
MW-19(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-21(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-23(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-24(05981)	155	<5.0	<5.0	14.1	169.1	<5.0	1,620	29.0	<0.020
MW-25(05981)	110	<5.0	<5.0	20.2	130.2	62.9	1,230	12.8	<0.021
MW-26(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	20.6	<5.0	<0.020
WSW-1(05981)	<1.0	<1.0	<1.0	<2.0	BDL	<1.0	<1.0	<1.0	<0.020
WSW-2(05981)	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 Duplicate	16.9	204	476	2,460	3,157	168	8.5	<5.0	<0.20
MW-2 Duplicate	21,900	47,200	2,960	18,100	90,160	460	10,700	720	87.1
Field Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
Trip Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT

Notes:

Groundwater samples collected on December 19, 2014.

Isopleths Interval = 150 ug/l

Watertable bracketing monitoring wells used in isopleth creation

DRY = Monitoring well MW-10R gauged dry

Monitoring wells MW-13, MW-18, MW-24 and MW-25 not used in isopleth data.

NL = Not Located

NT = Not Tested

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

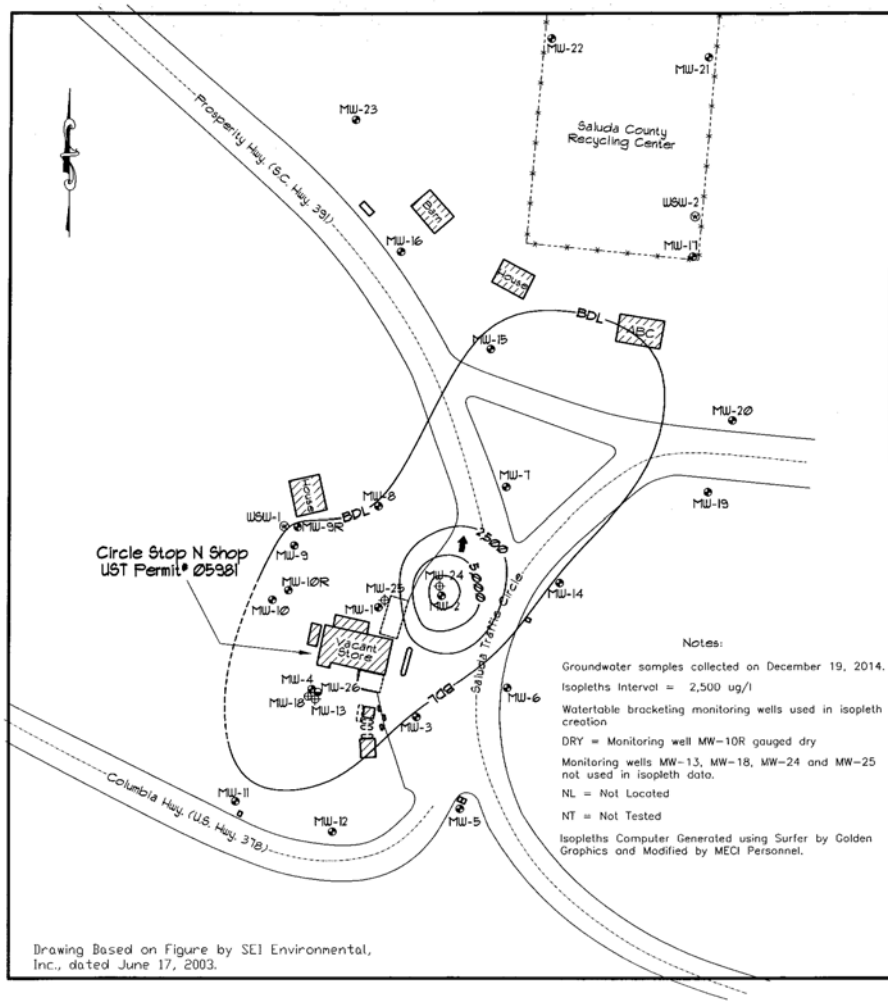
ALL LOCATIONS ARE APPROXIMATE

Groundwater CoC Site Map
(Naphthalene Isopleth)

Circle Stop N Shop
2387 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID 05981

Midlands Environmental Consultants, Inc.

JOB NO. 14-4962
DATE January 12, 2015
FIGURE 4A



Drawing Based on Figure by SEI Environmental, Inc., dated June 17, 2003.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Intermediate" Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of Double Cased Monitoring Well Installed into Bedrock
- Location of Water Supply Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Estimated Location of Former Aboveground 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)	1,2 DCA (ug/l)	EDB (ug/l)
MW-1(05981)	15.4	202	489	2,490	3,196.4	166	<5.0	<5.0	<0.020
MW-2(05981)	20,900	44,800	3,000	18,200	86,900	481	9,620	751	82.4
MW-3(05981)	62.6	4.7J	2.8J	<10.0	70.1J	<5.0	<5.0	<5.0	0.040
MW-4(05981)	310	17,400	3,270	22,900	43,880	552	<125	<125	<0.020
MW-5(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-6(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-7(05981)	413	1,170	1,120	4,010	6,713	311	<50.0	<50.0	0.057
MW-8(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	4.6J	<5.0	<0.019
MW-10R(05981)	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-11(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-12(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-13(05981)	3,480	<25.0	353	1,470	5,303	143	44,200	<25.0	<0.020
MW-14(05981)	271	19.5	73.9	63.7	428.1	<5.0	<5.0	<5.0	<0.021
MW-15(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	5.8	<5.0	<0.020
MW-16(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-17(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18(05981)	233J	<5.0	<5.0	61.6	294.6J	29.9	11,700	15.9	<0.020
MW-19(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-21(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-23(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-24(05981)	155	<5.0	<5.0	14.1	169.1	<5.0	1,620	29.0	<0.020
MW-25(05981)	110	<5.0	<5.0	20.2	130.2	62.9	1,230	12.8	<0.021
MW-26(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	20.6	<5.0	<0.020
WSW-1(05981)	<1.0	<1.0	<1.0	<2.0	BDL	<1.0	<1.0	<1.0	<0.020
WSW-2(05981)	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 Duplicate	16.9	204	476	2,460	3,157	168	8.5	<5.0	<0.20
MW-2 Duplicate	21,900	47,200	2,960	18,100	90,160	460	10,700	720	87.1
Field Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
Trip Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT

Notes:

Groundwater samples collected on December 19, 2014.

Isopleths Interval = 2,500 ug/l

Watertable bracketing monitoring wells used in isopleth creation

DRY = Monitoring well MW-10R gauged dry

Monitoring wells MW-13, MW-18, MW-24 and MW-25 not used in isopleth data.

NL = Not Located

NT = Not Tested

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

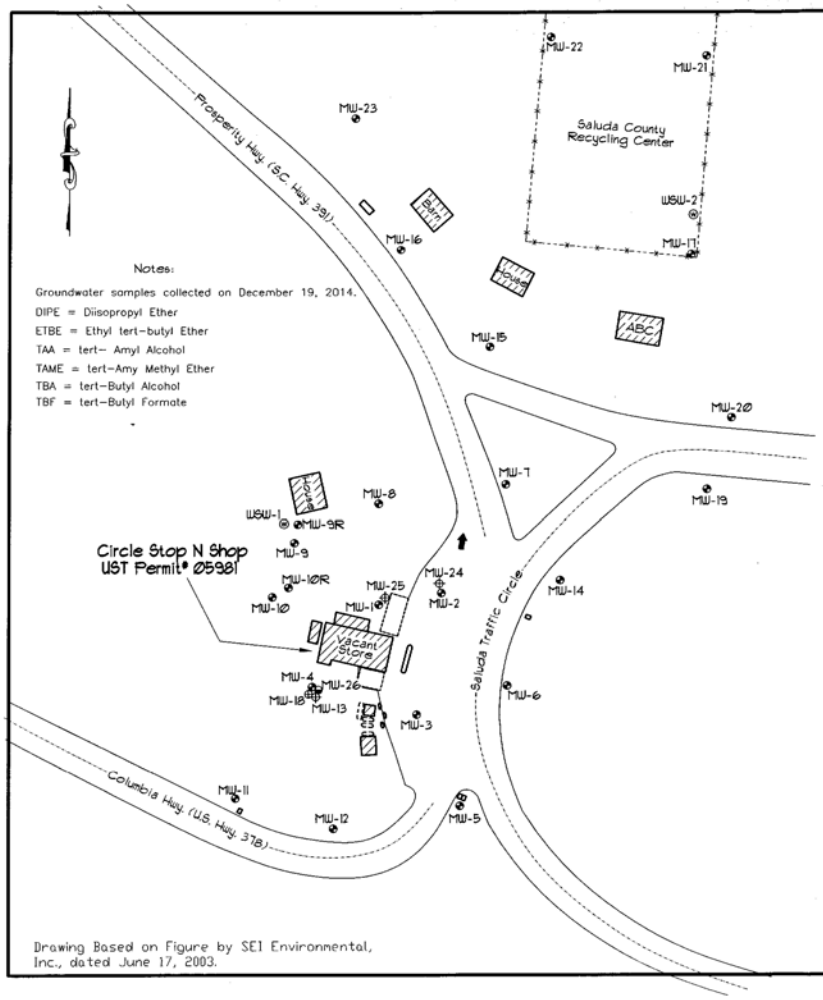
ALL LOCATIONS ARE APPROXIMATE

Groundwater CoC Site Map
(MTBE Isopleth)

Circle Stop N Shop
2387 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID 05981

Midlands Environmental Consultants, Inc.

JOB NO. 14-4962
DATE January 12, 2015
FIGURE 4B



Notes:

Groundwater samples collected on December 19, 2014.

DIPE = Diisopropyl Ether

ETBE = Ethyl tert-butyl Ether

TAA = tert- Amyl Alcohol

TAME = tert-Amy Methyl Ether

TBA = tert-Butyl Alcohol

TBF = tert-Butyl Formate

Drawing Based on Figure by SEI Environmental, Inc., dated June 17, 2003.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Intermediate" Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of Double Cased Monitoring Well Installed into Bedrock
- Location of Water Supply Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Estimated Location of Former Aboveground Storage Tanks

Groundwater CoC Concentration Data - Oxygenates

Sample #	TAA (ug/l)	TAME (ug/l)	3-3-Dimethyl-1-butanol (ug/l)	TBA (ug/l)	TBF (ug/l)	DIPE (ug/l)	Ethanol (ug/l)	ETBE (ug/l)
MW-1(05981)	<100	<10.0	58.1J	<100	<50.0	<5.0	<200	<10.0
MW-2(05981)	36,000	534	<1,000	2,330	<500	5,690	<2,000	<100
MW-3(05981)	105	<10.0	<100	<100	<50.0	28.6	<200	<10.0
MW-4(05981)	<2,500	<250	<2,500	<2,500	<1,250	<125	<5,000	<250
MW-5(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-6(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-7(05981)	<1,000	<100	<1,000	<1,000	<500	18.1J	<2,000	<100
MW-8(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-9R(05981)	<100	<10.0	<100	<100	<50.0	3.0J	<200	<10.0
MW-10R(05981)	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-11(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-12(05981)	NL	NL	NL	NL	NL	NL	NL	NL
MW-13(05981)	<25,000	1,470	<500	3,420	<250	4,200	<1,000	<50.0
MW-14(05981)	358	<10.0	<100	69.8J	<50.0	1.9J	<200	<10.0
MW-15(05981)	77.7J	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-16(05981)	NL	NL	NL	NL	NL	NL	NL	NL
MW-17(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-18(05981)	<10,000	258	<100	641	<50.0	2,120	<200	<10.0
MW-19(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-20(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-21(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-22(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
MW-23(05981)	NL	NL	NL	NL	NL	NL	NL	NL
MW-24(05981)	1,210	21.3	<100	189	<50.0	400	<200	<10.0
MW-25(05981)	1,900	71.3	<100	301	<50.0	450	<200	<10.0
MW-26(05981)	<100	<10.0	<100	<100	<50.0	2.1J	<200	<10.0
WSW-1(05981)	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
WSW-2(05981)	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 Duplicate	<100	<10.0	59.9J	<100	<50.0	<5.0	<200	<10.0
MW-2 Duplicate	36,400	552	<1,000	2,280	<500	6,220	<2,000	<100
Field Blank	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0
Trip Blank	<100	<10.0	<100	<100	<50.0	<5.0	<200	<10.0

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

ALL LOCATIONS ARE APPROXIMATE

Groundwater CoC Site Map
(Oxygenates)

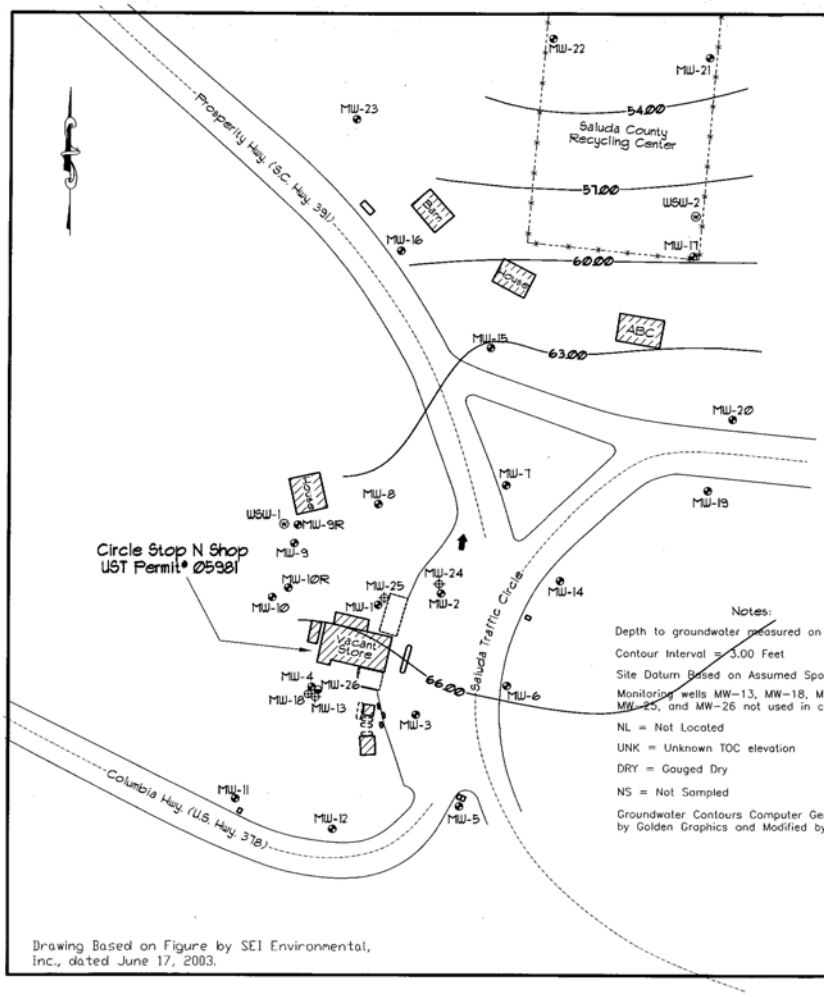
Circle Stop N Shop
2387 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID 05981

Midlands Environmental Consultants, Inc.

JOB NO. 14-4962

DATE January 12, 2015

FIGURE 4C



Drawing Based on Figure by SEI Environmental, Inc., dated June 17, 2003.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Intermediate" Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of Double Cased Monitoring Well Installed into Bedrock
- Location of Water Supply Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Estimated Location of Former Aboveground Storage Tanks
- Groundwater Elevation Contour (feet)

Potentiometric Data

Well #	Screened Interval (feet)	Depth to Water (ft.)	Well Head Elevation	Groundwater Elevation
MW-1(05981)	29-49	34.43	99.59	65.16
MW-2(05981)	20-40	31.92	97.68	65.76
MW-3(05981)	20-40	33.41	99.53	66.12
MW-4(05981)	20-40	32.29	100.28	67.99
MW-5(05981)	25-45	33.03	100.88	67.85
MW-6(05981)	20-40	31.63	97.43	65.80
MW-7(05981)	15-35	33.27	97.26	63.99
MW-8(05981)	20-40	35.53	98.70	63.17
MW-9R(05981)	57-67	46.32	UNK	UNK
MW-10R(05981)	57-67	DRY	UNK	UNK
MW-11(05981)	20-40	33.89	100.47	66.58
MW-12(05981)	20-40	NL	100.62	NL
MW-13(05981)	57-62	37.35	100.22	62.87
MW-14(05981)	25-40	33.18	96.30	63.12
MW-15(05981)	25-35	31.31	94.59	63.28
MW-16(05981)	25-35	NL	92.01	NL
MW-17(05981)	22-37	31.84	91.65	59.81
MW-18(05981)	97-102	38.02	100.05	62.03
MW-19(05981)	22-37	27.89	94.32	66.43
MW-20(05981)	25-40	29.54	94.88	65.34
MW-21(05981)	TD: 41.20	32.12	84.61	52.49
MW-22(05981)	TD: 42.10	33.49	84.71	51.22
MW-23(05981)	30-45	NL	92.05	NL
MW-24(05981)	65-70	33.30	97.74	64.44
MW-25(05981)	60-65	35.01	99.63	64.62
MW-26(05981)	140-145	127.24	100.22	-27.02

Notes:

Depth to groundwater measured on December 19, 2014.

Contour Interval = 3.00 Feet

Site Datum Based on Assumed Spot Elevation.

Monitoring wells MW-13, MW-18, MW-19, MW-24, MW-25, and MW-26 not used in contouring.

NL = Not Located

UNK = Unknown TOC elevation

DRY = Gouged Dry

NS = Not Sampled

Groundwater Contours Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

ALL LOCATIONS ARE APPROXIMATE

Potentiometric Data Site Map
(Groundwater Contour)

Circle Stop N Shop
2387 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID 05981

Midlands Environmental Consultants, Inc.

JOB NO. 14-4962
DATE January 12, 2015
FIGURE 5

APPENDIX A:

SITE SURVEY
(Not Applicable)

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	34.43			feet
Total Well Depth (TWD)	49			feet
Length of the water column (LWC=TWD-DGW)			14.57	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	2.37	gallons
3 casing volume (3 X CV)=		5	11.87	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)	11:50	11:52						
pH (s.u.)	7.00	6.87						
Specific Conductivity (µmhos/cm)	49.6	62.8						
Water Temperature (°C)	20.8	20.1						
Dissolved Oxygen	2.01	1.31						
Turbidity (NTU)	17.84	212.90						
PID readings, if required								

Remarks: Sample Time: 11:52 **Dry @ 3.0 Gallons**
Duplicate Sample Collected

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-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)	31.92			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			8.08	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.32	gallons
3 casing volume (3 X CV)=		5	6.59	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)	11:41	11:43						
pH (s.u.)	7.66	7.32						
Specific Conductivity (µmhos/cm)	58.8	69.2						
Water Temperature (°C)	21.4	21.0						
Dissolved Oxygen	2.33	1.80						
Turbidity (NTU)	27.84	232.60						
PID readings, if required								

Remarks: Sample Time: 11:43 **Dry @ 2.0 Gallons**
Duplicate Sample Collected

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	33.41			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			6.59	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.07	gallons
3 casing volume (3 X CV)=		5	5.37	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)	10:39	10:40						
pH (s.u.)	6.95	6.90						
Specific Conductivity (μmhos/cm)	91.4	64.8						
Water Temperature (°C)	20.9	20.3						
Dissolved Oxygen	2.82	2.61						
Turbidity (NTU)	21.28	282.70						
PID readings, if required								

Remarks: Sample Time: 10:40 **Dry @ 1.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	32.29			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			7.71	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.26	gallons
3 casing volume (3 X CV)=		5	6.28	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)	10:42	10:44						
pH (s.u.)	6.62	6.58						
Specific Conductivity (µmhos/cm)	62.6	41.9						
Water Temperature (°C)	21.1	20.7						
Dissolved Oxygen	2.55	2.31						
Turbidity (NTU)	28.89	344.20						
PID readings, if required								

Remarks: Sample Time: 10:44 **Dry @ 1.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	33.03			feet
Total Well Depth (TWD)	45			feet
Length of the water column (LWC=TWD-DGW)			11.97	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.95	gallons
3 casing volume (3 X CV)=		5	9.76	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)	10:24	10:25						
pH (s.u.)	6.65	6.45						
Specific Conductivity (µmhos/cm)	51.9	66.8						
Water Temperature (°C)	19.8	19.4						
Dissolved Oxygen	0.91	0.86						
Turbidity (NTU)	121.90	264.80						
PID readings, if required								

Remarks: Sample Time: 10:25 **Dry @ 2.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-6

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)	31.63			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			8.37	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.36	gallons
3 casing volume (3 X CV)=		5	6.82	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)	9:50	9:52						
pH (s.u.)	6.57	6.51						
Specific Conductivity (µmhos/cm)	29.6	67.4						
Water Temperature (°C)	21.4	21.6						
Dissolved Oxygen	3.03	2.52						
Turbidity (NTU)	29.95	304.60						
PID readings, if required								

Remarks: Sample Time: 9:52 **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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-7

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)	33.27			feet
Total Well Depth (TWD)	35			feet
Length of the water column (LWC=TWD-DGW)			1.73	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.28	gallons
3 casing volume (3 X CV)=		5	1.41	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)	9:42							
pH (s.u.)	INS.							
Specific Conductivity (μmhos/cm)	INS.							
Water Temperature (°C)	INS.							
Dissolved Oxygen	INS.							
Turbidity (NTU)	INS.							
PID readings, if required								

Remarks: Sample Time: 9:42

INS. = Insufficient water to purge
No-Purge Sample Collected

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	35.53			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			4.47	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.73	gallons
3 casing volume (3 X CV)=		5	3.64	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)	12:45	12:46						
pH (s.u.)	7.66	7.61						
Specific Conductivity (μmhos/cm)	55.9	61.3						
Water Temperature (°C)	21.4	21.0						
Dissolved Oxygen	2.82	2.64						
Turbidity (NTU)	29.73	58.62						
PID readings, if required								

Remarks: Sample Time: 12:46 **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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	46.32			feet
Total Well Depth (TWD)	67			feet
Length of the water column (LWC=TWD-DGW)			20.68	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	3.37	gallons
3 casing volume (3 X CV)=		5	16.85	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)	13:02	13:06	13:10	13:14				
pH (s.u.)	7.66	7.60	7.58	7.50				
Specific Conductivity (µmhos/cm)	62.4	70.9	78.6	82.4				
Water Temperature (°C)	21.9	21.6	21.2	21.0				
Dissolved Oxygen	4.84	4.33	4.21	4.01				
Turbidity (NTU)	27.82	66.81	94.86	121.40				
PID readings, if required								

Remarks: Sample Time: 13:14 **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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-10R

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)	DRY		feet
Total Well Depth (TWD)	67		feet
Length of the water column (LWC=TWD-DGW)		#VALUE!	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	#VALUE!	gallons
3 casing volume (3 X CV)=	5	#VALUE!	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)	DRY							
pH (s.u.)	DRY							
Specific Conductivity (μmhos/cm)	DRY							
Water Temperature (°C)	DRY							
Dissolved Oxygen	DRY							
Turbidity (NTU)	DRY							
PID readings, if required								

Remarks: Sample Time: DRY **Well Gauged DRY, TD:48.37'**
2.65' Stick-up Vault

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	33.89			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			6.11	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.00	gallons
3 casing volume (3 X CV)=		5	4.98	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)	10:19	10:20						
pH (s.u.)	6.23	6.20						
Specific Conductivity (µmhos/cm)	32.9	21.4						
Water Temperature (°C)	19.9	19.0						
Dissolved Oxygen	5.29	5.02						
Turbidity (NTU)	21.95	343.70						
PID readings, if required								

Remarks: Sample Time: 10:20 **Dry @ 1.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	NL		feet
Total Well Depth (TWD)	40		feet
Length of the water column (LWC=TWD-DGW)		#VALUE!	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	#VALUE!	gallons
3 casing volume (3 X CV)=	5	#VALUE!	gallons

Total Volume of Water Purged Before Sampling NL 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)	NL							
pH (s.u.)	NL							
Specific Conductivity (µmhos/cm)	NL							
Water Temperature (°C)	NL							
Dissolved Oxygen	NL							
Turbidity (NTU)	NL							
PID readings, if required								

Remarks: Sample Time: NL **NL = Well Not Located**

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	37.35			feet
Total Well Depth (TWD)	62			feet
Length of the water column (LWC=TWD-DGW)			24.65	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	4.02	gallons
3 casing volume (3 X CV)=		5	20.09	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)	10:50	10:54	10:58					
pH (s.u.)	7.07	6.91	6.72					
Specific Conductivity (µmhos/cm)	81.4	74.9	42.8					
Water Temperature (°C)	21.6	20.8	20.4					
Dissolved Oxygen	2.14	1.81	1.62					
Turbidity (NTU)	17.87	31.45	42.49					
PID readings, if required								

Remarks: Sample Time: 10:58 **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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	33.18			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			6.82	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.11	gallons
3 casing volume (3 X CV)=		5	5.56	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)	10:01	10:03						
pH (s.u.)	6.86	6.72						
Specific Conductivity (µmhos/cm)	49.7	40.1						
Water Temperature (°C)	21.4	21.0						
Dissolved Oxygen	2.02	1.41						
Turbidity (NTU)	24.84	484.90						
PID readings, if required								

Remarks: Sample Time: 10:03 **Dry @ 1.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-15

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)	31.31			feet
Total Well Depth (TWD)	35			feet
Length of the water column (LWC=TWD-DGW)			3.69	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.60	gallons
3 casing volume (3 X CV)=		5	3.01	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)	9:23	9:24						
pH (s.u.)	6.11	6.22						
Specific Conductivity (μmhos/cm)	35.2	34.8						
Water Temperature (°C)	20.3	20.1						
Dissolved Oxygen	3.51	3.44						
Turbidity (NTU)	34.86	195.50						
PID readings, if required								

Remarks: Sample Time: 9:24 **Dry @ 0.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-16

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)	NL		feet
Total Well Depth (TWD)	35		feet
Length of the water column (LWC=TWD-DGW)		#VALUE!	feet
1 casing volume (CV=LWC X C)= ____ X	0.163	#VALUE!	gallons
3 casing volume (3 X CV)=	5	#VALUE!	gallons

Total Volume of Water Purged Before Sampling NL 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)	NL							
pH (s.u.)	NL							
Specific Conductivity (µmhos/cm)	NL							
Water Temperature (°C)	NL							
Dissolved Oxygen	NL							
Turbidity (NTU)	NL							
PID readings, if required								

Remarks: Sample Time: NL **NL = Well Not Located**

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-17

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)	31.31			feet
Total Well Depth (TWD)	35			feet
Length of the water column (LWC=TWD-DGW)			3.69	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	0.60	gallons
3 casing volume (3 X CV)=		5	3.01	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)	14:04	14:05						
pH (s.u.)	7.20	7.14						
Specific Conductivity (μmhos/cm)	78.3	91.2						
Water Temperature (°C)	21.1	20.6						
Dissolved Oxygen	3.22	3.02						
Turbidity (NTU)	27.95	133.80						
PID readings, if required								

Remarks: Sample Time: 14:05 **Dry @ 0.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	38.02			feet
Total Well Depth (TWD)	102			feet
Length of the water column (LWC=TWD-DGW)			63.98	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	10.43	gallons
3 casing volume (3 X CV)=		5	52.14	gallons

Total Volume of Water Purged Before Sampling 53 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)	11:25	11:35	11:45	11:55	12:05	12:15		
pH (s.u.)	8.21	8.04	7.92	7.81	7.70	7.65		
Specific Conductivity (μmhos/cm)	24.9	38.2	51.7	66.8	74.9	95.5		
Water Temperature (°C)	21.1	21.0	20.8	20.6	20.3	20.1		
Dissolved Oxygen	3.83	3.77	3.70	3.62	3.50	3.44		
Turbidity (NTU)	21.95	28.84	32.45	40.46	44.91	49.63		
PID readings, if required								

Remarks: Sample Time: 12:15

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	27.89			feet
Total Well Depth (TWD)	37			feet
Length of the water column (LWC=TWD-DGW)			9.11	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.48	gallons
3 casing volume (3 X CV)=		5	7.42	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)	9:16	9:18						
pH (s.u.)	6.84	6.72						
Specific Conductivity (μmhos/cm)	29.4	20.2						
Water Temperature (°C)	21.0	20.6						
Dissolved Oxygen	2.81	2.44						
Turbidity (NTU)	24.83	312.90						
PID readings, if required								

Remarks: Sample Time: 9:18 **Dry @ 2.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	29.54			feet
Total Well Depth (TWD)	40			feet
Length of the water column (LWC=TWD-DGW)			10.46	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.70	gallons
3 casing volume (3 X CV)=		5	8.52	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)	9:11	9:13						
pH (s.u.)	6.79	6.71						
Specific Conductivity (μmhos/cm)	49.3	57.6						
Water Temperature (°C)	20.8	20.6						
Dissolved Oxygen	1.48	1.32						
Turbidity (NTU)	19.86	211.90						
PID readings, if required								

Remarks: Sample Time: 9:13 **Dry @ 2.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	32.12			feet
Total Well Depth (TWD)	41.2			feet
Length of the water column (LWC=TWD-DGW)			9.08	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	1.48	gallons
3 casing volume (3 X CV)=		5	7.40	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)	13:49	13:50						
pH (s.u.)	7.03	6.81						
Specific Conductivity (μmhos/cm)	101.4	114.6						
Water Temperature (°C)	23.8	22.1						
Dissolved Oxygen	4.85	4.11						
Turbidity (NTU)	21.82	331.60						
PID readings, if required								

Remarks: Sample Time: 13:50 **Dry @ 2.50 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	33.49			feet
Total Well Depth (TWD)	42.1			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
3 casing volume (3 X CV)=		5	7.02	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)	13:36	13:38						
pH (s.u.)	7.21	7.19						
Specific Conductivity (µmhos/cm)	58.6	72.4						
Water Temperature (°C)	21.9	21.4						
Dissolved Oxygen	3.08	2.82						
Turbidity (NTU)	19.73	213.60						
PID readings, if required								

Remarks: Sample Time: 13:38 **Dry @ 2.00 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	NL		feet
Total Well Depth (TWD)	45		feet
Length of the water column (LWC=TWD-DGW)		#VALUE!	feet
1 casing volume (CV=LWC X C)= _____ X	0.163	#VALUE!	gallons
3 casing volume (3 X CV)=	5	#VALUE!	gallons

Total Volume of Water Purged Before Sampling NL 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)	NL							
pH (s.u.)	NL							
Specific Conductivity (µmhos/cm)	NL							
Water Temperature (°C)	NL							
Dissolved Oxygen	NL							
Turbidity (NTU)	NL							
PID readings, if required								

Remarks: Sample Time: NL **NL = Well Not Located**

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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **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)	33.30			feet
Total Well Depth (TWD)	70			feet
Length of the water column (LWC=TWD-DGW)			36.7	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	5.98	gallons
3 casing volume (3 X CV)=		5	29.91	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)	12:11	12:18	12:24					
pH (s.u.)	7.88	7.43	7.31					
Specific Conductivity (μmhos/cm)	88.9	98.3	113.7					
Water Temperature (°C)	21.3	21.0	20.6					
Dissolved Oxygen	3.14	2.95	2.82					
Turbidity (NTU)	28.86	248.90	313.60					
PID readings, if required								

Remarks: Sample Time: 12:24 **Dry @ 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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-25

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)	35.01			feet
Total Well Depth (TWD)	65			feet
Length of the water column (LWC=TWD-DGW)			29.99	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	4.89	gallons
3 casing volume (3 X CV)=		5	24.44	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)	12:24	12:29	12:34					
pH (s.u.)	7.99	7.62	7.48					
Specific Conductivity (μmhos/cm)	23.8	42.7	66.4					
Water Temperature (°C)	21.9	21.0	20.7					
Dissolved Oxygen	3.22	2.90	2.71					
Turbidity (NTU)	17.82	109.60	152.40					
PID readings, if required								

Remarks: Sample Time: 12:34 **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): 12/19/2014

Field Personnel: Frank Mitlin, Wes Huss, Thad Abbott

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 10.3 °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: Circle Stop N Shop

Site ID#: 05981 **Monitoring Well #** MW-26

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)	127.24			feet
Total Well Depth (TWD)	145			feet
Length of the water column (LWC=TWD-DGW)			17.76	feet
1 casing volume (CV=LWC X C)= _____ X		0.163	2.89	gallons
3 casing volume (3 X CV)=		5	14.47	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)	11:12	11:15	11:18	11:21	11:24	11:27		
pH (s.u.)	7.22	7.10	7.00	6.82	6.77	6.71		
Specific Conductivity (μmhos/cm)	88.9	91.6	121.4	144.8	150.2	131.1		
Water Temperature (°C)	21.1	21.0	20.7	20.4	20.1	20.0		
Dissolved Oxygen	4.04	3.91	3.62	3.43	3.22	2.81		
Turbidity (NTU)	17.91	21.44	28.68	32.88	40.45	44.84		
PID readings, if required								

Remarks: Sample Time: 11:27

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(704)875-9092

January 05, 2015

Mr. Bryan Shane
Midlands Environmental
PO Box 854
Lexington, SC 29071

RE: Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Dear Mr. Shane:
Enclosed are the analytical results for sample(s) received by the laboratory on December 22, 2014. 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,

Angela M. Baioni

Angela Baioni
angela.baioni@pacelabs.com
Project Manager

Enclosures

cc: Mr. Ryan Ariail, Midlands Environmental
Mr. Jeff Coleman, Midlands Environmental
Mr. Kyle Pudney, Midlands Environmental

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CERTIFICATIONS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

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: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Lab ID	Sample ID	Matrix	Date Collected	Date Received
92230733001	MW1	Water	12/19/14 11:52	12/22/14 15:50
92230733002	MW2	Water	12/19/14 11:43	12/22/14 15:50
92230733003	MW3	Water	12/19/14 10:40	12/22/14 15:50
92230733004	MW4	Water	12/19/14 10:44	12/22/14 15:50
92230733005	MW5	Water	12/19/14 10:25	12/22/14 15:50
92230733006	MW6	Water	12/19/14 09:52	12/22/14 15:50
92230733007	MW7	Water	12/19/14 09:42	12/22/14 15:50
92230733008	MW8	Water	12/19/14 12:46	12/22/14 15:50
92230733009	MW9R	Water	12/19/14 13:14	12/22/14 15:50
92230733010	MW11	Water	12/19/14 10:20	12/22/14 15:50
92230733011	MW13	Water	12/19/14 10:58	12/22/14 15:50
92230733012	MW14	Water	12/19/14 10:03	12/22/14 15:50
92230733013	MW15	Water	12/19/14 09:24	12/22/14 15:50
92230733014	MW17	Water	12/19/14 14:05	12/22/14 15:50
92230733015	MW18	Water	12/19/14 12:15	12/22/14 15:50
92230733016	MW19	Water	12/19/14 09:18	12/22/14 15:50
92230733017	MW20	Water	12/19/14 09:13	12/22/14 15:50
92230733018	MW21	Water	12/19/14 13:50	12/22/14 15:50
92230733019	MW22	Water	12/19/14 13:38	12/22/14 15:50
92230733020	MW24	Water	12/19/14 12:24	12/22/14 15:50
92230733021	MW25	Water	12/19/14 12:34	12/22/14 15:50
92230733022	MW26	Water	12/19/14 11:27	12/22/14 15:50
92230733023	WSW-1	Water	12/19/14 12:02	12/22/14 15:50
92230733024	MW1 DUPLICATE	Water	12/19/14 11:52	12/22/14 15:50
92230733025	MW2 DUPLICATE	Water	12/19/14 11:43	12/22/14 15:50
92230733026	FIELD BLANK	Water	12/19/14 09:15	12/22/14 15:50
92230733027	TRIP BLANK	Water	12/19/14 09:15	12/22/14 15:50

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SAMPLE ANALYTE COUNT

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
92230733001	MW1	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733002	MW2	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733003	MW3	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733004	MW4	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733005	MW5	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733006	MW6	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733007	MW7	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733008	MW8	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733009	MW9R	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733010	MW11	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733011	MW13	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733012	MW14	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733013	MW15	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733014	MW17	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733015	MW18	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733016	MW19	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733017	MW20	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733018	MW21	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733019	MW22	EPA 8011	JMC	2	PASI-C

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SAMPLE ANALYTE COUNT

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Lab ID	Sample ID	Method	Analysts	Analytes Reported	Laboratory
		EPA 8260	CCL	20	PASI-C
92230733020	MW24	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733021	MW25	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733022	MW26	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733023	WSW-1	EPA 8011	JMC	2	PASI-C
		EPA 8260	GAW	20	PASI-C
92230733024	MW1 DUPLICATE	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733025	MW2 DUPLICATE	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733026	FIELD BLANK	EPA 8011	JMC	2	PASI-C
		EPA 8260	CCL	20	PASI-C
92230733027	TRIP BLANK	EPA 8260	CCL	20	PASI-C

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW1 **Lab ID: 92230733001** Collected: 12/19/14 11:52 Received: 12/22/14 15:50 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	12/23/14 14:34	12/24/14 03:55	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	12/23/14 14:34	12/24/14 03:55	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/30/14 13:38	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/30/14 13:38	994-05-8	
Benzene	**15.4**	ug/L	5.0	1.7	1		12/30/14 13:38	71-43-2	
3,3-Dimethyl-1-Butanol	**58.1J**	ug/L	100	32.1	1		12/30/14 13:38	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/30/14 13:38	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/30/14 13:38	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/30/14 13:38	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/30/14 13:38	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/30/14 13:38	64-17-5	
Ethylbenzene	**489**	ug/L	50.0	16.0	10		12/30/14 20:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/30/14 13:38	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/30/14 13:38	1634-04-4	
Naphthalene	**166**	ug/L	5.0	2.0	1		12/30/14 13:38	91-20-3	
Toluene	**202**	ug/L	50.0	16.0	10		12/30/14 20:44	108-88-3	
Xylene (Total)	**2490**	ug/L	100	27.0	10		12/30/14 20:44	1330-20-7	
m&p-Xylene	**1970**	ug/L	100	31.0	10		12/30/14 20:44	179601-23-1	
o-Xylene	**520**	ug/L	50.0	16.0	10		12/30/14 20:44	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		12/30/14 13:38	460-00-4	
1,2-Dichloroethane-d4 (S)	103	%	70-130		1		12/30/14 13:38	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		12/30/14 13:38	2037-26-5	

Sample: MW2 **Lab ID: 92230733002** Collected: 12/19/14 11:43 Received: 12/22/14 15:50 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)	**82.4**	ug/L	2.0	2.0	100	12/23/14 14:34	12/24/14 12:01	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	12/23/14 14:34	12/24/14 12:01	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**36000**	ug/L	1000	768	10		12/30/14 14:28	75-85-4	
tert-Amylmethyl ether	**534**	ug/L	100	34.0	10		12/30/14 14:28	994-05-8	
Benzene	**20900**	ug/L	1250	425	250		12/30/14 21:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		12/30/14 14:28	624-95-3	
tert-Butyl Alcohol	**2330**	ug/L	1000	577	10		12/30/14 14:28	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		12/30/14 14:28	762-75-4	
1,2-Dichloroethane	**751**	ug/L	50.0	18.0	10		12/30/14 14:28	107-06-2	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW2 **Lab ID: 92230733002** Collected: 12/19/14 11:43 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	**5690**	ug/L	1250	425	250		12/30/14 21:01	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		12/30/14 14:28	64-17-5	
Ethylbenzene	**3000**	ug/L	1250	400	250		12/30/14 21:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		12/30/14 14:28	637-92-3	
Methyl-tert-butyl ether	**9620**	ug/L	1250	425	250		12/30/14 21:01	1634-04-4	
Naphthalene	**481**	ug/L	50.0	20.0	10		12/30/14 14:28	91-20-3	
Toluene	**44800**	ug/L	1250	400	250		12/30/14 21:01	108-88-3	
Xylene (Total)	**18200**	ug/L	2500	675	250		12/30/14 21:01	1330-20-7	
m&p-Xylene	**12000**	ug/L	2500	775	250		12/30/14 21:01	179601-23-1	
o-Xylene	**6140**	ug/L	1250	400	250		12/30/14 21:01	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		10		12/30/14 14:28	460-00-4	
1,2-Dichloroethane-d4 (S)	90	%	70-130		10		12/30/14 14:28	17060-07-0	
Toluene-d8 (S)	100	%	70-130		10		12/30/14 14:28	2037-26-5	

Sample: MW3 **Lab ID: 92230733003** Collected: 12/19/14 10:40 Received: 12/22/14 15:50 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)	**0.040**	ug/L	0.020	0.020	1	12/23/14 14:34	12/24/14 04:33	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	84	%	60-140		1	12/23/14 14:34	12/24/14 04:33	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**105**	ug/L	100	76.8	1		12/31/14 01:44	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 01:44	994-05-8	
Benzene	**62.6**	ug/L	5.0	1.7	1		12/31/14 01:44	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 01:44	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 01:44	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 01:44	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 01:44	107-06-2	
Diisopropyl ether	**28.6**	ug/L	5.0	1.7	1		12/31/14 01:44	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 01:44	64-17-5	
Ethylbenzene	**2.8J**	ug/L	5.0	1.6	1		12/31/14 01:44	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 01:44	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 01:44	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 01:44	91-20-3	
Toluene	**4.7J**	ug/L	5.0	1.6	1		12/31/14 01:44	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 01:44	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 01:44	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 01:44	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		1		12/31/14 01:44	460-00-4	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW3 **Lab ID: 92230733003** Collected: 12/19/14 10:40 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		12/31/14 01:44	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		12/31/14 01:44	2037-26-5	

Sample: MW4 **Lab ID: 92230733004** Collected: 12/19/14 10:44 Received: 12/22/14 15:50 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	12/23/14 14:34	12/24/14 04:52	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	126	%	60-140		1	12/23/14 14:34	12/24/14 04:52	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	2500	1920	25		12/30/14 15:01	75-85-4	
tert-Amylmethyl ether	ND	ug/L	250	85.0	25		12/30/14 15:01	994-05-8	
Benzene	**310**	ug/L	125	42.5	25		12/30/14 15:01	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	2500	802	25		12/30/14 15:01	624-95-3	
tert-Butyl Alcohol	ND	ug/L	2500	1440	25		12/30/14 15:01	75-65-0	
tert-Butyl Formate	ND	ug/L	1250	182	25		12/30/14 15:01	762-75-4	
1,2-Dichloroethane	ND	ug/L	125	45.0	25		12/30/14 15:01	107-06-2	
Diisopropyl ether	ND	ug/L	125	42.5	25		12/30/14 15:01	108-20-3	
Ethanol	ND	ug/L	5000	3440	25		12/30/14 15:01	64-17-5	
Ethylbenzene	**3270**	ug/L	125	40.0	25		12/30/14 15:01	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	250	90.0	25		12/30/14 15:01	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	125	42.5	25		12/30/14 15:01	1634-04-4	
Naphthalene	**552**	ug/L	125	50.0	25		12/30/14 15:01	91-20-3	
Toluene	**17400**	ug/L	625	200	125		12/30/14 21:18	108-88-3	
Xylene (Total)	**22900**	ug/L	1250	338	125		12/30/14 21:18	1330-20-7	
m&p-Xylene	**15800**	ug/L	1250	388	125		12/30/14 21:18	179601-23-1	
o-Xylene	**7110**	ug/L	625	200	125		12/30/14 21:18	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		25		12/30/14 15:01	460-00-4	
1,2-Dichloroethane-d4 (S)	89	%	70-130		25		12/30/14 15:01	17060-07-0	
Toluene-d8 (S)	101	%	70-130		25		12/30/14 15:01	2037-26-5	

Sample: MW5 **Lab ID: 92230733005** Collected: 12/19/14 10:25 Received: 12/22/14 15:50 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	12/23/14 14:34	12/24/14 05:11	106-93-4	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW5 **Lab ID: 92230733005** Collected: 12/19/14 10:25 Received: 12/22/14 15:50 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								
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	12/23/14 14:34	12/24/14 05:11	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/30/14 12:31	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/30/14 12:31	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/30/14 12:31	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/30/14 12:31	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/30/14 12:31	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/30/14 12:31	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/30/14 12:31	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/30/14 12:31	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/30/14 12:31	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/30/14 12:31	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/30/14 12:31	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/30/14 12:31	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/30/14 12:31	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/30/14 12:31	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/30/14 12:31	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/30/14 12:31	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/30/14 12:31	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/30/14 12:31	460-00-4	
1,2-Dichloroethane-d4 (S)	115	%	70-130		1		12/30/14 12:31	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		12/30/14 12:31	2037-26-5	

Sample: MW6 **Lab ID: 92230733006** Collected: 12/19/14 09:52 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 05:30	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	88	%	60-140		1	12/23/14 14:35	12/24/14 05:30	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/30/14 12:48	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/30/14 12:48	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/30/14 12:48	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/30/14 12:48	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/30/14 12:48	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/30/14 12:48	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/30/14 12:48	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/30/14 12:48	108-20-3	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW6 **Lab ID: 92230733006** Collected: 12/19/14 09:52 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		12/30/14 12:48	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/30/14 12:48	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/30/14 12:48	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/30/14 12:48	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/30/14 12:48	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/30/14 12:48	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/30/14 12:48	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/30/14 12:48	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/30/14 12:48	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		12/30/14 12:48	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		12/30/14 12:48	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/30/14 12:48	2037-26-5	

Sample: MW7 **Lab ID: 92230733007** Collected: 12/19/14 09:42 Received: 12/22/14 15:50 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)	**0.057**	ug/L	0.020	0.020	1	12/23/14 14:35	12/24/14 05:49	106-93-4	C2
Surrogates									
1-Chloro-2-bromopropane (S)	79	%	60-140		1	12/23/14 14:35	12/24/14 05:49	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	1000	768	10		12/31/14 03:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	100	34.0	10		12/31/14 03:57	994-05-8	
Benzene	**413**	ug/L	50.0	17.0	10		12/31/14 03:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		12/31/14 03:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	1000	577	10		12/31/14 03:57	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		12/31/14 03:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	50.0	18.0	10		12/31/14 03:57	107-06-2	
Diisopropyl ether	**18.1J**	ug/L	50.0	17.0	10		12/31/14 03:57	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		12/31/14 03:57	64-17-5	
Ethylbenzene	**1120**	ug/L	50.0	16.0	10		12/31/14 03:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		12/31/14 03:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	50.0	17.0	10		12/31/14 03:57	1634-04-4	
Naphthalene	**311**	ug/L	50.0	20.0	10		12/31/14 03:57	91-20-3	
Toluene	**1170**	ug/L	50.0	16.0	10		12/31/14 03:57	108-88-3	
Xylene (Total)	**4010**	ug/L	100	27.0	10		12/31/14 03:57	1330-20-7	
m&p-Xylene	**2710**	ug/L	100	31.0	10		12/31/14 03:57	179601-23-1	
o-Xylene	**1310**	ug/L	50.0	16.0	10		12/31/14 03:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		10		12/31/14 03:57	460-00-4	
1,2-Dichloroethane-d4 (S)	97	%	70-130		10		12/31/14 03:57	17060-07-0	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW7 **Lab ID: 92230733007** Collected: 12/19/14 09:42 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	101	%	70-130		10		12/31/14 03:57	2037-26-5	

Sample: MW8 **Lab ID: 92230733008** Collected: 12/19/14 12:46 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 06:08	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	93	%	60-140		1	12/23/14 14:35	12/24/14 06:08	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/30/14 13:55	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/30/14 13:55	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/30/14 13:55	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/30/14 13:55	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/30/14 13:55	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/30/14 13:55	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/30/14 13:55	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/30/14 13:55	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/30/14 13:55	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/30/14 13:55	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/30/14 13:55	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/30/14 13:55	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/30/14 13:55	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/30/14 13:55	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/30/14 13:55	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/30/14 13:55	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/30/14 13:55	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/30/14 13:55	460-00-4	
1,2-Dichloroethane-d4 (S)	99	%	70-130		1		12/30/14 13:55	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		12/30/14 13:55	2037-26-5	

Sample: MW9R **Lab ID: 92230733009** Collected: 12/19/14 13:14 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 06:27	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	87	%	60-140		1	12/23/14 14:35	12/24/14 06:27	301-79-56	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW9R **Lab ID: 92230733009** Collected: 12/19/14 13:14 Received: 12/22/14 15:50 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		12/30/14 13:21	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/30/14 13:21	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/30/14 13:21	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/30/14 13:21	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/30/14 13:21	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/30/14 13:21	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/30/14 13:21	107-06-2	
Diisopropyl ether	**3.0J**	ug/L	5.0	1.7	1		12/30/14 13:21	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/30/14 13:21	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/30/14 13:21	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/30/14 13:21	637-92-3	
Methyl-tert-butyl ether	**4.6J**	ug/L	5.0	1.7	1		12/30/14 13:21	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/30/14 13:21	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/30/14 13:21	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/30/14 13:21	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/30/14 13:21	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/30/14 13:21	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		12/30/14 13:21	460-00-4	
1,2-Dichloroethane-d4 (S)	117	%	70-130		1		12/30/14 13:21	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/30/14 13:21	2037-26-5	

Sample: MW11 **Lab ID: 92230733010** Collected: 12/19/14 10:20 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 06:46	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	91	%	60-140		1	12/23/14 14:35	12/24/14 06:46	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/30/14 14:11	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/30/14 14:11	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/30/14 14:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/30/14 14:11	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/30/14 14:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/30/14 14:11	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/30/14 14:11	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/30/14 14:11	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/30/14 14:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/30/14 14:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/30/14 14:11	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/30/14 14:11	1634-04-4	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW11 **Lab ID: 92230733010** Collected: 12/19/14 10:20 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	ND	ug/L	5.0	2.0	1		12/30/14 14:11	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/30/14 14:11	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/30/14 14:11	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/30/14 14:11	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/30/14 14:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/30/14 14:11	460-00-4	
1,2-Dichloroethane-d4 (S)	96	%	70-130		1		12/30/14 14:11	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		12/30/14 14:11	2037-26-5	

Sample: MW13 **Lab ID: 92230733011** Collected: 12/19/14 10:58 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 07:05	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	123	%	60-140		1	12/23/14 14:35	12/24/14 07:05	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	25000	19200	250		12/31/14 18:58	75-85-4	
tert-Amylmethyl ether	**1470**	ug/L	50.0	17.0	5		12/31/14 02:00	994-05-8	
Benzene	**3480**	ug/L	1250	425	250		12/31/14 18:58	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	500	160	5		12/31/14 02:00	624-95-3	
tert-Butyl Alcohol	**3420**	ug/L	500	288	5		12/31/14 02:00	75-65-0	
tert-Butyl Formate	ND	ug/L	250	36.5	5		12/31/14 02:00	762-75-4	
1,2-Dichloroethane	ND	ug/L	25.0	9.0	5		12/31/14 02:00	107-06-2	
Diisopropyl ether	**4200**	ug/L	1250	425	250		12/31/14 18:58	108-20-3	
Ethanol	ND	ug/L	1000	689	5		12/31/14 02:00	64-17-5	
Ethylbenzene	**353**	ug/L	25.0	8.0	5		12/31/14 02:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	50.0	18.0	5		12/31/14 02:00	637-92-3	
Methyl-tert-butyl ether	**44200**	ug/L	1250	425	250		12/31/14 18:58	1634-04-4	
Naphthalene	**143**	ug/L	25.0	10.0	5		12/31/14 02:00	91-20-3	
Toluene	ND	ug/L	25.0	8.0	5		12/31/14 02:00	108-88-3	
Xylene (Total)	**1470**	ug/L	50.0	13.5	5		12/31/14 02:00	1330-20-7	
m&p-Xylene	**1210**	ug/L	50.0	15.5	5		12/31/14 02:00	179601-23-1	
o-Xylene	**264**	ug/L	25.0	8.0	5		12/31/14 02:00	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	102	%	70-130		5		12/31/14 02:00	460-00-4	
1,2-Dichloroethane-d4 (S)	106	%	70-130		5		12/31/14 02:00	17060-07-0	
Toluene-d8 (S)	100	%	70-130		5		12/31/14 02:00	2037-26-5	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW14 **Lab ID: 92230733012** Collected: 12/19/14 10:03 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 07:24	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	110	%	60-140		1	12/23/14 14:35	12/24/14 07:24	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**358**	ug/L	100	76.8	1		12/31/14 03:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 03:24	994-05-8	
Benzene	**271**	ug/L	12.5	4.2	2.5		12/31/14 18:25	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 03:24	624-95-3	
tert-Butyl Alcohol	**69.8J**	ug/L	100	57.7	1		12/31/14 03:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 03:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 03:24	107-06-2	
Diisopropyl ether	**1.9J**	ug/L	5.0	1.7	1		12/31/14 03:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 03:24	64-17-5	
Ethylbenzene	**73.9**	ug/L	5.0	1.6	1		12/31/14 03:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 03:24	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 03:24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 03:24	91-20-3	
Toluene	**19.5**	ug/L	5.0	1.6	1		12/31/14 03:24	108-88-3	
Xylene (Total)	**63.7**	ug/L	10.0	2.7	1		12/31/14 03:24	1330-20-7	
m&p-Xylene	**32.8**	ug/L	10.0	3.1	1		12/31/14 03:24	179601-23-1	
o-Xylene	**30.9**	ug/L	5.0	1.6	1		12/31/14 03:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		12/31/14 03:24	460-00-4	
1,2-Dichloroethane-d4 (S)	102	%	70-130		1		12/31/14 03:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		12/31/14 03:24	2037-26-5	

Sample: MW15 **Lab ID: 92230733013** Collected: 12/19/14 09:24 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 07:44	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	90	%	60-140		1	12/23/14 14:35	12/24/14 07:44	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**77.7J**	ug/L	100	76.8	1		12/31/14 02:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 02:17	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 02:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 02:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 02:17	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 02:17	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 02:17	107-06-2	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW15 **Lab ID: 92230733013** Collected: 12/19/14 09:24 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 02:17	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 02:17	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 02:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 02:17	637-92-3	
Methyl-tert-butyl ether	**5.8**	ug/L	5.0	1.7	1		12/31/14 02:17	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 02:17	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 02:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 02:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 02:17	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 02:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		12/31/14 02:17	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		12/31/14 02:17	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/31/14 02:17	2037-26-5	

Sample: MW17 **Lab ID: 92230733014** Collected: 12/19/14 14:05 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 08:03	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	99	%	60-140		1	12/23/14 14:35	12/24/14 08:03	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 02:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 02:34	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 02:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 02:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 02:34	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 02:34	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 02:34	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 02:34	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 02:34	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 02:34	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 02:34	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 02:34	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 02:34	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 02:34	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 02:34	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 02:34	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 02:34	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		12/31/14 02:34	460-00-4	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW17 **Lab ID: 92230733014** Collected: 12/19/14 14:05 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		12/31/14 02:34	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		12/31/14 02:34	2037-26-5	

Sample: MW18 **Lab ID: 92230733015** Collected: 12/19/14 12:15 Received: 12/22/14 15:50 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	12/23/14 14:35	12/24/14 08:22	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	12/23/14 14:35	12/24/14 08:22	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	10000	7680	100		12/31/14 18:41	75-85-4	
tert-Amylmethyl ether	**258**	ug/L	10.0	3.4	1		12/31/14 03:40	994-05-8	
Benzene	**233J**	ug/L	500	170	100		12/31/14 18:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 03:40	624-95-3	
tert-Butyl Alcohol	**641**	ug/L	100	57.7	1		12/31/14 03:40	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 03:40	762-75-4	
1,2-Dichloroethane	**15.9**	ug/L	5.0	1.8	1		12/31/14 03:40	107-06-2	
Diisopropyl ether	**2120**	ug/L	500	170	100		12/31/14 18:41	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 03:40	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 03:40	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 03:40	637-92-3	
Methyl-tert-butyl ether	**11700**	ug/L	500	170	100		12/31/14 18:41	1634-04-4	
Naphthalene	**29.9**	ug/L	5.0	2.0	1		12/31/14 03:40	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 03:40	108-88-3	
Xylene (Total)	**61.6**	ug/L	10.0	2.7	1		12/31/14 03:40	1330-20-7	
m&p-Xylene	**30.5**	ug/L	10.0	3.1	1		12/31/14 03:40	179601-23-1	
o-Xylene	**31.1**	ug/L	5.0	1.6	1		12/31/14 03:40	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		12/31/14 03:40	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		12/31/14 03:40	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		12/31/14 03:40	2037-26-5	

Sample: MW19 **Lab ID: 92230733016** Collected: 12/19/14 09:18 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 11:39	106-93-4	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW19 **Lab ID: 92230733016** Collected: 12/19/14 09:18 Received: 12/22/14 15:50 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								
Surrogates									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	12/23/14 14:46	12/24/14 11:39	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 03:07	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 03:07	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 03:07	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 03:07	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 03:07	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 03:07	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 03:07	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 03:07	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 03:07	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 03:07	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 03:07	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 03:07	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 03:07	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 03:07	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 03:07	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 03:07	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 03:07	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	105	%	70-130		1		12/31/14 03:07	460-00-4	
1,2-Dichloroethane-d4 (S)	110	%	70-130		1		12/31/14 03:07	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/31/14 03:07	2037-26-5	

Sample: MW20 **Lab ID: 92230733017** Collected: 12/19/14 09:13 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 11:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	84	%	60-140		1	12/23/14 14:46	12/24/14 11:58	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 07:00	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 07:00	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 07:00	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 07:00	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 07:00	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 07:00	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 07:00	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 07:00	108-20-3	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW20 **Lab ID: 92230733017** Collected: 12/19/14 09:13 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Ethanol	ND	ug/L	200	138	1		12/31/14 07:00	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 07:00	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 07:00	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 07:00	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 07:00	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 07:00	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 07:00	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 07:00	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 07:00	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		12/31/14 07:00	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		12/31/14 07:00	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/31/14 07:00	2037-26-5	

Sample: MW21 **Lab ID: 92230733018** Collected: 12/19/14 13:50 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 12:18	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	12/23/14 14:46	12/24/14 12:18	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 07:17	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 07:17	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 07:17	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 07:17	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 07:17	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 07:17	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 07:17	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 07:17	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 07:17	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 07:17	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 07:17	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 07:17	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 07:17	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 07:17	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 07:17	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 07:17	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 07:17	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		12/31/14 07:17	460-00-4	
1,2-Dichloroethane-d4 (S)	100	%	70-130		1		12/31/14 07:17	17060-07-0	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW21 **Lab ID: 92230733018** Collected: 12/19/14 13:50 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
Toluene-d8 (S)	101	%	70-130		1		12/31/14 07:17	2037-26-5	

Sample: MW22 **Lab ID: 92230733019** Collected: 12/19/14 13:38 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 12:38	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	96	%	60-140		1	12/23/14 14:46	12/24/14 12:38	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 07:34	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 07:34	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 07:34	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 07:34	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 07:34	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 07:34	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 07:34	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 07:34	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 07:34	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 07:34	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 07:34	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 07:34	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 07:34	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 07:34	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 07:34	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 07:34	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 07:34	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		12/31/14 07:34	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		12/31/14 07:34	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/31/14 07:34	2037-26-5	

Sample: MW24 **Lab ID: 92230733020** Collected: 12/19/14 12:24 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 12:58	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	89	%	60-140		1	12/23/14 14:46	12/24/14 12:58	301-79-56	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW24 Lab ID: **92230733020** Collected: 12/19/14 12:24 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1210**	ug/L	100	76.8	1		12/31/14 07:50	75-85-4	
tert-Amylmethyl ether	**21.3**	ug/L	10.0	3.4	1		12/31/14 07:50	994-05-8	
Benzene	**155**	ug/L	5.0	1.7	1		12/31/14 07:50	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 07:50	624-95-3	
tert-Butyl Alcohol	**189**	ug/L	100	57.7	1		12/31/14 07:50	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 07:50	762-75-4	
1,2-Dichloroethane	**29.0**	ug/L	5.0	1.8	1		12/31/14 07:50	107-06-2	
Diisopropyl ether	**400**	ug/L	100	34.0	20		12/31/14 19:14	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 07:50	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 07:50	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 07:50	637-92-3	
Methyl-tert-butyl ether	**1620**	ug/L	100	34.0	20		12/31/14 19:14	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 07:50	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 07:50	108-88-3	
Xylene (Total)	**14.1**	ug/L	10.0	2.7	1		12/31/14 07:50	1330-20-7	
m&p-Xylene	**14.1**	ug/L	10.0	3.1	1		12/31/14 07:50	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 07:50	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/31/14 07:50	460-00-4	
1,2-Dichloroethane-d4 (S)	101	%	70-130		1		12/31/14 07:50	17060-07-0	
Toluene-d8 (S)	99	%	70-130		1		12/31/14 07:50	2037-26-5	

Sample: MW25 Lab ID: **92230733021** Collected: 12/19/14 12:34 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 13:18	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	86	%	60-140		1	12/23/14 14:46	12/24/14 13:18	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**1900**	ug/L	100	76.8	1		12/31/14 11:11	75-85-4	
tert-Amylmethyl ether	**71.3**	ug/L	10.0	3.4	1		12/31/14 11:11	994-05-8	
Benzene	**110**	ug/L	5.0	1.7	1		12/31/14 11:11	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 11:11	624-95-3	
tert-Butyl Alcohol	**301**	ug/L	100	57.7	1		12/31/14 11:11	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 11:11	762-75-4	
1,2-Dichloroethane	**12.8**	ug/L	5.0	1.8	1		12/31/14 11:11	107-06-2	
Diisopropyl ether	**450**	ug/L	50.0	17.0	10		12/31/14 19:48	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 11:11	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 11:11	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 11:11	637-92-3	
Methyl-tert-butyl ether	**1230**	ug/L	50.0	17.0	10		12/31/14 19:48	1634-04-4	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW25 **Lab ID: 92230733021** Collected: 12/19/14 12:34 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Naphthalene	**62.9**	ug/L	5.0	2.0	1		12/31/14 11:11	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 11:11	108-88-3	
Xylene (Total)	**20.2**	ug/L	10.0	2.7	1		12/31/14 11:11	1330-20-7	
m&p-Xylene	**5.2J**	ug/L	10.0	3.1	1		12/31/14 11:11	179601-23-1	
o-Xylene	**20.2**	ug/L	5.0	1.6	1		12/31/14 11:11	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	103	%	70-130		1		12/31/14 11:11	460-00-4	
1,2-Dichloroethane-d4 (S)	107	%	70-130		1		12/31/14 11:11	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/31/14 11:11	2037-26-5	

Sample: MW26 **Lab ID: 92230733022** Collected: 12/19/14 11:27 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 13:37	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	97	%	60-140		1	12/23/14 14:46	12/24/14 13:37	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 08:24	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 08:24	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 08:24	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 08:24	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 08:24	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 08:24	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 08:24	107-06-2	
Diisopropyl ether	**2.1J**	ug/L	5.0	1.7	1		12/31/14 08:24	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 08:24	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 08:24	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 08:24	637-92-3	
Methyl-tert-butyl ether	**20.6**	ug/L	5.0	1.7	1		12/31/14 08:24	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 08:24	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 08:24	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 08:24	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 08:24	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 08:24	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	106	%	70-130		1		12/31/14 08:24	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		12/31/14 08:24	17060-07-0	
Toluene-d8 (S)	100	%	70-130		1		12/31/14 08:24	2037-26-5	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: WSW-1 **Lab ID: 92230733023** Collected: 12/19/14 12:02 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 13:57	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	103	%	60-140		1	12/23/14 14:46	12/24/14 13:57	301-79-56	
8260 MSV Low Level SC	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	50.0	1		12/31/14 02:05	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	0.10	1		12/31/14 02:05	994-05-8	
Benzene	ND	ug/L	1.0	0.25	1		12/31/14 02:05	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	50.0	1		12/31/14 02:05	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	3.6	1		12/31/14 02:05	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	1.9	1		12/31/14 02:05	762-75-4	
1,2-Dichloroethane	ND	ug/L	1.0	0.12	1		12/31/14 02:05	107-06-2	
Diisopropyl ether	ND	ug/L	1.0	0.12	1		12/31/14 02:05	108-20-3	
Ethanol	ND	ug/L	200	33.0	1		12/31/14 02:05	64-17-5	
Ethylbenzene	ND	ug/L	1.0	0.30	1		12/31/14 02:05	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	0.070	1		12/31/14 02:05	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	1.0	0.21	1		12/31/14 02:05	1634-04-4	
Naphthalene	ND	ug/L	1.0	0.24	1		12/31/14 02:05	91-20-3	
Toluene	ND	ug/L	1.0	0.26	1		12/31/14 02:05	108-88-3	
Xylene (Total)	ND	ug/L	2.0	0.66	1		12/31/14 02:05	1330-20-7	
m&p-Xylene	ND	ug/L	2.0	0.66	1		12/31/14 02:05	179601-23-1	
o-Xylene	ND	ug/L	1.0	0.23	1		12/31/14 02:05	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	90	%	70-130		1		12/31/14 02:05	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		12/31/14 02:05	17060-07-0	
Toluene-d8 (S)	98	%	70-130		1		12/31/14 02:05	2037-26-5	

Sample: MW1 DUPLICATE **Lab ID: 92230733024** Collected: 12/19/14 11:52 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 14:17	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	112	%	60-140		1	12/23/14 14:46	12/24/14 14:17	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 11:28	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 11:28	994-05-8	
Benzene	**16.9**	ug/L	5.0	1.7	1		12/31/14 11:28	71-43-2	
3,3-Dimethyl-1-Butanol	**59.9J**	ug/L	100	32.1	1		12/31/14 11:28	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 11:28	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 11:28	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 11:28	107-06-2	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW1 DUPLICATE **Lab ID: 92230733024** Collected: 12/19/14 11:52 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 11:28	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 11:28	64-17-5	
Ethylbenzene	**476**	ug/L	50.0	16.0	10		12/31/14 20:04	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 11:28	637-92-3	
Methyl-tert-butyl ether	**8.5**	ug/L	5.0	1.7	1		12/31/14 11:28	1634-04-4	
Naphthalene	**168**	ug/L	5.0	2.0	1		12/31/14 11:28	91-20-3	
Toluene	**204**	ug/L	50.0	16.0	10		12/31/14 20:04	108-88-3	
Xylene (Total)	**2460**	ug/L	100	27.0	10		12/31/14 20:04	1330-20-7	
m&p-Xylene	**1940**	ug/L	100	31.0	10		12/31/14 20:04	179601-23-1	
o-Xylene	**519**	ug/L	50.0	16.0	10		12/31/14 20:04	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	104	%	70-130		1		12/31/14 11:28	460-00-4	
1,2-Dichloroethane-d4 (S)	94	%	70-130		1		12/31/14 11:28	17060-07-0	
Toluene-d8 (S)	104	%	70-130		1		12/31/14 11:28	2037-26-5	

Sample: MW2 DUPLICATE **Lab ID: 92230733025** Collected: 12/19/14 11:43 Received: 12/22/14 15:50 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)	**87.1**	ug/L	2.0	2.0	100	12/23/14 14:46	12/27/14 12:36	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	0	%	60-140		100	12/23/14 14:46	12/27/14 12:36	301-79-56	S4
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	**36400**	ug/L	1000	768	10		12/31/14 12:18	75-85-4	
tert-Amylmethyl ether	**552**	ug/L	100	34.0	10		12/31/14 12:18	994-05-8	
Benzene	**21900**	ug/L	1250	425	250		12/31/14 20:37	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	1000	321	10		12/31/14 12:18	624-95-3	
tert-Butyl Alcohol	**2280**	ug/L	1000	577	10		12/31/14 12:18	75-65-0	
tert-Butyl Formate	ND	ug/L	500	73.0	10		12/31/14 12:18	762-75-4	
1,2-Dichloroethane	**720**	ug/L	50.0	18.0	10		12/31/14 12:18	107-06-2	
Diisopropyl ether	**6220**	ug/L	1250	425	250		12/31/14 20:37	108-20-3	
Ethanol	ND	ug/L	2000	1380	10		12/31/14 12:18	64-17-5	
Ethylbenzene	**2960**	ug/L	1250	400	250		12/31/14 20:37	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	100	36.0	10		12/31/14 12:18	637-92-3	
Methyl-tert-butyl ether	**10700**	ug/L	1250	425	250		12/31/14 20:37	1634-04-4	
Naphthalene	**460**	ug/L	50.0	20.0	10		12/31/14 12:18	91-20-3	
Toluene	**47200**	ug/L	1250	400	250		12/31/14 20:37	108-88-3	
Xylene (Total)	**18100**	ug/L	2500	675	250		12/31/14 20:37	1330-20-7	
m&p-Xylene	**12000**	ug/L	2500	775	250		12/31/14 20:37	179601-23-1	
o-Xylene	**6070**	ug/L	1250	400	250		12/31/14 20:37	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	100	%	70-130		10		12/31/14 12:18	460-00-4	

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: MW2 DUPLICATE **Lab ID: 92230733025** Collected: 12/19/14 11:43 Received: 12/22/14 15:50 Matrix: Water

Parameters	Results	Units	Report Limit	MDL	DF	Prepared	Analyzed	CAS No.	Qual
8260 MSV	Analytical Method: EPA 8260								
Surrogates									
1,2-Dichloroethane-d4 (S)	84	%	70-130		10		12/31/14 12:18	17060-07-0	
Toluene-d8 (S)	101	%	70-130		10		12/31/14 12:18	2037-26-5	

Sample: FIELD BLANK **Lab ID: 92230733026** Collected: 12/19/14 09:15 Received: 12/22/14 15:50 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	12/23/14 14:46	12/24/14 14:57	106-93-4	
Surrogates									
1-Chloro-2-bromopropane (S)	92	%	60-140		1	12/23/14 14:46	12/24/14 14:57	301-79-56	
8260 MSV	Analytical Method: EPA 8260								
tert-Amyl Alcohol	ND	ug/L	100	76.8	1		12/31/14 08:41	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 08:41	994-05-8	
Benzene	ND	ug/L	5.0	1.7	1		12/31/14 08:41	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 08:41	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 08:41	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 08:41	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 08:41	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 08:41	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 08:41	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 08:41	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 08:41	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 08:41	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 08:41	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 08:41	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 08:41	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 08:41	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 08:41	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	107	%	70-130		1		12/31/14 08:41	460-00-4	
1,2-Dichloroethane-d4 (S)	104	%	70-130		1		12/31/14 08:41	17060-07-0	
Toluene-d8 (S)	101	%	70-130		1		12/31/14 08:41	2037-26-5	

Sample: TRIP BLANK **Lab ID: 92230733027** Collected: 12/19/14 09:15 Received: 12/22/14 15:50 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		12/31/14 08:57	75-85-4	
tert-Amylmethyl ether	ND	ug/L	10.0	3.4	1		12/31/14 08:57	994-05-8	

REPORT OF LABORATORY ANALYSIS

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ANALYTICAL RESULTS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Sample: TRIP BLANK **Lab ID: 92230733027** Collected: 12/19/14 09:15 Received: 12/22/14 15:50 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		12/31/14 08:57	71-43-2	
3,3-Dimethyl-1-Butanol	ND	ug/L	100	32.1	1		12/31/14 08:57	624-95-3	
tert-Butyl Alcohol	ND	ug/L	100	57.7	1		12/31/14 08:57	75-65-0	
tert-Butyl Formate	ND	ug/L	50.0	7.3	1		12/31/14 08:57	762-75-4	
1,2-Dichloroethane	ND	ug/L	5.0	1.8	1		12/31/14 08:57	107-06-2	
Diisopropyl ether	ND	ug/L	5.0	1.7	1		12/31/14 08:57	108-20-3	
Ethanol	ND	ug/L	200	138	1		12/31/14 08:57	64-17-5	
Ethylbenzene	ND	ug/L	5.0	1.6	1		12/31/14 08:57	100-41-4	
Ethyl-tert-butyl ether	ND	ug/L	10.0	3.6	1		12/31/14 08:57	637-92-3	
Methyl-tert-butyl ether	ND	ug/L	5.0	1.7	1		12/31/14 08:57	1634-04-4	
Naphthalene	ND	ug/L	5.0	2.0	1		12/31/14 08:57	91-20-3	
Toluene	ND	ug/L	5.0	1.6	1		12/31/14 08:57	108-88-3	
Xylene (Total)	ND	ug/L	10.0	2.7	1		12/31/14 08:57	1330-20-7	
m&p-Xylene	ND	ug/L	10.0	3.1	1		12/31/14 08:57	179601-23-1	
o-Xylene	ND	ug/L	5.0	1.6	1		12/31/14 08:57	95-47-6	
Surrogates									
4-Bromofluorobenzene (S)	101	%	70-130		1		12/31/14 08:57	460-00-4	
1,2-Dichloroethane-d4 (S)	105	%	70-130		1		12/31/14 08:57	17060-07-0	
Toluene-d8 (S)	102	%	70-130		1		12/31/14 08:57	2037-26-5	

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

QC Batch: MSV/29871 | Analysis Method: EPA 8260
QC Batch Method: EPA 8260 | Analysis Description: 8260 MSV Low Level SC
Associated Lab Samples: 92230733023

METHOD BLANK: 1361753 | Matrix: Water
Associated Lab Samples: 92230733023

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	1.0	12/30/14 22:44	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	12/30/14 22:44	
Benzene	ug/L	ND	1.0	12/30/14 22:44	
Diisopropyl ether	ug/L	ND	1.0	12/30/14 22:44	
Ethanol	ug/L	ND	200	12/30/14 22:44	
Ethyl-tert-butyl ether	ug/L	ND	10.0	12/30/14 22:44	
Ethylbenzene	ug/L	ND	1.0	12/30/14 22:44	
m&p-Xylene	ug/L	ND	2.0	12/30/14 22:44	
Methyl-tert-butyl ether	ug/L	ND	1.0	12/30/14 22:44	
Naphthalene	ug/L	ND	1.0	12/30/14 22:44	
o-Xylene	ug/L	ND	1.0	12/30/14 22:44	
tert-Amyl Alcohol	ug/L	ND	100	12/30/14 22:44	
tert-Amylmethyl ether	ug/L	ND	10.0	12/30/14 22:44	
tert-Butyl Alcohol	ug/L	ND	100	12/30/14 22:44	
tert-Butyl Formate	ug/L	ND	50.0	12/30/14 22:44	
Toluene	ug/L	ND	1.0	12/30/14 22:44	
Xylene (Total)	ug/L	ND	2.0	12/30/14 22:44	
1,2-Dichloroethane-d4 (S)	%	102	70-130	12/30/14 22:44	
4-Bromofluorobenzene (S)	%	98	70-130	12/30/14 22:44	
Toluene-d8 (S)	%	96	70-130	12/30/14 22:44	

LABORATORY CONTROL SAMPLE: 1361754

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	50.0	100	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	1030	103	70-130	
Benzene	ug/L	50	52.1	104	70-130	
Diisopropyl ether	ug/L	50	48.0	96	70-130	
Ethanol	ug/L	2000	1550	77	70-130	
Ethyl-tert-butyl ether	ug/L	100	105	105	70-130	
Ethylbenzene	ug/L	50	50.8	102	70-130	
m&p-Xylene	ug/L	100	101	101	70-130	
Methyl-tert-butyl ether	ug/L	50	46.4	93	70-130	
Naphthalene	ug/L	50	59.5	119	70-130	
o-Xylene	ug/L	50	51.7	103	70-130	
tert-Amyl Alcohol	ug/L	1000	1030	103	70-130	
tert-Amylmethyl ether	ug/L	100	99.7	100	70-130	
tert-Butyl Alcohol	ug/L	500	506	101	70-130	
tert-Butyl Formate	ug/L	400	419	105	70-130	
Toluene	ug/L	50	51.7	103	70-130	

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

LABORATORY CONTROL SAMPLE: 1361754

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)	%			98	70-130	
4-Bromofluorobenzene (S)	%			99	70-130	
Toluene-d8 (S)	%			99	70-130	

MATRIX SPIKE SAMPLE: 1361756

Parameter	Units	92230607003 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	3.1	20	24.2	105	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	409	102	70-130	
Benzene	ug/L	5.3	20	29.2	120	70-130	
Diisopropyl ether	ug/L	ND	20	19.3	96	70-130	
Ethanol	ug/L	ND	800	632	79	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	44.1	110	70-130	
Ethylbenzene	ug/L	ND	20	22.9	114	70-130	
m&p-Xylene	ug/L	ND	40	46.4	115	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	18.9	95	70-130	
Naphthalene	ug/L	ND	20	22.3	112	70-130	
o-Xylene	ug/L	ND	20	22.4	112	70-130	
tert-Amyl Alcohol	ug/L	56.2J	400	481	106	70-130	
tert-Amylmethyl ether	ug/L	ND	40	40.4	101	70-130	
tert-Butyl Alcohol	ug/L	21.2J	200	357	168	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	22.3	111	70-130	
1,2-Dichloroethane-d4 (S)	%				101	70-130	
4-Bromofluorobenzene (S)	%				92	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1361755

Parameter	Units	92230607004 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: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

SAMPLE DUPLICATE: 1361755

Parameter	Units	92230607004 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Butyl Alcohol	ug/L	4.7J	5.9J		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)	%	107	106	1		
4-Bromofluorobenzene (S)	%	91	91	0		
Toluene-d8 (S)	%	99	99	0		

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

QC Batch: MSV/29846 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92230733001, 92230733002, 92230733004, 92230733005, 92230733006, 92230733008, 92230733009, 92230733010

METHOD BLANK: 1360697 Matrix: Water
Associated Lab Samples: 92230733001, 92230733002, 92230733004, 92230733005, 92230733006, 92230733008, 92230733009, 92230733010

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	12/30/14 05:16	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	12/30/14 05:16	
Benzene	ug/L	ND	5.0	12/30/14 05:16	
Diisopropyl ether	ug/L	ND	5.0	12/30/14 05:16	
Ethanol	ug/L	ND	200	12/30/14 05:16	
Ethyl-tert-butyl ether	ug/L	ND	10.0	12/30/14 05:16	
Ethylbenzene	ug/L	ND	5.0	12/30/14 05:16	
m&p-Xylene	ug/L	ND	10.0	12/30/14 05:16	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/30/14 05:16	
Naphthalene	ug/L	ND	5.0	12/30/14 05:16	
o-Xylene	ug/L	ND	5.0	12/30/14 05:16	
tert-Amyl Alcohol	ug/L	ND	100	12/30/14 05:16	
tert-Amylmethyl ether	ug/L	ND	10.0	12/30/14 05:16	
tert-Butyl Alcohol	ug/L	ND	100	12/30/14 05:16	
tert-Butyl Formate	ug/L	ND	50.0	12/30/14 05:16	
Toluene	ug/L	ND	5.0	12/30/14 05:16	
Xylene (Total)	ug/L	ND	10.0	12/30/14 05:16	
1,2-Dichloroethane-d4 (S)	%	91	70-130	12/30/14 05:16	
4-Bromofluorobenzene (S)	%	100	70-130	12/30/14 05:16	
Toluene-d8 (S)	%	100	70-130	12/30/14 05:16	

LABORATORY CONTROL SAMPLE: 1360698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	47.6	95	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	946	95	70-130	
Benzene	ug/L	50	57.9	116	70-130	
Diisopropyl ether	ug/L	50	53.0	106	70-130	
Ethanol	ug/L	2000	2100	105	70-130	
Ethyl-tert-butyl ether	ug/L	100	114	114	70-130	
Ethylbenzene	ug/L	50	52.5	105	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl-tert-butyl ether	ug/L	50	49.9	100	70-130	
Naphthalene	ug/L	50	51.3	103	70-130	
o-Xylene	ug/L	50	53.6	107	70-130	
tert-Amyl Alcohol	ug/L	1000	989	99	70-130	
tert-Amylmethyl ether	ug/L	100	111	111	70-130	
tert-Butyl Alcohol	ug/L	500	552	110	70-130	

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

LABORATORY CONTROL SAMPLE: 1360698

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	454	113	70-130	
Toluene	ug/L	50	55.0	110	70-130	
Xylene (Total)	ug/L	150	161	108	70-130	
1,2-Dichloroethane-d4 (S)	%			84	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			100	70-130	

MATRIX SPIKE SAMPLE: 1360699

Parameter	Units	92230733005 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	20.3	102	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	343	86	70-130	
Benzene	ug/L	ND	20	24.9	125	70-130	
Diisopropyl ether	ug/L	ND	20	21.9	109	70-130	
Ethanol	ug/L	ND	800	925	116	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	48.4	121	70-130	
Ethylbenzene	ug/L	ND	20	22.8	114	70-130	
m&p-Xylene	ug/L	ND	40	46.5	116	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	20.7	104	70-130	
Naphthalene	ug/L	ND	20	21.2	106	70-130	
o-Xylene	ug/L	ND	20	22.7	113	70-130	
tert-Amyl Alcohol	ug/L	ND	400	381	95	70-130	
tert-Amylmethyl ether	ug/L	ND	40	42.6	107	70-130	
tert-Butyl Alcohol	ug/L	ND	200	333	166	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	23.6	118	70-130	
1,2-Dichloroethane-d4 (S)	%				87	70-130	
4-Bromofluorobenzene (S)	%				102	70-130	
Toluene-d8 (S)	%				98	70-130	

SAMPLE DUPLICATE: 1360700

Parameter	Units	92230733006 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: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

SAMPLE DUPLICATE: 1360700

Parameter	Units	92230733006 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)	%	117	114	2		
4-Bromofluorobenzene (S)	%	107	107	0		
Toluene-d8 (S)	%	101	101	0		

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

QC Batch: MSV/29867 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92230733003, 92230733007, 92230733011, 92230733012, 92230733013, 92230733014, 92230733015, 92230733016

METHOD BLANK: 1361588 Matrix: Water
Associated Lab Samples: 92230733003, 92230733007, 92230733011, 92230733012, 92230733013, 92230733014, 92230733015, 92230733016

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	12/30/14 22:07	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	12/30/14 22:07	
Benzene	ug/L	ND	5.0	12/30/14 22:07	
Diisopropyl ether	ug/L	ND	5.0	12/30/14 22:07	
Ethanol	ug/L	ND	200	12/30/14 22:07	
Ethyl-tert-butyl ether	ug/L	ND	10.0	12/30/14 22:07	
Ethylbenzene	ug/L	ND	5.0	12/30/14 22:07	
m&p-Xylene	ug/L	ND	10.0	12/30/14 22:07	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/30/14 22:07	
Naphthalene	ug/L	ND	5.0	12/30/14 22:07	
o-Xylene	ug/L	ND	5.0	12/30/14 22:07	
tert-Amyl Alcohol	ug/L	ND	100	12/30/14 22:07	
tert-Amylmethyl ether	ug/L	ND	10.0	12/30/14 22:07	
tert-Butyl Alcohol	ug/L	ND	100	12/30/14 22:07	
tert-Butyl Formate	ug/L	ND	50.0	12/30/14 22:07	
Toluene	ug/L	ND	5.0	12/30/14 22:07	
Xylene (Total)	ug/L	ND	10.0	12/30/14 22:07	
1,2-Dichloroethane-d4 (S)	%	97	70-130	12/30/14 22:07	
4-Bromofluorobenzene (S)	%	100	70-130	12/30/14 22:07	
Toluene-d8 (S)	%	102	70-130	12/30/14 22:07	

LABORATORY CONTROL SAMPLE: 1361589

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	48.5	97	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	988	99	70-130	
Benzene	ug/L	50	55.6	111	70-130	
Diisopropyl ether	ug/L	50	52.8	106	70-130	
Ethanol	ug/L	2000	2480	124	70-130	
Ethyl-tert-butyl ether	ug/L	100	114	114	70-130	
Ethylbenzene	ug/L	50	50.4	101	70-130	
m&p-Xylene	ug/L	100	103	103	70-130	
Methyl-tert-butyl ether	ug/L	50	49.9	100	70-130	
Naphthalene	ug/L	50	48.2	96	70-130	
o-Xylene	ug/L	50	51.5	103	70-130	
tert-Amyl Alcohol	ug/L	1000	1060	106	70-130	
tert-Amylmethyl ether	ug/L	100	109	109	70-130	
tert-Butyl Alcohol	ug/L	500	600	120	70-130	

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

LABORATORY CONTROL SAMPLE: 1361589

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	456	114	70-130	
Toluene	ug/L	50	53.5	107	70-130	
Xylene (Total)	ug/L	150	155	103	70-130	
1,2-Dichloroethane-d4 (S)	%			87	70-130	
4-Bromofluorobenzene (S)	%			100	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1361590

Parameter	Units	92230733013 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	22.4	110	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	322	81	70-130	
Benzene	ug/L	ND	20	24.9	123	70-130	
Diisopropyl ether	ug/L	ND	20	22.5	111	70-130	
Ethanol	ug/L	ND	800	636	80	70-130	
Ethyl-tert-butyl ether	ug/L	ND	40	48.6	121	70-130	
Ethylbenzene	ug/L	ND	20	21.9	109	70-130	
m&p-Xylene	ug/L	ND	40	44.5	111	70-130	
Methyl-tert-butyl ether	ug/L	5.8	20	23.9	90	70-130	
Naphthalene	ug/L	ND	20	19.6	98	70-130	
o-Xylene	ug/L	ND	20	21.4	107	70-130	
tert-Amyl Alcohol	ug/L	77.7J	400	374	74	70-130	
tert-Amylmethyl ether	ug/L	ND	40	43.0	107	70-130	
tert-Butyl Alcohol	ug/L	ND	200	349	163	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	23.1	115	70-130	
1,2-Dichloroethane-d4 (S)	%				94	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				100	70-130	

SAMPLE DUPLICATE: 1361591

Parameter	Units	92230733014 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: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

SAMPLE DUPLICATE: 1361591

Parameter	Units	92230733014 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)	%	107	108	1		
4-Bromofluorobenzene (S)	%	106	107	1		
Toluene-d8 (S)	%	100	101	1		

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

QC Batch: MSV/29868 Analysis Method: EPA 8260
QC Batch Method: EPA 8260 Analysis Description: 8260 MSV SC
Associated Lab Samples: 92230733017, 92230733018, 92230733019, 92230733020, 92230733021, 92230733022, 92230733024, 92230733025, 92230733026, 92230733027

METHOD BLANK: 1361598 Matrix: Water
Associated Lab Samples: 92230733017, 92230733018, 92230733019, 92230733020, 92230733021, 92230733022, 92230733024, 92230733025, 92230733026, 92230733027

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dichloroethane	ug/L	ND	5.0	12/31/14 06:27	
3,3-Dimethyl-1-Butanol	ug/L	ND	100	12/31/14 06:27	
Benzene	ug/L	ND	5.0	12/31/14 06:27	
Diisopropyl ether	ug/L	ND	5.0	12/31/14 06:27	
Ethanol	ug/L	ND	200	12/31/14 06:27	
Ethyl-tert-butyl ether	ug/L	ND	10.0	12/31/14 06:27	
Ethylbenzene	ug/L	ND	5.0	12/31/14 06:27	
m&p-Xylene	ug/L	ND	10.0	12/31/14 06:27	
Methyl-tert-butyl ether	ug/L	ND	5.0	12/31/14 06:27	
Naphthalene	ug/L	ND	5.0	12/31/14 06:27	
o-Xylene	ug/L	ND	5.0	12/31/14 06:27	
tert-Amyl Alcohol	ug/L	ND	100	12/31/14 06:27	
tert-Amylmethyl ether	ug/L	ND	10.0	12/31/14 06:27	
tert-Butyl Alcohol	ug/L	ND	100	12/31/14 06:27	
tert-Butyl Formate	ug/L	ND	50.0	12/31/14 06:27	
Toluene	ug/L	ND	5.0	12/31/14 06:27	
Xylene (Total)	ug/L	ND	10.0	12/31/14 06:27	
1,2-Dichloroethane-d4 (S)	%	96	70-130	12/31/14 06:27	
4-Bromofluorobenzene (S)	%	100	70-130	12/31/14 06:27	
Toluene-d8 (S)	%	102	70-130	12/31/14 06:27	

LABORATORY CONTROL SAMPLE: 1361599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	50	53.7	107	70-130	
3,3-Dimethyl-1-Butanol	ug/L	1000	932	93	70-130	
Benzene	ug/L	50	59.7	119	70-130	
Diisopropyl ether	ug/L	50	57.5	115	70-130	
Ethanol	ug/L	2000	2220	111	70-130	
Ethyl-tert-butyl ether	ug/L	100	124	124	70-130	
Ethylbenzene	ug/L	50	52.9	106	70-130	
m&p-Xylene	ug/L	100	108	108	70-130	
Methyl-tert-butyl ether	ug/L	50	53.8	108	70-130	
Naphthalene	ug/L	50	49.9	100	70-130	
o-Xylene	ug/L	50	53.3	107	70-130	
tert-Amyl Alcohol	ug/L	1000	1020	102	70-130	
tert-Amylmethyl ether	ug/L	100	115	115	70-130	
tert-Butyl Alcohol	ug/L	500	604	121	70-130	

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

LABORATORY CONTROL SAMPLE: 1361599

Parameter	Units	Spike Conc.	LCS Result	LCS % Rec	% Rec Limits	Qualifiers
tert-Butyl Formate	ug/L	400	488	122	70-130	
Toluene	ug/L	50	56.6	113	70-130	
Xylene (Total)	ug/L	150	161	108	70-130	
1,2-Dichloroethane-d4 (S)	%			90	70-130	
4-Bromofluorobenzene (S)	%			102	70-130	
Toluene-d8 (S)	%			101	70-130	

MATRIX SPIKE SAMPLE: 1361600

Parameter	Units	92230733019 Result	Spike Conc.	MS Result	MS % Rec	% Rec Limits	Qualifiers
1,2-Dichloroethane	ug/L	ND	20	22.1	110	70-130	
3,3-Dimethyl-1-Butanol	ug/L	ND	400	349	87	70-130	
Benzene	ug/L	ND	20	24.6	123	70-130	
Diisopropyl ether	ug/L	ND	20	22.9	114	70-130	
Ethanol	ug/L	ND	800	1050	131	70-130	M0
Ethyl-tert-butyl ether	ug/L	ND	40	49.4	124	70-130	
Ethylbenzene	ug/L	ND	20	21.7	108	70-130	
m&p-Xylene	ug/L	ND	40	44.4	111	70-130	
Methyl-tert-butyl ether	ug/L	ND	20	21.5	108	70-130	
Naphthalene	ug/L	ND	20	20.1	100	70-130	
o-Xylene	ug/L	ND	20	21.4	107	70-130	
tert-Amyl Alcohol	ug/L	ND	400	388	97	70-130	
tert-Amylmethyl ether	ug/L	ND	40	43.0	108	70-130	
tert-Butyl Alcohol	ug/L	ND	200	366	183	70-130	M0
tert-Butyl Formate	ug/L	ND	160	ND	0	70-130	P5
Toluene	ug/L	ND	20	23.4	117	70-130	
1,2-Dichloroethane-d4 (S)	%				92	70-130	
4-Bromofluorobenzene (S)	%				103	70-130	
Toluene-d8 (S)	%				99	70-130	

SAMPLE DUPLICATE: 1361601

Parameter	Units	92230733020 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dichloroethane	ug/L	29.0	29.3	1	30	
3,3-Dimethyl-1-Butanol	ug/L	ND	ND		30	
Benzene	ug/L	155	147	5	30	
Diisopropyl ether	ug/L	400	389	3	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	14.1	13.1	7	30	
Methyl-tert-butyl ether	ug/L	1620	1620	0	30	
Naphthalene	ug/L	ND	ND		30	
o-Xylene	ug/L	ND	ND		30	

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QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

SAMPLE DUPLICATE: 1361601

Parameter	Units	92230733020 Result	Dup Result	RPD	Max RPD	Qualifiers
tert-Amyl Alcohol	ug/L	1210	1280	6	30	
tert-Amylmethyl ether	ug/L	21.3	21.4	0	30	
tert-Butyl Alcohol	ug/L	189	201	7	30	
tert-Butyl Formate	ug/L	ND	ND		30	
Toluene	ug/L	ND	ND		30	
Xylene (Total)	ug/L	14.1	13.1	7	30	
1,2-Dichloroethane-d4 (S)	%	101	101	0		
4-Bromofluorobenzene (S)	%	104	103	1		
Toluene-d8 (S)	%	99	99	0		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

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Huntersville, NC 28078
(704)875-9092

QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

QC Batch: OEXT/31895 — Analysis Method: EPA 8011
QC Batch Method: EPA 8011 — Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92230733001, 92230733002, 92230733003, 92230733004, 92230733005, 92230733006, 92230733007, 92230733008, 92230733009, 92230733010, 92230733011, 92230733012, 92230733013, 92230733014, 92230733015

METHOD BLANK: 1358507 — Matrix: Water
Associated Lab Samples: 92230733001, 92230733002, 92230733003, 92230733004, 92230733005, 92230733006, 92230733007, 92230733008, 92230733009, 92230733010, 92230733011, 92230733012, 92230733013, 92230733014, 92230733015

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	12/24/14 00:24	
1-Chloro-2-bromopropane (S)	%	98	60-140	12/24/14 00:24	

LABORATORY CONTROL SAMPLE & LCSD: 1358508 1358509

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	0.28	98	100	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				102	98	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1358510 1358511

Parameter	Units	92230384011 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	.29	.29	0.25	0.26	88	92	60-140	4	20	
1-Chloro-2-bromopropane (S)	%						91	95	60-140			

SAMPLE DUPLICATE: 1358512

Parameter	Units	92230384012 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	65	100	41		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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(704)875-9092

QUALITY CONTROL DATA

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

QC Batch: OEXT/31896 Analysis Method: EPA 8011
QC Batch Method: EPA 8011 Analysis Description: GCS 8011 EDB DBCP
Associated Lab Samples: 92230733016, 92230733017, 92230733018, 92230733019, 92230733020, 92230733021, 92230733022, 92230733023, 92230733024, 92230733025, 92230733026

METHOD BLANK: 1358513 Matrix: Water
Associated Lab Samples: 92230733016, 92230733017, 92230733018, 92230733019, 92230733020, 92230733021, 92230733022, 92230733023, 92230733024, 92230733025, 92230733026

Parameter	Units	Blank Result	Reporting Limit	Analyzed	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	0.020	12/24/14 10:40	
1-Chloro-2-bromopropane (S)	%	103	60-140	12/24/14 10:40	

LABORATORY CONTROL SAMPLE & LCSD: 1358514 1358515

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	0.30	108	104	60-140	3	20	
1-Chloro-2-bromopropane (S)	%				100	98	60-140			

MATRIX SPIKE & MATRIX SPIKE DUPLICATE: 1358516 1358517

Parameter	Units	92230602001 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	0.25	92	90	60-140	2	20	
1-Chloro-2-bromopropane (S)	%						93	92	60-140			

SAMPLE DUPLICATE: 1358518

Parameter	Units	92230602002 Result	Dup Result	RPD	Max RPD	Qualifiers
1,2-Dibromoethane (EDB)	ug/L	ND	ND		20	
1-Chloro-2-bromopropane (S)	%	100	102	4		

Results presented on this page are in the units indicated by the "Units" column except where an alternate unit is presented to the right of the result.

REPORT OF LABORATORY ANALYSIS

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QUALIFIERS

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

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.

PQL - Practical Quantitation Limit.

RL - Reporting 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.

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

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

TNI - The NELAC Institute.

LABORATORIES

PASI-C Pace Analytical Services - Charlotte

ANALYTE QUALIFIERS

C2	Relative percent difference between results from each column was greater than 40%. The lower of the two results was reported.
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.
S4	Surrogate recovery not evaluated against control limits due to sample dilution.

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92230733001	MW1	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733002	MW2	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733003	MW3	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733004	MW4	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733005	MW5	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733006	MW6	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733007	MW7	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733008	MW8	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733009	MW9R	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733010	MW11	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733011	MW13	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733012	MW14	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733013	MW15	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733014	MW17	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733015	MW18	EPA 8011	OEXT/31895	EPA 8011	GCSV/19895
92230733016	MW19	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733017	MW20	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733018	MW21	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733019	MW22	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733020	MW24	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733021	MW25	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733022	MW26	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733023	WSW-1	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733024	MW1 DUPLICATE	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733025	MW2 DUPLICATE	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733026	FIELD BLANK	EPA 8011	OEXT/31896	EPA 8011	GCSV/19897
92230733023	WSW-1	EPA 8260	MSV/29871		
92230733001	MW1	EPA 8260	MSV/29846		
92230733002	MW2	EPA 8260	MSV/29846		
92230733003	MW3	EPA 8260	MSV/29867		
92230733004	MW4	EPA 8260	MSV/29846		
92230733005	MW5	EPA 8260	MSV/29846		
92230733006	MW6	EPA 8260	MSV/29846		
92230733007	MW7	EPA 8260	MSV/29867		
92230733008	MW8	EPA 8260	MSV/29846		
92230733009	MW9R	EPA 8260	MSV/29846		
92230733010	MW11	EPA 8260	MSV/29846		
92230733011	MW13	EPA 8260	MSV/29867		
92230733012	MW14	EPA 8260	MSV/29867		
92230733013	MW15	EPA 8260	MSV/29867		
92230733014	MW17	EPA 8260	MSV/29867		
92230733015	MW18	EPA 8260	MSV/29867		
92230733016	MW19	EPA 8260	MSV/29867		
92230733017	MW20	EPA 8260	MSV/29868		

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QUALITY CONTROL DATA CROSS REFERENCE TABLE

Project: Circle Stop N Shop 14-4962
Pace Project No.: 92230733

Lab ID	Sample ID	QC Batch Method	QC Batch	Analytical Method	Analytical Batch
92230733018	MW21	EPA 8260	MSV/29868		
92230733019	MW22	EPA 8260	MSV/29868		
92230733020	MW24	EPA 8260	MSV/29868		
92230733021	MW25	EPA 8260	MSV/29868		
92230733022	MW26	EPA 8260	MSV/29868		
92230733024	MW1 DUPLICATE	EPA 8260	MSV/29868		
92230733025	MW2 DUPLICATE	EPA 8260	MSV/29868		
92230733026	FIELD BLANK	EPA 8260	MSV/29868		
92230733027	TRIP BLANK	EPA 8260	MSV/29868		

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Pace Analytical	Sample Condition Upon Receipt (SCUR)	Page 1 of 2
	Document Number: F-CHR-CS-003-rev.15	Issuing Authority: Pace Huntersville Quality Office

Client Name: Midlands Environmental

Courier: ☐ Fed Ex ☐ UPS ☐ USPS ☐ Client ☐ Commercial ☒ Pace Other _____

[redacted]

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.: 1.8 °C Biological Tissue is Frozen: Yes No (N/A)

Date and Initials of person examining contents: TC 12/22/14

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 DATE OR TIME ON SAMPLES
-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	
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:	AMB	Date:	12-22-14
SRF Review:	TMD	Date:	12-23-14

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)

Place label here

WO#: 92230733

92230733

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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

1888685

Section A Required Client Information:
Company: Midlands Environmental
Address: 231 Dooley Rd
Lexington, SC 29073
Email To: slc@mei.net
Phone: 803-808-2043 Fax: 803-808-2048
Requested Due Date/TAT:

Section B Required Project Information:
Report To: B. Shane
Copy To:
Purchase Order No.:
Project Name: Circle Stop N Shop
Project Number: 14-4962

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: A. Baron
Pace Profile #: 830-5

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER

Site Location STATE: SC Saluda

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): BTEX Alcoh, MTBE; 1,2-DCA; 8-Oxygenates; 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	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 Alcoh, MTBE	1,2-DCA	8-Oxygenates	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. 92230733
1	MW 1	WT	G			12/19/14	11:52		6				6						X	X	X	X		Odor	001
2	MW 2						11:43																	Odor	002
3	MW 3						10:40																	Odor	003
4	MW 4						10:44																	Odor	004
5	MW 5						10:25																	Sulfur Odor	005
6	MW 6						9:52																	No Odor	006
7	MW 7						9:42																	Odor	007
8	MW 8						12:46																	No Odor	008
9	MW 9R	WT	G			12/19/14	13:14		6				6						X	X	X	X		No Odor	009
10	MW 10R																							Not Sampled	
11	MW 11	WT	G			12/19/14	10:20		6				6						X	X	X	X		No Odor	010
12	MW 12																							Not Sampled	

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	Frank Mitlin	12/19/14	17:00	B Moody Pace	12-22-14	12:40				
	B Moody	12-22-14	15:50	Amy Cat PACE	12/22/14	1550	1.5	Y	N	Y
										✓

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Frank Mitlin
SIGNATURE of SAMPLER: Frank Mitlin
DATE Signed (MM/DD/YY): 12/19/14

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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CHAIN-OF-CUSTODY / Analytical Request Document

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Page: 2 of 3

1790621

Section A Required Client Information:
Company: Midlands Environmental
Address: 231 Dooley Rd
Lexington, SC 29201
Email To: [redacted] SLC@mei.net
Phone: 803-808-2043 Fax: 803-808-2048
Requested Due Date/TAT:

Section B Required Project Information:
Report To: B. Shane
Copy To:
Purchase Order No.:
Project Name: Circle Stop N Shop
Project Number: 14-4962

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: A. Baron
Pace Profile #:

REGULATORY AGENCY: ☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER ☑ UST ☐ RCRA ☐ OTHER
Site Location STATE: SC Saluda

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): BTEX, Naph, Mbe; 1,2-DCA; 8-Oxygenates 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	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	BTEX, Naph, Mbe	1,2-DCA	8-Oxygenates	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D.
1	MW 13	WT	G			12/18/14	10:58		6				6						X	X	X	X		Odor 011
2	MW 14	↓	↓			↓	10:03		↓				↓						↓	↓	↓	↓		Odor 012
3	MW 15	WT	G			12/18/14	9:24		6				6						X	X	X	X		No Odor 013
4	MW 16																							Not Sampled
5	MW 17	WT	G			12/19/14	14:05		6				6						X	X	X	X		No Odor 014
6	MW 18	↓	↓			↓	12:15		↓				↓						↓	↓	↓	↑		No Odor 015
7	MW 19						9:18																	No Odor 016
8	MW 20						9:13		↓															No Odor 017
9	MW 21	↓	↓			↓	13:50						↓						↓	↓	↓	↓		No Odor 018
10	MW 22	WT	G			12/18/14	13:38		6				6						X	X	X	X		No Odor 019
11	MW 23																							Not Sampled
12	MW 24	WT	G			12/18/14	12:24		6				6						X	X	X	X		No Odor 020

92230733
~~92230~~ 7 ~~7 ms~~

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
	[signature]	12/18/14	17:00	R Moody Pace	12-22-14	12:40				
	R Moody	12-22-14	15:50	Cory Cat PACE	12/22/14	1530	1.8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Frank Mitch
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/19/14

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

1888050

Section A Required Client Information:
Company: Midlands Environmental
Address: 231 Dooley Rd
Lexington, SC 29073
Email To: sbo@mec.net
Phone: 803-808-2043 Fax: 803-808-2048
Requested Due Date/TAT:

Section B Required Project Information:
Report To: B. Shane
Copy To:
Purchase Order No.:
Project Name: Circle Stop N Shop
Project Number: 14-4962

Section C Invoice Information:
Attention:
Company Name:
Address:
Pace Quote Reference:
Pace Project Manager: A. Baioni
Pace Profile #:

REGULATORY AGENCY
☐ NPDES ☐ GROUND WATER ☐ DRINKING WATER
☑ UST ☐ RCRA ☐ OTHER
Site Location STATE: SC Saluda

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, Naph, MTBE, 1,2-DCA, 5-Oxygenates, 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	Analysis Test (Y/N)	BTEX, Naph, MTBE	1,2-DCA	5-Oxygenates	EDB	Residual Chlorine (Y/N)	Pace Project No./ Lab I.D. (92230733)
1	MW 25	WT	G			12/19/14	12:34		6				6						X	X	X	X		No Odor 021
2	MW 26	WT	G			↓	11:27		↓				↓						↓	↓	↓	↓		No Odor 022
3	WSW 1	DW	G			12/19/14	12:62		6				6						X	X	X	X		LDL 023
4	WSW 2																							Not Sampled
5	MW 1 Duplicate	WT	G			12/19/14	11:52		6				6						X	X	X	X		Duplicate 024
6	MW 2 Duplicate	↓	↓			↓	11:43		↓				↓						X	X	X	X		Duplicate 025
7	Field Blank	↓	↓			↓	9:15		6				6						X	X	X	X		Field Blank 026
8	Trip Blank	WT	G			12/19/14	9:15		2				2						X	X	X			Trip Blank 027
9																								
10																								
11																								
12																								

ADDITIONAL COMMENTS	RELINQUISHED BY / AFFILIATION	DATE	TIME	ACCEPTED BY / AFFILIATION	DATE	TIME	SAMPLE CONDITIONS			
LDL for WSW 1	[signature]	12/19/14	17:00	D Moody Pace	12-22-14	12:40				
	D Moody	12-22-14	15:50	[signature] PACE	12/22/14	1550	1.8	Y	N	Y

ORIGINAL

SAMPLER NAME AND SIGNATURE
PRINT Name of SAMPLER: Frank Mitlin
SIGNATURE of SAMPLER: [signature] DATE Signed (MM/DD/YY): 12/19/14

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

APPENDIX C:

TAX MAP

(Not Applicable)

APPENDIX D:

SOIL BORING/FIELD SCREENING LOGS & 1903 FORMS

(Not Applicable)

APPENDIX E:

WELL COMPLETION LOGS & 1903 FORMS

(Not Applicable)

APPENDIX F:

AQUIFER EVALUATION SUMMARY FORMS, DATA, GRAPHS, EQUATIONS

(Not Applicable)

APPENDIX G:

DISPOSAL MANIFEST

Midlands
Environmental
Consultants, Inc.

January 12, 2015

Re: Treatment of Purge Water
Circle Stop N Shop
Leesville, South Carolina
SCDHEC Site ID Number 05981
MECI Project Number 14-4962

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 140.5 gallons were treated on December 19, 2014 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.

Kyle V. Pudney
Project Biologist

APPENDIX H:
LOCAL ZONING REGULATIONS
(Not Applicable)

APPENDIX I:

FATE AND TRANSPORT MODELING

(Not Applicable)

APPENDIX J:

ACCESS AGREEMENTS

(Not Applicable)

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 4, 4A, 4B, 4C)	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 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		

Domenico Model

UST # 05981
Site Name: Circle Stop & Shop
Modeler: Read Miner
Date: 2/13/2015

Groundwater Flow Parameters

K	800	ft/yr
dh/dx	0.02	
θ	0.4	dec. %
v_x	40	ft/yr

Transport Parameters

x_{max}	330	ft
y_{max}	40	ft
z	0	ft
Source Width	30	ft
Source Thickness	15	ft
Plume Length	330	ft
α_x	14.55531	ft
α_y	1.455531	ft
α_z	1.00E-99	ft

Simulation Time

t_{sim}	35	yrs

Aquifer Characteristics

ρ_d	1.7	kg/L
f_{oc}	0.0002	

Source Area CoC Data

CoC	C_{source} (mg/L)	K_{oc} (L/kg)
Benzene	7.71	81
Toluene	24.7	133
Ethylbenzene	6.6	176
Xylenes	37	639
Naphthalene	2.5	1543
MtBE	1	11
EDB	0.127	28
1,2-DCA	1	17.5

Retarded Velocity (ft/yr)

CoC	R	v_R
Benzene	1.069	37.42
Toluene	1.113	35.94
Ethylbenzene	1.150	34.79
Xylenes	1.543	25.92
Naphthalene	2.312	17.30
MtBE	1.009	39.63
EDB	1.024	39.07
1,2-DCA	1.015	39.41

Simulation Points for Breakthrough Curves

x	0	ft
y	0	ft
z	0	ft

x	0	ft
y	0	ft
z	0	ft

$$C(x,y,z,t)=\left(\frac{C_0}{8}\right)\exp\left[\left(\frac{x}{2\alpha_x}\right)\left(1-\sqrt{1+\frac{4\lambda\alpha_x}{v}}\right)\right]erfc\left[\frac{x-vt\sqrt{1+\frac{4\lambda\alpha_x}{v}}}{2\sqrt{\alpha_x vt}}\right]\left\{erf\left[\frac{y+\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]-erf\left[\frac{y-\frac{Y}{2}}{2\sqrt{\alpha_y x}}\right]\right\}\left\{erf\left[\frac{z+Z}{2\sqrt{\alpha_z x}}\right]-erf\left[\frac{z-Z}{2\sqrt{\alpha_z x}}\right]\right\}$$

UST 101 DOCKETING

05981
mo DEC ind

Benzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	7.71	7.71
33		3.900
66		1.861
99		0.931
132		0.481
165		0.253
198		0.135
231		0.073
264		0.040
297		0.022
330	0.011	0.012

Temporal Calibration Data

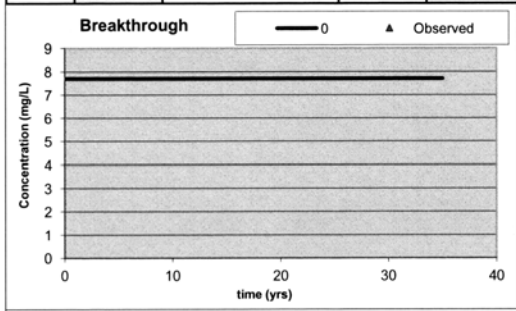
t (yrs)	0 C_{obs} (mg/L)	0 C_{sim} (mg/L)	0 C_{obs} (mg/L)	0 C_{sim} (mg/L)
0		7.71		7.71
3.5		7.710		7.710
7		7.710		7.710
10.5		7.710		7.710
14		7.710		7.710
17.5		7.710		7.710
21		7.710		7.710
24.5		7.710		7.710
28		7.710		7.710
31.5		7.710		7.710
35		7.710		7.710

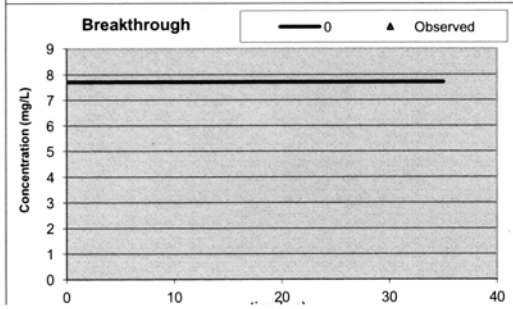
Site ID 05981

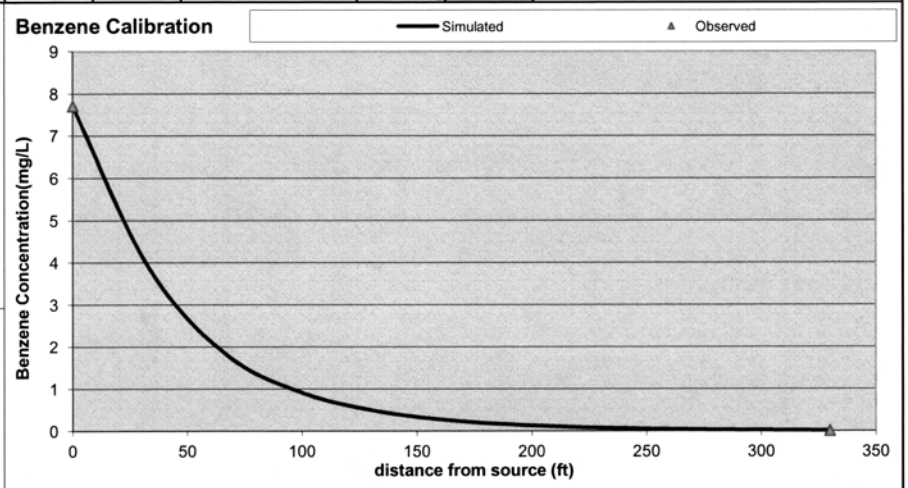
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	0.9	yrs	λ	0.77	yr^{-1}
v_x	40	ft/yr			
R	1.069				
v_R	37.423	ft/yr	C_{source}	7.71	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.02398341	0.09193914	0.10432324	0.08523274	0.06051353	0.0399186	0.025221	0.015507	0.009363	0.005583
20	1.35989524	0.91234011	0.54466785	0.31318507	0.17742601	0.0999034	0.056124	0.031514	0.017702	0.009951
0	3.89982217	1.86103597	0.93090938	0.48057292	0.25330124	0.135462	0.073219	0.0399	0.021883	0.012064
20	1.35989524	0.91234011	0.54466785	0.31318507	0.17742601	0.0999034	0.056124	0.031514	0.017702	0.009951

Toluene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	24.7	24.7
33		13.133
66		6.588
99		3.464
132		1.880
165		1.042
198		0.586
231		0.333
264		0.191
297		0.110
330	0.064	0.064

Temporal Calibration Data

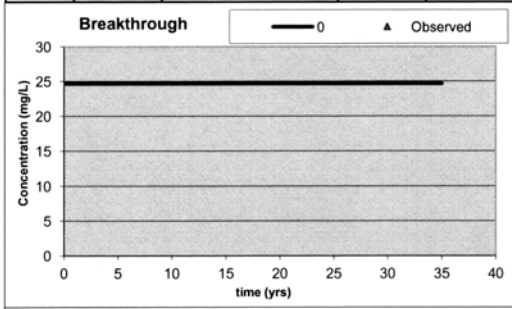
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		24.7		24.7
3.5		24.700		24.700
7		24.700		24.700
10.5		24.700		24.700
14		24.700		24.700
17.5		24.700		24.700
21		24.700		24.700
24.5		24.700		24.700
28		24.700		24.700
31.5		24.700		24.700
35		24.700		24.700

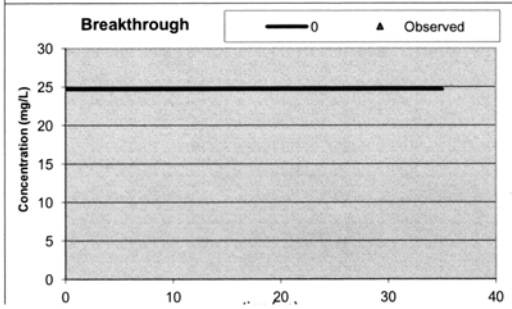
Site ID 05981

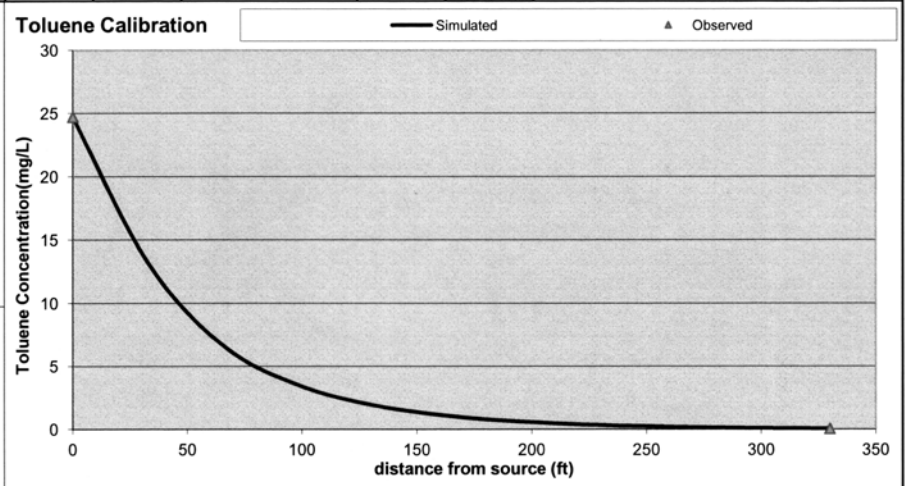
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	1.05	yrs	λ	0.66	yr^{-1}
v_x	40	ft/yr			
R	1.113				
v_R	35.937	ft/yr	C_{source}	24.7	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.08076815	0.32547397	0.38822503	0.33342299	0.2488446	0.1725591	0.114609	0.074075	0.047015	0.029468
20	4.579675	3.22977748	2.0269088	1.22515248	0.72961376	0.4318597	0.255034	0.150536	0.088888	0.052528
0	13.1333043	6.58825805	3.46425513	1.87995905	1.04162895	0.5855715	0.332717	0.190592	0.10988	0.063678
20	4.579675	3.22977748	2.0269088	1.22515248	0.72961376	0.4318597	0.255034	0.150536	0.088888	0.052528

Ethylbenzene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	6.6	6.6
33		3.310
66		1.566
99		0.776
132		0.397
165		0.208
198		0.110
231		0.059
264		0.032
297		0.017
330	0.009	0.009

Temporal Calibration Data

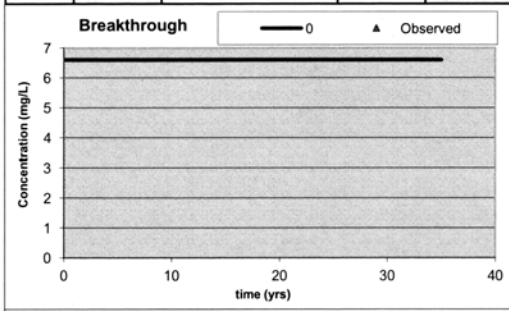
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		6.6		6.6
3.5		6.600		6.600
7		6.600		6.600
10.5		6.600		6.600
14		6.600		6.600
17.5		6.600		6.600
21		6.600		6.600
24.5		6.600		6.600
28		6.600		6.600
31.5		6.600		6.600
35		6.600		6.600

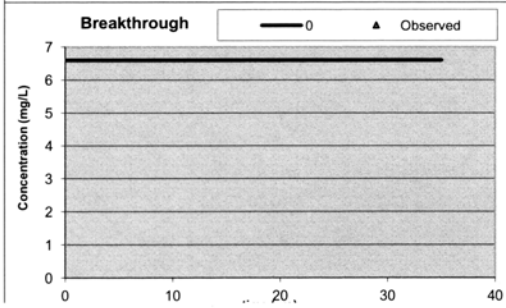
Site ID 05981

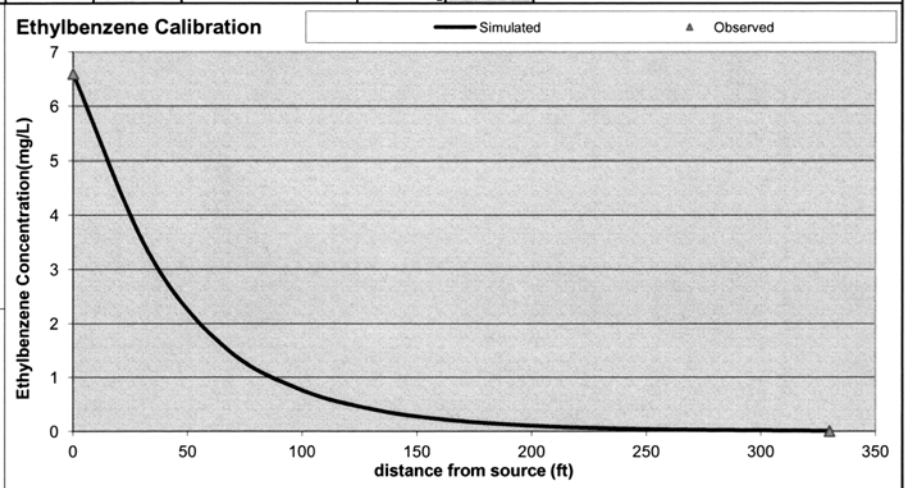
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	0.95	yrs	λ	0.72947	yr^{-1}
v_x	40	ft/yr			
R	1.150				
v_R	34.795	ft/yr	C_{source}	6.6	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.02035368	0.07735255	0.0870157	0.07047991	0.04960823	0.0324429	0.020321	0.012387	0.007415	0.004383
20	1.1540838	0.76759297	0.45430582	0.25897625	0.1454516	0.081194	0.045221	0.025173	0.014018	0.007813
0	3.30960903	1.56577368	0.77646871	0.39739114	0.20765316	0.1100934	0.058994	0.031871	0.017329	0.009471
20	1.1540838	0.76759297	0.45430582	0.25897625	0.1454516	0.081194	0.045221	0.025173	0.014018	0.007813

Xylenes Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	37	37
33		20.082
66		10.284
99		5.520
132		3.058
165		1.729
198		0.992
231		0.576
264		0.337
297		0.198
330	0.119	0.117

Temporal Calibration Data

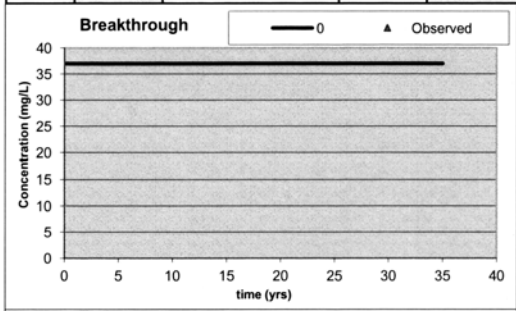
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		37		37
3.5		37.000		37.000
7		37.000		37.000
10.5		37.000		37.000
14		37.000		37.000
17.5		37.000		37.000
21		37.000		37.000
24.5		37.000		37.000
28		37.000		37.000
31.5		37.000		37.000
35		37.000		37.000

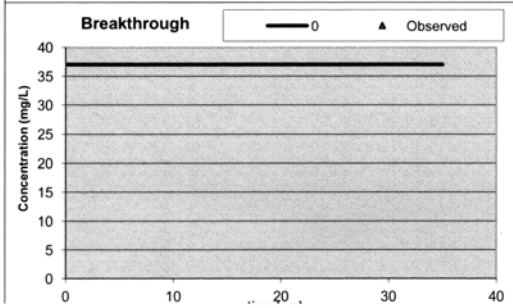
Site ID 05981

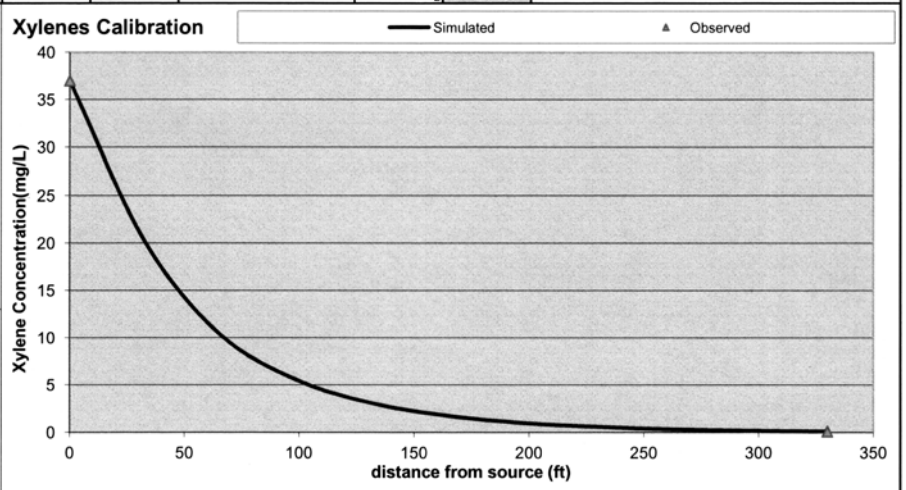
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	1.53	yrs	λ	0.45294	yr^{-1}
v_x	40	ft/yr			
R	1.543				
v_R	25.921	ft/yr	C_{source}	37	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.12350444	0.50803816	0.61858766	0.54231413	0.41316283	0.2924614	0.198284	0.13082	0.084759	0.05423
20	7.0028864	5.04141763	3.22962376	1.9927165	1.21139574	0.7319364	0.441232	0.265855	0.160245	0.096666
0	20.0824378	10.2837302	5.51985403	3.05776261	1.72944226	0.9924545	0.575629	0.336597	0.198091	0.117184
20	7.0028864	5.04141763	3.22962376	1.9927165	1.21139574	0.7319364	0.441232	0.265855	0.160245	0.096666

MtBE Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	1	1
33		0.460
66		0.199
99		0.091
132		0.043
165		0.020
198		0.010
231	0.002	0.005
264		0.002
297		0.001
330		0.001

Temporal Calibration Data

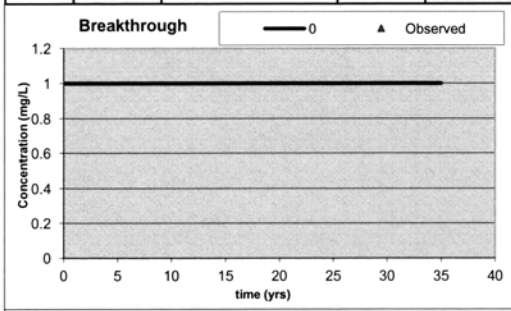
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		1		1
3.5		1.000		1.000
7		1.000		1.000
10.5		1.000		1.000
14		1.000		1.000
17.5		1.000		1.000
21		1.000		1.000
24.5		1.000		1.000
28		1.000		1.000
31.5		1.000		1.000
35		1.000		1.000

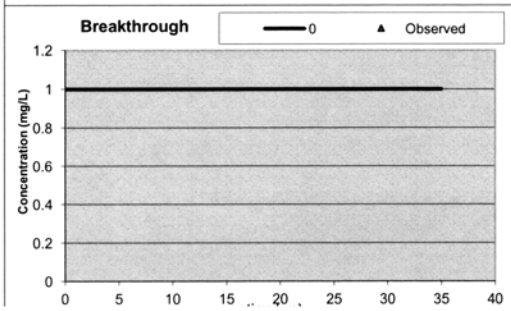
Site ID 05981

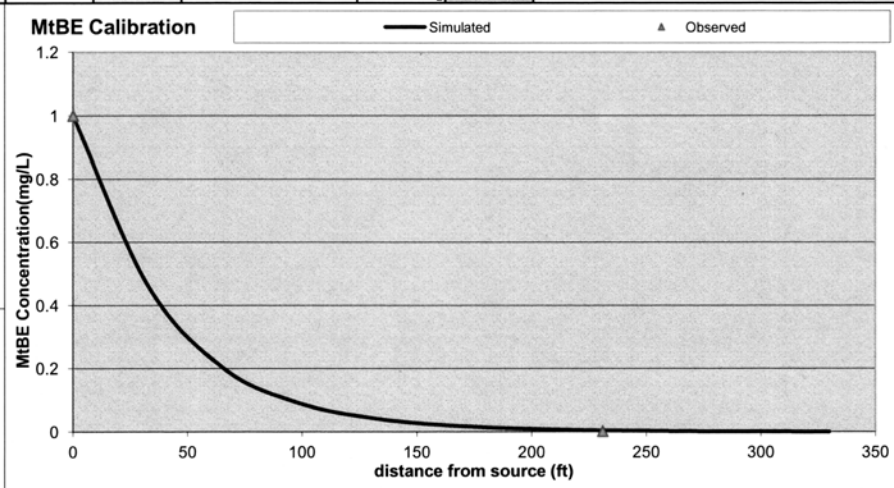
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	0.7	yrs	λ	0.99	yr^{-1}
v_x	40	ft/yr			
R	1.009				
v_R	39.629	ft/yr	C_{source}	1	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.00282773	0.00985394	0.01016418	0.00754883	0.004872	0.0029215	0.001678	0.000938	0.000515	0.000279
20	0.16033669	0.09778361	0.0530668	0.02773793	0.01428473	0.0073117	0.003734	0.001906	0.000973	0.000497
0	0.4598035	0.1994638	0.09069818	0.04256301	0.02039352	0.0099141	0.004871	0.002413	0.001203	0.000603
20	0.16033669	0.09778361	0.0530668	0.02773793	0.01428473	0.0073117	0.003734	0.001906	0.000973	0.000497

Naphthalene Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	2.5	2.5
33		1.109
66		0.464
99		0.204
132		0.092
165		0.043
198		0.020
231	0.007	0.009
264		0.005
297		0.002
330		0.001

Temporal Calibration Data

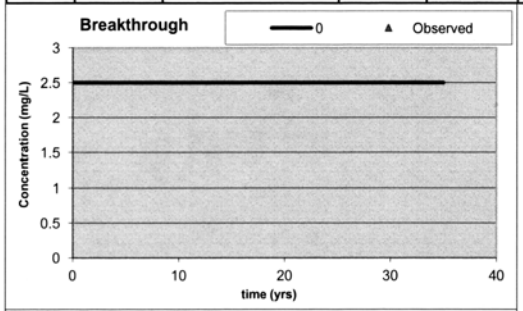
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		2.5		2.5
3.5		2.500		2.500
7		2.500		2.500
10.5		2.500		2.500
14		2.500		2.500
17.5		2.500		2.500
21		2.500		2.500
24.5		2.500		2.500
28		2.500		2.500
31.5		2.500		2.500
35		2.500		2.500

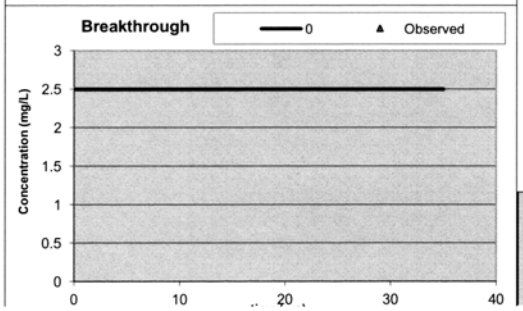
Site ID 05981

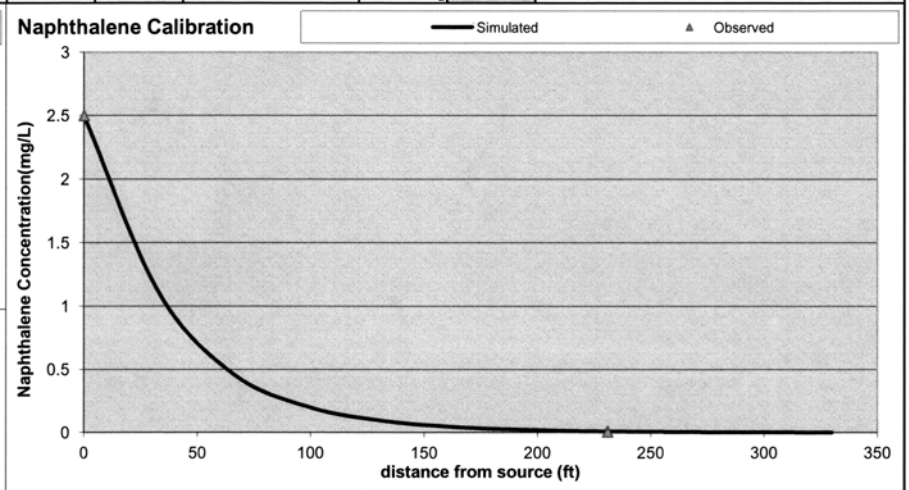
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	1.5	yrs	λ	0.462	yr^{-1}
v_x	40	ft/yr			
R	2.312				
v_R	17.304	ft/yr	C_{source}	2.5	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.00682069	0.0229324	0.02282243	0.01635382	0.0101835	0.0058919	0.003265	0.001761	0.000932	0.000488
20	0.38674333	0.22756523	0.1191551	0.06009159	0.02985807	0.0147454	0.007265	0.003578	0.001763	0.000869
0	1.10907824	0.46419868	0.20365182	0.09220871	0.0426267	0.0199937	0.009478	0.00453	0.002179	0.001054
20	0.38674333	0.22756523	0.1191551	0.06009159	0.02985807	0.0147454	0.007265	0.003578	0.001763	0.000869

EDB Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	0.127	0.12700
33		0.06550
66		0.03187
99		0.01625
132		0.00856
165	0.0058	0.00460
198		0.00251
231		0.00138
264		0.00077
297		0.00043
330		0.00024

Temporal Calibration Data

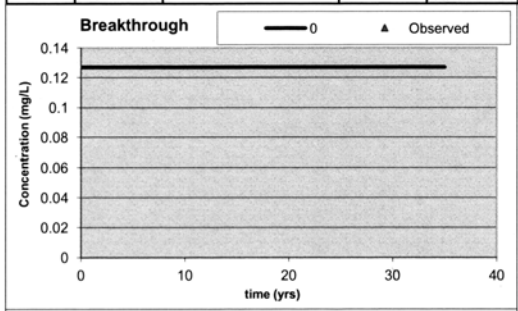
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		0.12700		0.12700
3.5		0.12700		0.12700
7		0.12700		0.12700
10.5		0.12700		0.12700
14		0.12700		0.12700
17.5		0.12700		0.12700
21		0.12700		0.12700
24.5		0.12700		0.12700
28		0.12700		0.12700
31.5		0.12700		0.12700
35		0.12700		0.12700

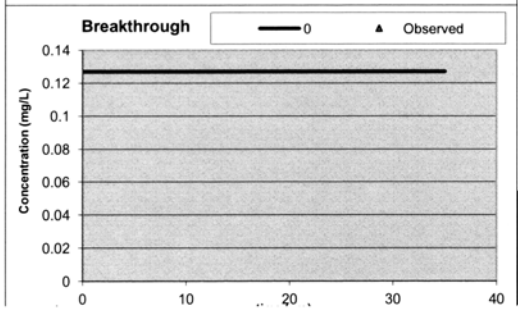
Site ID 05981

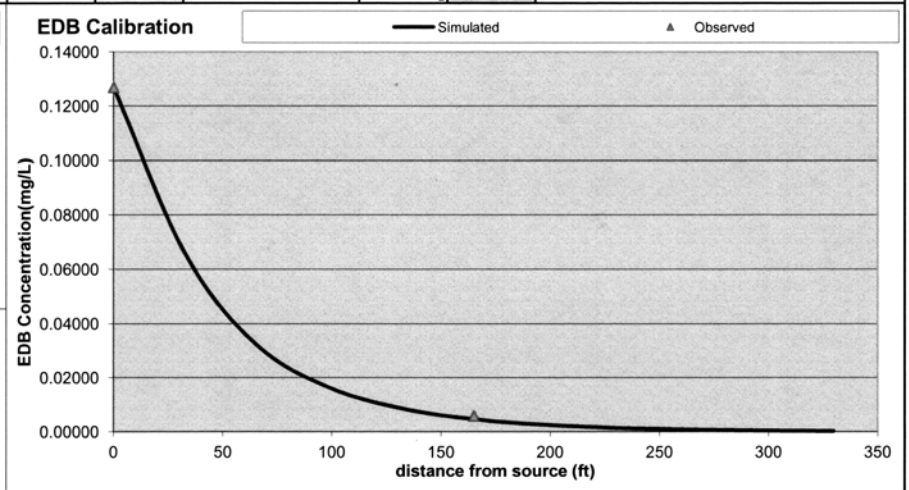
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	0.9	yrs	λ	0.77	yr^{-1}
v_x	40	ft/yr			
R	1.024				
v_R	39.070	ft/yr	C_{source}	0.127	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.0004028	0.0015744	0.00182149	0.00151734	0.0010984	0.0007388	0.000476	0.000298	0.000184	0.000112
20	0.02283951	0.01562321	0.00950993	0.00557543	0.00322053	0.0018489	0.001059	0.000606	0.000347	0.000199
0	0.06549772	0.03186898	0.01625373	0.00855533	0.00459777	0.002507	0.001382	0.000768	0.000429	0.000241
20	0.02283951	0.01562321	0.00950993	0.00557543	0.00322053	0.0018489	0.001059	0.000606	0.000347	0.000199

1,2-DCA Calibration

Spatial Calibration Data (centerline)

x	C_{obs} (mg/L)	C_{sim} (mg/L)
0	1	1
33		0.562
66		0.298
99		0.166
132		0.095
165	0.067	0.056
198		0.033
231		0.020
264		0.012
297		0.007
330		0.004

Temporal Calibration Data

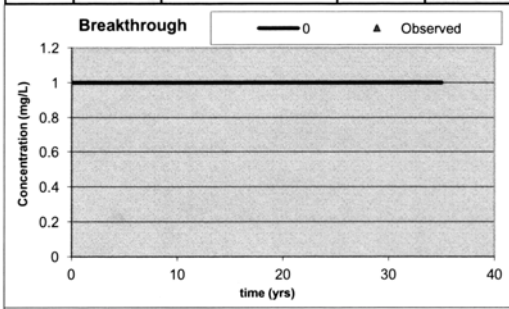
t (yrs)	C_{obs} (mg/L)	C_{sim} (mg/L)	C_{obs} (mg/L)	C_{sim} (mg/L)
	0		0	
0		1		1
3.5		1.000		1.000
7		1.000		1.000
10.5		1.000		1.000
14		1.000		1.000
17.5		1.000		1.000
21		1.000		1.000
24.5		1.000		1.000
28		1.000		1.000
31.5		1.000		1.000
35		1.000		1.000

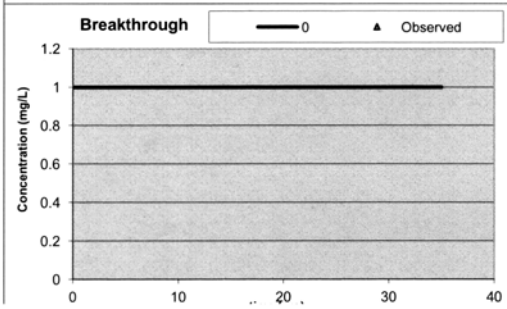
Site ID 05981

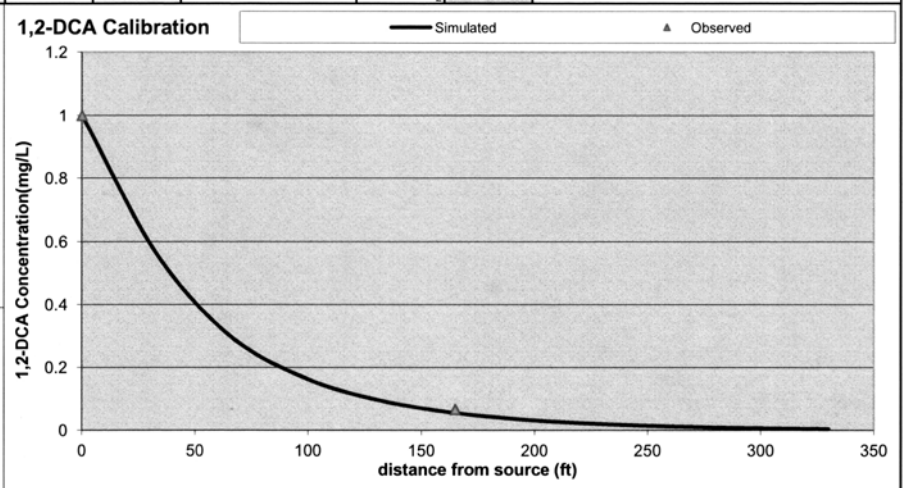
Site Name Circle Stop & Shop

Model Calibration Parameters

$t_{1/2}$	1.1	yrs	λ	0.63	yr^{-1}
v_x	40	ft/yr			
R	1.015				
v_R	39.414	ft/yr	C_{source}	1	mg/L
L_p	330	ft			
α_x	14.55531	ft	t_{sim}	35	yrs
α_y	1.455531	ft			
α_z	1E-99	ft			







Source	33	66	99	132	165	198	231	264	297	330
40	0.00345682	0.01472606	0.01856895	0.01685905	0.01330146	0.0097509	0.006846	0.004678	0.003139	0.00208
20	0.19600689	0.14613118	0.09694784	0.06194806	0.03899996	0.0244032	0.015235	0.009506	0.005934	0.003707
0	0.56209624	0.29808553	0.16569668	0.0950574	0.05567808	0.0330891	0.019875	0.012036	0.007335	0.004494
20	0.19600689	0.14613118	0.09694784	0.06194806	0.03899996	0.0244032	0.015235	0.009506	0.005934	0.003707

SSTLs t 1000 yrs

UST Permit # 05981
Site Name: Circle Stop & Shop

SSTLs in mg/L			RBSLs (mg/L):	0.005	1.000	0.700	10.000	0.040	0.025	0.00005	0.005
MW #	x (ft)	y (ft)	z (ft)	Benzene SSTL	Toluene SSTL	Ethylbenzene SSTL	Xylenes SSTL	MtBE SSTL	Naphthalene SSTL	EDB SSTL	1,2-DCA SSTL
MW-1	100	0	0	0.042	7.266	6.074	68.268	0.451	0.314	0.00040	0.031
MW-2	143	0	0	0.099	16.028	14.462	146.601	1.203	0.878	0.00091	0.063
MW-3	194	0	0	0.264	39.361	38.882	348.761	3.699	2.854	0.00235	0.142
MW-4	137	0	0	0.088	14.385	12.842	132.067	1.052	0.763	0.00082	0.057
MW-7	190	0	0	0.245	36.724	36.021	326.209	3.391	2.605	0.00219	0.133
MW-13	137	0	0	0.088	14.385	12.842	132.067	1.052	0.763	0.00082	0.057
MW-14	237	0	0	0.588	82.197	87.637	709.032	9.335	7.545	0.00512	0.276
MW-18	137	0	0	0.088	14.385	12.842	132.067	1.052	0.763	0.00082	0.057
MW-24	143	0	0	0.099	16.028	14.462	146.601	1.203	0.878	0.00091	0.063
MW-25	100	0	0	0.042	7.266	6.074	68.268	0.451	0.314	0.00040	0.031
MW-26	137	0	0	0.088	14.385	12.842	132.067	1.052	0.763	0.00082	0.057
			λ (yr^{-1}):	0.770	0.660	0.729	0.453	0.990	0.462	0.770	0.630
			R:	1.069	1.113	1.150	1.543	1.009	2.312	1.024	1.015
			Pure Substance Solubility:	1750	526	169	175	5110	31	4321	8520
			Effective Solubility:	44.39	26.54	3.7	21.68	173	6.7	1.9	3.7

D H E C

PROMOTE PROTECT PROSPER

W. Marshall Taylor Jr., Acting Director

Promoting and protecting the health of the public and the environment

05981

EMAIL MATT

MEMORANDUM

Date: May 29, 2015

To: Matt Winslow, Procurement Manager
Bureau of Business Management

From: Larry G. Sorrell, Manager
Financial Section
Underground Storage Tank Management Division

US, 7/02 ... KETI

Subject: Bid Award for IFB-5400009551
Circle Stop & Shop, UST Permit 05981

The UST Management Division reviewed the responses received on May 22, 2015. Since the proposed corrective action methodology can be permitted in South Carolina and the estimated corrective action completion time is protective of human health and the environment, the low submitted by Envirorisk Consultants in the amount of $227,000.00 is acceptable. Please issue a purchase order to Envirorisk Consultants in accordance with the solicitation in the amount of $227,000.00. The description section of the purchase order needs to refer to UST permit 05981.

Please provide a copy of the purchase order to for distribution at the UST Management Division.

cc: Technical file
Lee Monts, Manager, Corrective Action Section
Read Miner, P.G, Hydrogeologist

Letter of Transmittal

Date: 6-23-2015

UST DOCKETING 1034ech

UST JUN 24 2015 DIVISION

To: South Carolina DHEC
Attn: Read Miner, Project Manager

From: Envirorisk Consultants, Inc.
RE: Site Specific Work Plan for Initial Monitoring Event, Permit # 05981

Dear Mr. Miner-

Enclosed is one hard copy of the Site Specific Work Plan for the Initial Monitoring Event for UST Permit # 05981. This work was authorized in PO # 4600420235. Pending approval, we will mobilize to the site to conduct the sampling event. Thank you.

Regards,

ENVIRORISK CONSULTANTS, INC.

Kimberly Phillips

Kimberly Phillips, CEP
Project Manager
kphillips@eriskinc.com
678-635-7360

D H E C

PROMOTE PROTECT PROSPER

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

To: Read Miner / minerrs@dhec.sc.gov (SCDHEC Project Manager)
From: Kimberly Phillips, CEP (Contractor Project Manager)
Contractor: Envirorisk Consultants, Inc. UST Contractor Certification Number: 428

Facility Name: Circle Stop & Shop UST Permit #: 05981
Facility Address: 3287 Columbia Highway, Leesville, SC 29070
Responsible Party: Gail Smith Phone: unknown
RP Address: 143 Pioneer Drive, Leesville, SC 29070
Property Owner (if different): Louise Clark
Property Owner Address: 2920 Prosperity Highway, Leesville, SC 29070-7149
Current Use of Property: Gasoline station

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier II
- ☐ Groundwater Sampling
- ☐ GAC
- ☐ Tier I
- ☐ Monitoring Well Installation
- ☑ Other Corrective Action- Initial Sampling Event

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 naphthalene
- ☐ 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.)

0	Soil	1	Water Supply Wells	0	Air	1/day	Field Blank
22	Monitoring Wells	0	Surface Water	1	Duplicate	1/cooler	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: N/A Estimated Footage: N/A feet per point
# of deep points proposed: N/A Estimated Footage: N/A feet per point
Field Screening Methodology: N/A

Permanent Monitoring Wells

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

# of shallow wells: N/A Estimated Footage: N/A feet per point
# of deep wells: N/A Estimated Footage: N/A feet per point
# of recovery wells: N/A Estimated Footage: N/A feet per point
Monitoring Well development method (consistent with SOP): N/A
Comments, if warranted:

UST Permit #: 05981 Facility Name: Circle Stop & Shop

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 0-30 pending field schedule Field Work Completion: 2 days
Report Submittal: 45 days (Initial Monitoring Report) # of Copies Provided to Property Owners: 1 each

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)
N/A

Investigation Derived Waste Disposal
Soil: 0 Tons Purge Water: 120 (approximated) Gallons
Drilling Fluids: 0 Gallons Free-Phase Product: 0 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.
Initial monitoring event under PO #4600420235, all wells not containing free product will be sampled for the following constituents: BTEX, MTBE, naphthalene, 1,2-DCA, EDB, TAA, TBA, TAME, and DIPE. Wells where the water table brackets the screen will not be purged.

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
X 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:

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. Figure 1
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

   Figure 2 - prepared by previous consultant
3. Assessment Component Cost Agreement, SCDHEC Form D-3664 N/A

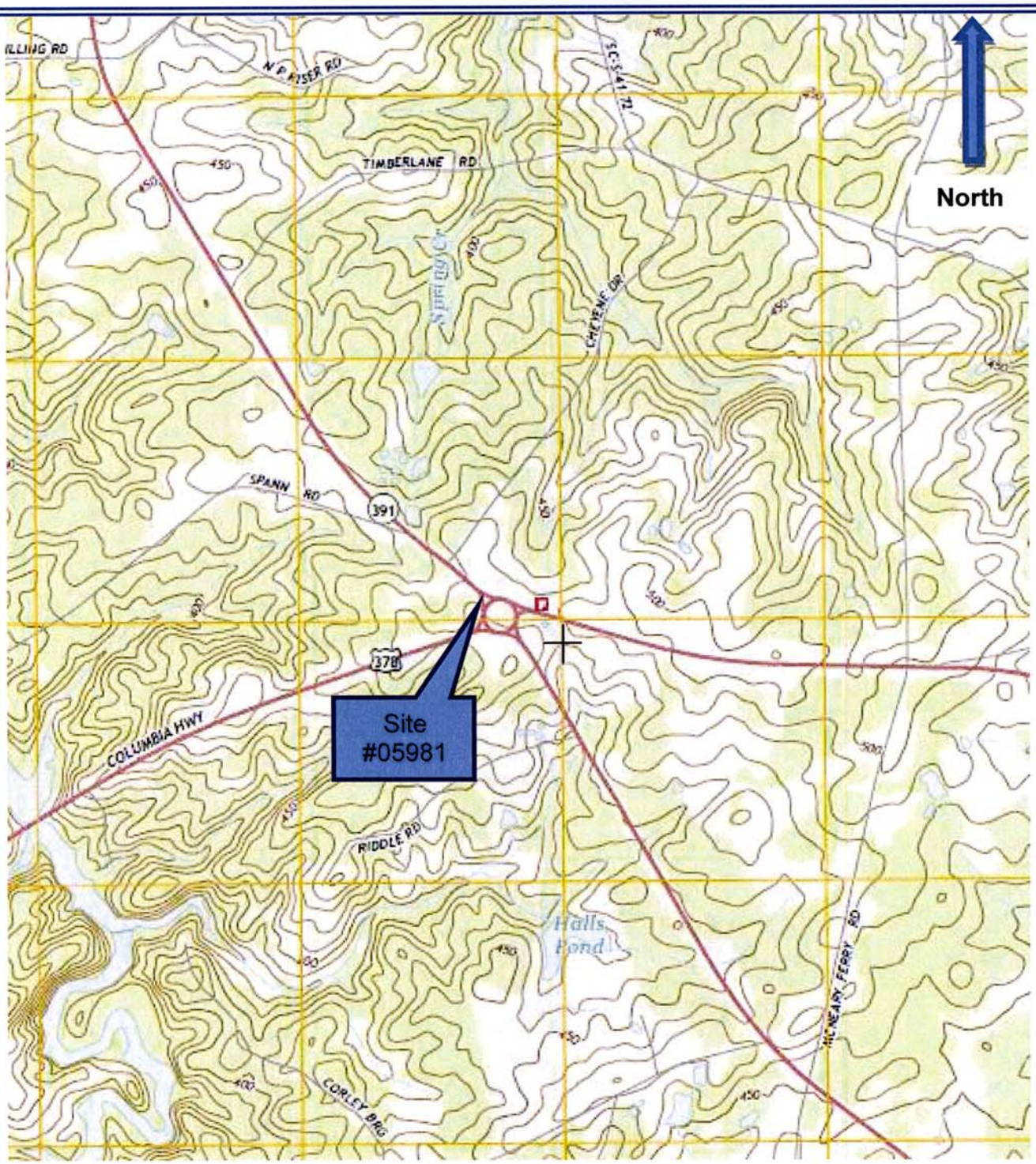
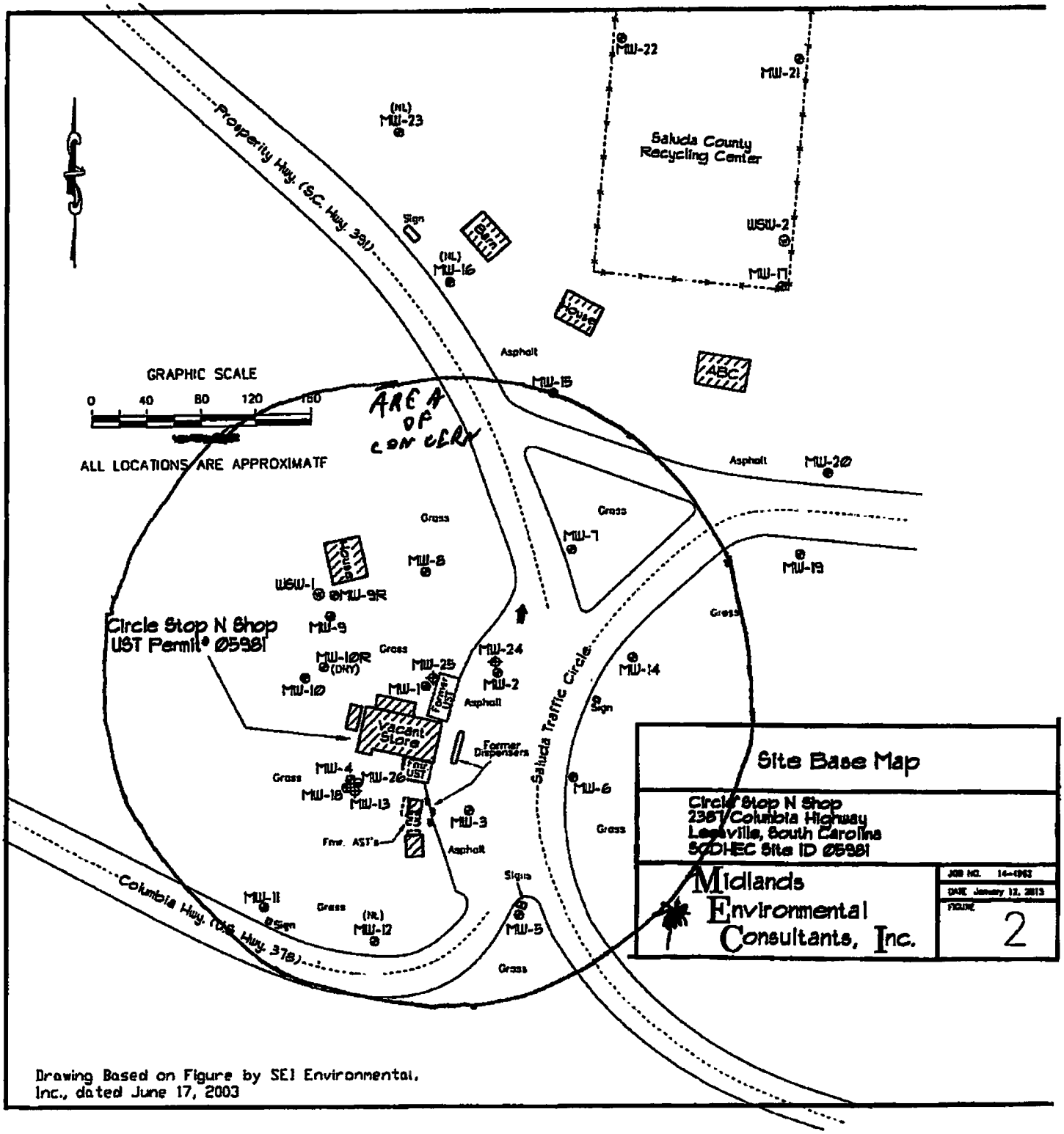


FIGURE 1. TOPOGRAPHIC MAP

Envirorisk Consultants, Inc. PO Box 945 Grayson, GA 30017	**LEGEND** Source: USGS Topographic Map, Delmar quad, dated 2014 Approx. Scale: 1" = 1,580'	**SITE SPECIFIC WORK PLAN** June 2015 **SCDHEC UST Permit #05981** Circle Stop & Shop 3287 Columbia Highway Leesville/Lexington County, SC 29070



Drawing Based on Figure by SEI Environmental, Inc., dated June 17, 2003

D H E C
PROMOTE PROTECT PROSPER
Catherine E. Heigel, Director
Promoting and protecting the health of the public and the environment

KIMBERLY PHILLIPS
ENVIRORISK CONSULTANTS INC
3335 SWEET BASIL LN
LOGANVILLE GA 30052

JUL 01 2015

UST 1047 DOCKETING

Re: **Sample Directive**
Circle Stop-N-Shop, 3287 Columbia Hwy., Leesville, SC
UST Permit #05981; CA #50541
Release reported December 27, 1991
IFB-5400009551-5/21/15-EMW; PO #4600420235
Site-Specific Work Plan received June 24, 2015
Saluda County

Dear Ms. Phillips:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the referenced plan. Sampling of the monitoring well network is necessary. All work should be conducted in accordance with Envirorisk's Quality Assurance Program Plan (QAPP) and must be conducted in compliance with all applicable regulations. A copy of Agency QAPP Revision 2.0 for the UST Management Division is available at http://www.scdhec.gov/environment/docs/QAPP_ Rev-2_April2013.pdf.

Activities at the site should begin immediately upon receipt of this letter. Analyses should be in accordance with Appendix E of the QAPP to include duplicate samples, field and trip blanks.

The Initial Monitoring Report is due within 45 days from the date of this letter. The report submitted at the completion of these activities should include the required information outlined in the QAPP. Please note that all applicable South Carolina certification requirements apply to the services and report preparation. All site rehabilitation activities must be performed and submitted by a South Carolina Certified Underground Storage Tank Site Rehabilitation Contractor.

The Agency grants pre-approval for transportation of virgin petroleum impacted groundwater from the referenced site to a permitted treatment facility. The transport and disposal must be conducted in accordance with the QAPP. If the CoC concentrations based on laboratory analysis are below RBSLs, please contact the project manager for approval to dispose of soil and/or groundwater on site.

On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions regarding this correspondence, please contact me by telephone at (803) 898-0608 or by e-mail at minerrs@dhec.sc.gov.

Sincerely,

Read S. Miner, P.G., Hydrogeologist
Corrective Action Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

cc: Technical File (with enclosure)
Gail Smith, 143 Pioneer Dr., Leesville, SC 29070
Louise Clark, 2920 Prosperity Hwy., Leesville, SC 29070-7149

Letter of Transmittal

UST
JUL 3 0 2015
PROGRAM
UST
DOCKETING
105466

Date: 7-28-2015

To: South Carolina DHEC
Attn: Read Miner, Project Manager

From: Envirorisk Consultants, Inc.
RE: CAP for UST Permit # 05981

Dear Mr. Miner-

Enclosed is one hard copy and one electronic copy of the Corrective Action Plan for UST Permit # 05981. This work was authorized in PO # 4600420235. Pending receipt of a Notice to Proceed we will initiate work. Thank you.

Regards,

ENVIRORISK CONSULTANTS, INC.

Kimberly Phillips

Kimberly Phillips, CEP
Project Manager
kphillips@eriskinc.com
678-635-7360

cc: Adjacent property owners as specified in the Solicitation

CORRECTIVE ACTION PLAN

for

CIRCLE STOP & SHOP
3287 COLUMBIA HIGHWAY
LEESVILLE, SALUDA COUNTY, SOUTH CAROLINA
UST PERMIT # 05981

Prepared for:

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL

Prepared by:

ENVIRORISK CONSULTANTS, INC.

UST SITE REHABILITATION CONTRACTOR #428

Post Office Box 945
Grayson, GA 30017

Issue Date: July 2015

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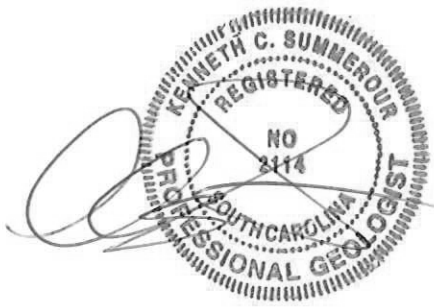
UIC PERMIT APPLICATION

SITE SPECIFIC WORK PLAN

CORRECTIVE ACTION PLAN
for
CIRCLE STOP & SHOP
LEESVILLE, SALUDA COUNTY, SOUTH CAROLINA
UST PERMIT # 05981

GEOLOGY CERTIFICATION

I certify that I am a qualified ground-water scientist who has received a baccalaureate or post-graduate degree in the natural sciences or engineering, and have sufficient training and experience in ground-water hydrology and related fields, as demonstrated by state registration and completion of accredited university courses, that enable me to make sound professional judgments regarding ground-water monitoring and contaminant fate and transport. I further certify that this report was prepared by myself or by a subordinate working under my direction.



7-28-2015

Kenneth C. Summerour, P.G. #3742
Registered Professional Geologist

Date

1.0 INTRODUCTION

This Corrective Action Plan (CAP) is being submitted for Circle Stop & Shop, underground storage tank (UST) Permit # 05981, located at 3287 Columbia Highway, Leesville, Saluda County, South Carolina (hereafter referred to as "the site" or "the facility"). The preparation of this CAP was authorized in Purchase Order (PO) #4600420235 for the release reported on December 27, 1991.

This section outlines the purpose and content organization of the CAP along with a brief description of the site and surrounding properties.

1.1 Purpose

The overall purpose of this CAP is to present a plan for corrective action in order to prevent further degradation of the aquifer by migration of into areas not previously impacted. Envirorisk has developed a scope of work to treat the Area of Concern (AOC) defined by the South Carolina Department of Health and Environmental Control (SC DHEC). Corrective action at this facility described under this PO is limited to reduction of chemicals of concern (CoC) concentrations to Site Specific Target Levels (SSTLs) as shown on attached Table 1. The total SSTL mass is also provided in Table 1.

All tables, figures, and other supplemental material referenced in the text are provided in the labeled appendices. Some tables, diagrams, etc. are provided in the body of the text for ease of reference.

1.2 Property Owner

The property owner is Ms. Louise Clark, and her mailing address is 2920 Prosperity Highway, Leesville, SC, 29070-7149. Her contact phone number is 803-532-6038. The UST owner is Ms. Gail Smith, and her mailing address is 143 Pioneer Drive, Leesville, SC, 29070. Her phone number is 803-532-4780 (home) and 803-960-2247 (cell). The site is presently vacant.

1.3 Description of Site and Surrounding Properties

The site is located at 3287 Columbia Highway (also called US Highway 378) at the Saluda Traffic Circle in a rural part of Leesville, Saluda County, South Carolina. The site previously operated as a gasoline station and a majority of the site is covered with asphalt.

The site is bordered by the following:

- North: A house followed by Highway 391 Right-of-Way (ROW) followed by houses, ABC Store, and the Saluda County Recycling Center;
- South: Vacant structure followed by US Highway 378 ROW;

- East: Saluda Traffic Circle ROW followed by commercial properties; and
- West: Undeveloped wooded land.

The site previously contained the following USTs which were removed from the ground in September 1998: 500 gallon kerosene, 1,000 gallon diesel, and 2,000 gallon gasoline. In December 1998, two additional 3,000 gallon USTs containing gasoline were removed from the ground. Finally, in October 2006, an 8,000 gallon petroleum UST was removed from the ground. SC DHEC reported and confirmed a release in 1991.

According to SC DHEC files, the facility contained several UST basins, lines, and dispensers scattered across the facility as well as above ground storage tanks (ASTs). The current clean-up area includes a 250 radius centered around MW-1. The solicitation does not include cleanup of any potential sources north of MW-15/MW-16/ MW-20 or south of MW-5/MW-11/MW-12.

According to DHEC files, there is one nearby facility containing ASTs: Circle Stop (Palmetto Hopps Station) located at the intersection of Highway 378 and Saluda Traffic Circle.

The site location including local topography is depicted on Figure 1. Site and surrounding properties are better illustrated on an aerial map provided as Figure 2.

1.4 Summary of Previous Environmental Activities

Envirorisk reviewed technical files available electronically for the facility. Currently, a total of 26 wells have been installed at the site as part of site delineation activities. Well locations are depicted on Figure 3. A majority of the wells were installed to depths of 35-40 feet below ground surface (ft-bgs), below the water table, with 10-20 foot screen sections. Seven intermediate/deep wells (MW-9R, MW-10R, MW-13, MW-18, MW-24, MW-25, and MW-26) were installed to depths ranging from 57 to 145 ft-bgs with 5-10 foot screen sections. All wells were installed prior to Envirorisk's site involvement. Based on the December 2014 sampling event, no light non aqueous phase liquid (LNAPL) is present at the site. Historically, LNAPL was detected in MW-7 only at 0.01' in 2008. During the December 2014 sampling event, depth to water ranged from approximately 27-46 ft-bgs (excluding deep well MW-26). There are also two water supply wells at the site (WSW-1 and WSW-2). WSW-2 is located at the recycling center which is reportedly connected to municipal water.

Based on a file review, previous corrective action has included mobile dual phase extraction events and injection of hydrogen peroxide to remove adsorbed phase hydrocarbons from the soil and reduce dissolved phase hydrocarbons. Remedial activities were conducted by prior consultants from 2003-2009 with limited success.

Groundwater samples were most recently collected in December 2014 for analysis of BTEX, naphthalene, methyl tert-butyl ether (MTBE), 1,2-dichloroethane (1,2-DCA), ethylene dibromide (EDB), and oxygenates (TAA, TBA, TAME, and DIPE).

The highest benzene concentration reported was 21,900 micrograms per liter (µg/L) in MW-2 located east of the former UST pit and north of the former dispensers. The dissolved benzene, toluene, ethylbenzene, xylenes (BTEX) plume is roughly defined by MW-15/MW-20 to the north, MW-6/MW-19 to the east, MW-1/MW-12 to the south, and MW-8/MW-9 to the west.

Table 2 (provided by SC DHEC) is provided in the appendix and contains the tabulated data. Additional horizontal and vertical site delineation is not included in this scope of work.

2.0 PHYSICAL SETTING

The physical setting of the site and surrounding region is described in this section. Discussions of regional characteristics were derived from published sources. Site specific characteristics, particularly geological classifications and unit interpolation, were based on a review of readily available file information obtained from SC DHEC.

2.1 Topography and Groundwater Flow Direction

The site elevation is approximately 490' above mean sea level and groundwater flow, based on a review of previous groundwater flow maps, is to the north towards Spring Creek. Spring Creek (the nearest down gradient surface water body) is located approximately 800 feet northwest. Figure 1, attached, shows site topography.

2.2 Regional and Site Geology

The subject site is located in the Piedmont province of South Carolina, an area underlain by igneous and metamorphic rocks. Soils are typically residual underlain by rock at varying depths. A review of previous reports in the technical file reveal the site's lithology consists of brown to tan, fine grained silt to depths of approximately 42 ft-bgs followed by saprolitic soils from 42-62 ft-bgs. From approximately 42-122 ft-bgs soils reportedly consist of coarse grained quartz and feldspar. During drilling activities competent bedrock was encountered at approximately 122 ft-bgs. A grain size distribution test previously performed by Kleen Site Geoservices, Inc. at a sample depth of 20-25' classified soils as "tan silty fine to medium sandy clay".

Groundwater in the surficial water bearing zone was encountered at depths ranging from 27-46 ft-bgs in December 2014 (excluding deep wells). Local precipitation is the primary source of groundwater in Saluda County.

2.3 Hydraulic Flow Characteristics

Hydraulic flow properties including hydraulic conductivity, hydraulic flow, and linear groundwater flow velocity or seepage velocity were evaluated by prior consultants. The hydraulic conductivity can be loosely defined as the velocity at which groundwater moves through the water-bearing soil medium. The average hydraulic conductivity of the surficial water bearing unit was previously calculated at 3.39×10^{-4} (MW-3), 6.17×10^{-6} (MW-4), 8.2×10^{-5} (MW-6), 2.03×10^{-5} (MW-11), and 1.54×10^{-5} (MW-13) feet/minute using data derived by in-situ hydraulic conductivity testing (slug tests). A groundwater flow rate was not calculated in previous reports reviewed.

3.0 CORRECTIVE ACTION SCOPE AND TECHNOLOGIES

The corrective action strategy developed for this site is limited to reduction of dissolved constituents to SSTLs as shown on Table 1. Prior to selecting a corrective action strategy, several technologies were evaluated based on Envirorisk's experience and a review of reported site conditions, as described in the subsections to follow.

3.1 Summary of Remedial Site Conditions

The AOC, outlined by SC DHEC, roughly extends to MW-15 to the north, MW-5/MW-12 to the south, beyond MW-14 to the east, and beyond site monitoring wells to the west and extends beneath the Saluda Traffic Circle. Treatment areas are discussed in further detail in Section 4.1 and are shown on Figure 4. The lithology has been classified predominantly as brown to tan, fine grained silt to depths of approximately 42 ft-bgs followed by saprolitic soils from 42-62 ft-bgs.

3.2 Evaluation of Removal Technologies

Envirorisk evaluated various technologies to reach SSTLs. The remedial technologies evaluated included soil vacuum extraction (SVE), air sparging (AS), dual-phase or multi-phase extraction (MPE), chemical oxidation, enhanced bioremediation, and soil excavation. Technologies may be combined with one or more methods as part of a full site corrective action strategy. A discussion of each technology is provided in the italicized sections.

3.2.1 Soil Vacuum Extraction (SVE)

SVE works by vacuum stripping volatile compounds out of interstitial soil pores through air movement without the use of groundwater extraction. Any volatile compound that exists in the vapor phase under ambient temperatures can theoretically be removed by SVE. Vacuum induced air flow in the vadose zone simply serves to enhance the volatilization process. The success of SVE at a given site is dependent on a number of factors most notably soil permeability, moisture content, depth to water, fuel type, and contaminant distribution in the vadose zone versus LNAPL presence beneath the water table.

A typical SVE system consists of a 5-10 horsepower (or greater) skid-mounted vacuum blower with a moisture separation tank and suitable high level float controls. Depending on air treatment requirements, influent vapors may need to be treated using thermal or carbon based methods prior to atmospheric discharge. Although this method is generally considered cost effective, it does not effectively address the presence of adsorbed LNAPL trapped below the water table as a result of seasonal fluctuations. For this reason, SVE tends to have the greatest effectiveness in remediating "newer" LNAPL releases in areas where the water table fluctuation has been minimal. However, based on a review of site conditions, LNAPL is not expected to be present.

Based on a review of site conditions, SVE may be utilized for site treatment in conjunction with air sparging.

3.2.2 Air Sparging

Air sparging consists of forcing compressed air below the water table in order to create transient air filled regimes in the saturated zone. Dissolved constituents exposed to the sparged air environment are "stripped" from the dissolved phase into the gas phase where they can captured as they migrate into the vadose zone with SVE technology. The air sparging process effectively creates a subsurface air stripper where the soil medium acts as the "packing" around which the injected air bubbles migrate through the water column. The sparging process also creates turbulence and increased subsurface mixing between soil and groundwater saturated zones, thereby resulting in the liberation of higher volatile organic compound (VOC) concentrations for SVE removal.

AS/SVE technology is generally effective for treatment of VOCs provided the compound has a Henry's Constant greater than 10^{-5}. The success of AS/SVE at a given site is dependent on a number of factors most notably hydraulic conductivity, aquifer heterogeneity, soil permeability, depth to groundwater, ground cover, and contaminant distribution in the vadose zone and beneath the water table.

Based on a review of site conditions, air sparging may be utilized for site treatment in conjunction with SVE and/or another technology.

3.2.3 Multi-Phase Extraction (MPE)

MPE is a technology that attempts to overcome the limitations of SVE, LNAPL skimming, and standard pump-and-treat technologies through the simultaneous removal of volatile hydrocarbons from the dissolved phase, LNAPL, vapor phase, and adsorbed soil particle phase. The term "multi-phase" extraction refers to the system's ability to extract LNAPL, impacted groundwater, and soil vapors with specially designed high vacuum blowers capable of handling liquid and vapor streams. This method is similar in application to pump-and-treat but with the advantage of treating contaminated soils above and below the water table.

MPE is commonly applied through the use of vacuum trucks (AFVR) or a stationary system. Both applications involve drawing a high vacuum through PVC drop tubes installed in new or existing monitoring or recovery wells. The vacuum draws the water table down to an equilibrium level while extracting LNAPL and adsorbed hydrocarbon constituents from the exposed soils beneath the water table.

As the drop tubes are moved upward or downward, depending on the screened interval of the recovery wells, LNAPL can be progressively removed from various portions of the soil column where impact is present including the vadose zone. The goal of the technology is to remove a minimal amount of groundwater while extracting LNAPL and adsorbed hydrocarbons in the soil vapor.

The success of the technology is determined by measuring the concentration of hydrocarbons in the off-gas stream and through measuring the resulting LNAPL thicknesses and petroleum concentrations in the groundwater.

The success of MPE is dependent on soil permeability, moisture content, depth to water, fuel type, and contaminant distribution. A pilot test is generally performed prior to installing a stationary MPE system to determine the extent of groundwater drawdown and vacuum and flow rate needed for optimum recovery. A typical MPE system consists of a high vacuum liquid ring blower with a moisture separation tank and an oil-water separator and air stripper for influent groundwater. Depending on air treatment requirements, influent vapors may need to be treated using thermal desorption or similar method prior to atmospheric discharge.

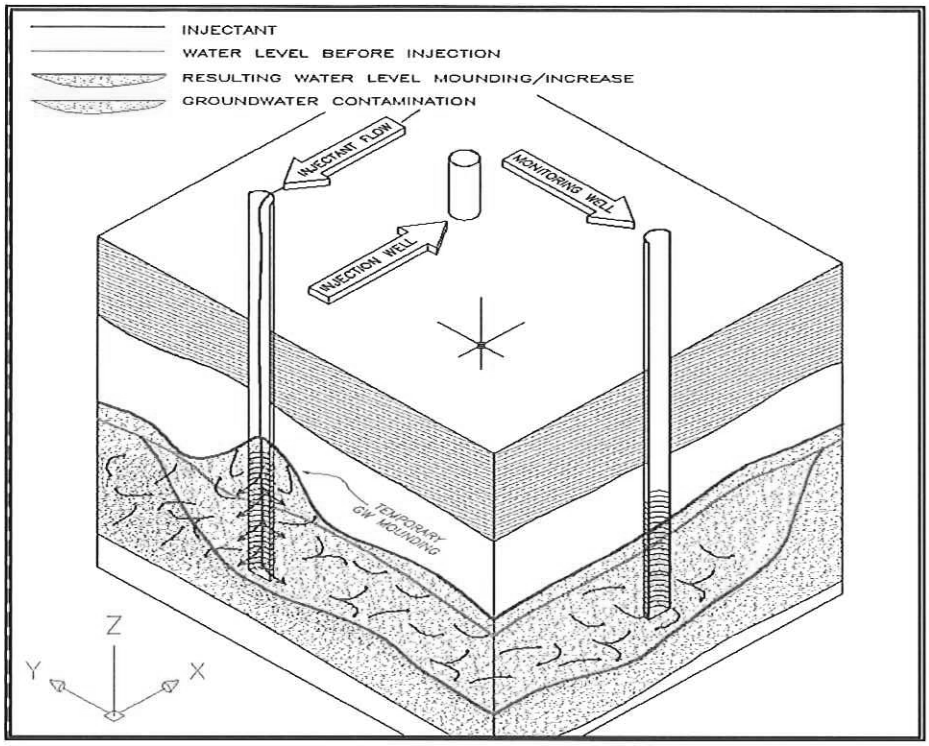
This technology was not considered in bid preparation; however, it may be utilized in combination with other remedial methods as an alternative to reach target goals.

3.2.4 Chemical Oxidation

Chemical oxidation methods involve the use of concentrated oxidants to facilitate the chemical breakdown of hydrocarbons in the soil and groundwater. This chemical breakdown occurs as molecular bonds in organic compounds are "cleaved" and oxygen is inserted into the resulting fragments producing end products of carbon dioxide, water, and harmless salts. The oxidation process is generally driven by the creation of aggressive oxidant radicals that react on contact.

Chemical oxidants can be applied either in-situ via injection (ISCO), through in-place soil blending, or ex-situ by removing impacted soils for above ground treatment. Geological and hydrogeological conditions must be considered when developing the application strategy. ISCO field applications have clearly affirmed that matching the oxidant and delivery system to the contaminants of concern and the site conditions is the key to successful implementation.

ISCO field applications generally involve low pressure injection of oxidant fluid at various depths in order to provide treatment over the entire "smear zone" of contamination both above and below the water table. The addition of oxidant fluid produces a temporary "mounding" of the water table in the vicinity of the injection point. Since ISCO processes occur in the fluid phase, contaminants in the soil matrix must be desorbed from soils before they can react with the oxidant. A conceptual cross-section illustrating contaminant plumes targeted for injection is shown in the diagram below.



The primary drawback to the ISCO technology includes the need for complete oxidant contact with the contaminant which can be hampered by low permeability and preferential pathways in the soil formation. Targeted injection techniques along with possible high volume delivery will be utilized to overcome this drawback.

Contaminant removal can typically be facilitated at petroleum sites with the use of activated persulfate, catalyzed hydrogen peroxide (CHP), and/or use of solid phase peroxygen compounds including sodium percarbonate and calcium peroxide. Reactions for each are below.

Sodium persulfate oxidation occurs with and without activators including iron salts/chelates, an alkaline substance, induced heat, or hydrogen peroxide. The activation process results in the creation of sulfate radicals which have similar oxidant strength to hydroxyl radicals. The stylized oxidation reaction is as follows:

$$S_2O_8^{-2} + activator \rightarrow SO_4^{\cdot -} + (SO_4^{\cdot -} \text{ or } SO_4^{-2})$$

CHP oxidation involves the combination of hydrogen peroxide, an iron catalyst, and a chelating agent resulting in the creation of hydroxyl radicals with a high oxidation potential. The basic chemical reaction for CHP/Modified Fenton's oxidation is as follows:

$$H_2O_2 + Fe^{+2} + Chelating\ Agent \rightarrow Fe^{+3} + OH^- + OH + residual\ ionic\ salt$$

Modified Fenton's oxidation can also be produced using sodium percarbonate ($Na_2CO_3 \cdot 1.5H_2O_2$). Sodium percarbonate is a soluble powder that releases hydrogen peroxide under mildly alkaline conditions (pH <9). The hydrogen peroxide generated can then be catalyzed with iron to produce hydroxyl radicals similar to a Modified Fenton's or CHP oxidant reaction. The chemical formula in solid phase and aqueous state for sodium percarbonate is shown below:

$$2Na_2CO_3.3H_2O_2 \rightarrow 2Na_2CO_{3(aq)} + 3H_2O_2$$

The hydrogen peroxide released will be react with either left over iron from previous ISCO treatments or supplemental iron added, resulting in Modified Fenton's oxidation:

$$H_2O_2 + Fe^{+2} \rightarrow Fe^{+3} + OH^- + OH.$$

The primary advantage of using sodium percarbonate to generate a CHP or Modified Fenton's reaction is to control the release of hydrogen peroxide and thereby extend the release of hydroxyl radicals. The oxidant reaction is non-corrosive and less exothermic than liquid based CHP applications. Following chemical oxidation, a release of dissolved oxygen will also occur to stimulate long term aerobic bioremediation.

Similar to sodium percarbonate, calcium peroxide can be utilized to generate a modified Fenton's reaction followed by aerobic bioremediation stimulated by a slow release of dissolved oxygen. Calcium peroxide has a low solubility and tends to form calcium hydroxide [$Ca(OH)_2$] at pH values of 11-12 as shown below:

$$2\ CaO_2 + 2\ H_2O \rightarrow Ca(OH)_2 + O_2$$

When the pH drops below 10 or 11, some hydrogen peroxide will be formed as shown in the reaction below:

$$CaO_2 + 2H + Ca_2 + (aq) + 2H_2O_2$$

Some or all of the hydrogen peroxide released will be used in a Modified Fenton's reaction as shown above with sodium percarbonate. Dissolved oxygen remaining after ISCO or from the dissolution of calcium peroxide under a higher pH will be subsequently utilized for aerobic bioremediation.

Based on site conditions and Envirorisk's prior success using ISCO for treatment of dissolved phase constituents, ISCO injections will be utilized for site treatment.

3.2.5 Enhanced Bioremediation

Enhanced bioremediation is a process that attempts to accelerate the natural biodegradation processes already at work in the subsurface environment from microbial organisms. Enhancement is usually accomplished by providing nutrients, electron donors, or competent degrading microorganisms.

The most common methods of enhanced bioremediation involve stimulating the subsurface by injecting nutrients to encourage either natural aerobic or anaerobic microbial activity.

Oxygen enhancement, commonly used to stimulate aerobic activity for degradation of petroleum hydrocarbons, can be achieved by either air sparging below the water table (bio-sparging) or circulating low level oxygen enhancers throughout the contaminated ground water zone. Oxygen enhancement using bio-sparging is typically used in conjunction with SVE or bio-venting to enhance removal of volatiles. Additionally, solid-phase peroxide products or other slow release oxygenators can also be injected into the subsurface to stimulate more rapid aerobic biodegradation.

Conditions influencing natural biodegradation need to be fully understood prior to enhancing natural processes. This is commonly performed by evaluating geochemical parameters in the groundwater along with relative concentrations of natural inorganics that may be utilized as electron acceptors and donors. Bench scale microbial studies may also be performed to better evaluate degradation rates.

Based on the contaminants present at this site (petroleum products), aerobic and/or anaerobic stimulation may be effective. Aerobic biostimulation will involve the use of oxygen release compounds in a "treatment train" approach. This can be accomplished using CHP, calcium peroxide, or sodium percarbonate oxidants that release oxygen during and following chemical oxidation. Anaerobic treatment would involve stimulating nitrate, iron, and/or sulfate-reducing bacteria in a reducing environment which may involve the injection of an organic carbon source to facilitate. Common organic substrates include sodium lactate or similar food grade products. Anaerobic treatment will be considered if sodium persulfate oxidation is utilized in order to take advantage of the residual sulfate remaining after the ISCO treatment.

Based on site conditions and Envirorisk's prior success using enhanced bioremediation in combination with ISCO, enhanced bioremediation will likely be utilized for treatment of low to moderate dissolved phase concentrations.

3.2.6 Deep Soil Excavation/Off-site Landfilling

In some cases, aggressive soil removal above and below the water table can be utilized as an effective means of removing impacted soils and blending in oxidants and/or bioremediation amendments. This process is often coupled with limited groundwater extraction to remove high dissolved phase constituents/LNAPL recharging on the groundwater surface during excavating. The extent of target treatment at the site ranges from approximately 20-40 ft-bgs (excluding the deep zone), which is beyond the extent of conventional excavation equipment with a maximum reach of 20 ft-bgs.

One alternative to conventional excavation is the advancement of a series of closely spaced large diameter borings using a "bucket" auger rig. This drill rig is similar to a caisson rig and is typically utilized in the installation of bored water wells. This drill method allows the removal of impacted soils with each advancement of the auger. Contaminated soils removed with the bucket attachment can be placed in roll-offs or dump trucks for off-site disposal at a Subtitle D landfill. In addition, impacted soils may be treated in-situ by blending in liquid and solid phase amendments to facilitate both ISCO processes in the groundwater and enhanced bioremediation. Temporary injection and/or extraction wells may also be installed in the open boreholes to further facilitate remediation.

This technology was not considered in bid preparation; however, it may be utilized in combination with other remedial methods as an alternative to reach target removal goals.

4.0 PROPOSED PLAN FOR REMEDIATION

Based on Envirorisk's initial assessment of site conditions, site remediation will be primarily accomplished through a combination of ISCO application(s) and enhanced bioremediation. A generalized plan for site treatment using these technologies is described in this section. The primary injection technologies may be supplemented, if needed, with alternative technologies including a MPE system installation and operation. Due to design specifications and discharge permitting requirements, a CAP Addendum will be submitted for approval prior to installation of a MPE system, if necessary.

A copy of the UIC permit application and the Site Specific Work Plan is included in the labeled appendix.

4.1 Injection Point Advancement

To facilitate effective injectant delivery, Envirorisk will advance approximately sixty (-60-) temporary injection points to 40 ft-bgs and ten (-10-) deep temporary points/wells to 65 ft-bgs in three treatment areas totaling approximately 8,400 square feet around MW-7, MW-2/MW-24/MW-25, and MW-4/MW-13/MW-18/MW-26 (see Figure 4 for treatment areas). The number of injection points and locations will be dictated based on field conditions, primarily including injectant flow and movement in the subsurface. The injection points will be advanced with a direct push rig. Deeper injection points/wells will likely be installed using an auger rig. In the event that temporary injection wells are installed, each will be constructed using one-inch or two-inch diameter Schedule 40 PVC. The injection wells will be completed with silica sand packs, hydrated bentonite seals, and secondary grout seals. The top of the PVC casings will be secured with injection fittings and will be either be cut slightly below surface grade in traffic bearing areas or left with 6-12" of stick-up. Small diameter locking manhole covers or temporary covers will be installed as needed.

Select injection well borings will be logged by an Envirorisk geologist and remedial specialist to evaluate soil heterogeneity and structural features influencing contaminant migration. Soils may be field vapor screened, as needed, using a photoionization detector (PID) by placing portions of soil cores in re-sealable plastic bags or foil covered mason jars for head space vapor accumulation prior to collecting an instrument reading. The results of the PID screening and field observations will be used to target delivery of injectants to optimize treatment. In addition, field screening of metal concentrations in soils may be performed using an x-ray fluorescence (XRF) or similar to access the oxidant reaction/reducing capacity. Leachable iron tests may also be performed, as needed, to determine available iron for oxidant activation. The results of the screening will be utilized to determine the best type and combination of oxidants selected for injection at the site.

4.2 ISCO Injections

After determining the most suitable oxidant for site treatment, ISCO will be performed using the temporary injection points/wells described above. It is anticipated that injection will be performed into approximately 70 temporary injection points/wells in the areas shown on Figure 4. Based on the information available at this time, the oxidant blend injected will likely consist of 250-500 gallons of a 5-10% solution (per point) of sodium percarbonate, sodium persulfate, and calcium peroxide along with <1% of an iron salt (ferrous sulfate or similar). It is expected that two or more treatments will be required.

Injection will be performed under low to moderate pressure using Envirorisk's mobile injection vehicle. During and immediately following ISCO injection, geochemical parameters [pH, conductivity, temperature, dissolved oxygen (DO), oxidation-reduction potential (ORP)], and depth to water will be collected, as needed, to assess the radial extent of oxidant treatment. Follow-up residual oxidant measurements may also be utilized using compound specific test kits.

4.3 Enhanced Bioremediation

Following and/or concurrent with ISCO treatment of higher dissolved concentration areas, enhanced bioremediation will be utilized. Based on the oxidants used, it will be performed either aerobically using residual dissolved oxygen with other nutrients added, as needed, and/or reductively utilizing sulfate reducing bacteria or similar anaerobic processes. It is anticipated, based on the information available, aerobic bioremediation will be performed first followed by anaerobic bioremediation after the aerobes have been depleted. Anaerobic bioremediation will likely involve the injection of food grade lactate products (sodium lactate) to create a reducing environment. Liquid amendment injection will be utilized first to stimulate enhanced bioremediation prior to use of air carrier based methods.

4.4 Alternative Remedial Technologies/MPE System

In the event that SSTLs have not been met using ISCO and enhanced bioremediation, alternative remedial technologies including AS/SVE, MPE, or deep soil excavation/ landfilling may be utilized to achieve final treatment goals. A CAP Addendum would be prepared with a design and implementation strategy prior to AS/SVE or MPE installation.

4.5 Groundwater Sampling

As outlined in the Solicitation, all wells will be sampled semi-annually with the exception of the two water supply wells which will be sampled quarterly. If free product is detected during any sampling event SC DHEC will be notified immediately and the well will not be sampled. Wells will be sampled for the following constituents: BTEX, naphthalene, MTBE, 1,2-DCA, oxygenates (TAA, TBA, TAME, DIPE), and EDB.

Sampling procedures will be followed as outlined in Envirorisk's approved Annual Contractor Quality Assurance Plan. As specified in Section B11 of the Solicitation, once sampling data indicates a 100% CoC concentration reduction, the Agency will be notified and corrective action activities will cease. The wells will be sampled 30 days later, and assuming SSTLs have still been met, a two quarter verification period will begin. During the verification period, wells will be sampled quarterly for the parameters listed above, plus dissolved oxygen, ferrous iron, methane, nitrate, and sulfate. If the 100% CoC concentration reduction goal has not been maintained, corrective action as described above will resume. Appropriate reports will be submitted following each sampling event.

In addition, SC DHEC may require the installation of four verification wells during the post-corrective action verification period. SSTLs for the verification wells will be provided by SC DHEC.

4.6 Timeline

Table 3 below lists predicted completion dates for the project. Dates are approximate, and are subject to change based on SC DHEC's input and response time to submittals, possible public notice delays, weather delays, holidays, changes in site conditions, and other conditions out of Envirorisk's control.

Table 3. Timeline

Task/Submittal	Predicted Date
Site Specific Work Plan for Initial Monitoring Event	June 23, 2015 *(already submitted)* Approved by DHEC on July 1, 2015
Corrective Action Plan and Site Specific Work Plan/UIC Permit	July 28, 2015 *(this submittal)*
SC DHEC review of CAP/Public Notice, Issue Notice to Proceed	Assume 60 days- end of September 2015
Initial Monitoring Event Report	45 days from approval- August 14, 2015
CAP Implementation	30 days from Notice to Proceed- assume October 2015
CAP Implementation Report	60 days from Notice to Proceed- assume November 2015
Corrective Action System Evaluation Report	Semi-annually with first report due within 90 days of CAP Implementation Report (water supply wells sampled quarterly)- estimated in January and July of each year
Update QAPP Contractor Addendum or Site Specific Work Plan for Corrective Action	First quarter of each year or as needed until completion of corrective action
Abandon and/or Remove Assessment and Corrective Action Equipment Components	Within 60 days from notice by the Agency

D H E C
PROMOTE PROTECT PROSPER

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

To: Read Miner / minerrs@dhec.sc.gov (SCDHEC Project Manager)
From: Kimberly Phillips, CEP (Contractor Project Manager)
Contractor: Envirorisk Consultants, Inc. UST Contractor Certification Number: 428

Facility Name: Circle Stop & Shop UST Permit #: 05981
Facility Address: 3287 Columbia Highway, Leesville, SC 29070
Responsible Party: Gail Smith Phone: 803-532-4780, 803-960-2247
RP Address: 143 Pioneer Drive, Leesville, SC 29070
Property Owner (if different): Louise Clark
Property Owner Address: 2920 Prosperity Highway, Leesville, SC 29070-7149
Current Use of Property: Gasoline station

Scope of Work (Please check all that apply)

- ☐ IGWA
- ☐ Tier II
- ☐ Groundwater Sampling
- ☐ GAC
- ☐ Tier I
- ☐ Monitoring Well Installation
- ☑ Other CAP implementation

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.)

0 Soil	0 Water Supply Wells	0 Air	0 Field Blank
0 Monitoring Wells	0 Surface Water	0 Duplicate	0 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: 60 Estimated Footage: 40 feet per point
# of deep points proposed: 10 Estimated Footage: 65 feet per point
Field Screening Methodology: PID as needed (not all points will be screened)- see CAP Figure 4 for locations

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.
# of shallow wells: 0 Estimated Footage: 0 feet per point
# of deep wells: 0 Estimated Footage: 0 feet per point
# of recovery wells: 0 Estimated Footage: 0 feet per point
Monitoring Well development method (consistent with SOP): N/A
Comments, if warranted:

UST Permit #: 05981 Facility Name: Circle Stop & Shop

Implementation Schedule (Number of calendar days from approval)
Field Work Start-Up: 30 days Field Work Completion: 24 months (drilling, injection)
Report Submittal: Semi-annual CASE reports # of Copies Provided to Property Owners: 1 each

Aquifer Characterization
Pump Test: ☐ Slug Test: ☐ (Check one and provide explanation below for choice)
N/A

Investigation Derived Waste Disposal
Soil: 0 Tons Purge Water: 0 Gallons
Drilling Fluids: 0 Gallons Free-Phase Product: 0 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.
ISCO injections using sodium percarbonate, sodium persulfate, and/or calcium peroxide into an anticipated 70 points

Compliance With Annual Contractor Quality Assurance Plan (ACQAP)
N/A 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.
   Figure 1 in CAP
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: Figure 3 in CAP
   - 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 N/A

Instructions for Attachments to Form 1
Underground Injection Control
for Corrective Action Wells
(effective 01/91)

Attachment A: Activity for Review

Submit a brief description of the activities to be conducted that require a UIC permit.

In-situ chemical oxidation injection(s) using a 5-10% solution of sodium percarbonate, sodium persulfate, and/or calcium peroxide with a <1% solution of an iron salt (ferrous sulfate or similar). Activators and chelators such as iron salts (ferrous sulfate or similar) may be added. Following and/or concurrent with ISCO, enhanced bioremediation will be utilized and may include the injection of sodium lactate to create a reducing environment.

Attachment B: Well Construction Details

Submit schematics or other appropriate drawings of the surface and subsurface construction details of the recovery and injection wells.

Injection will be performed using up to 70 injection points. It is not anticipated that temporary injection wells will be installed; however, typical well schematics are attached. Figure 4 displays the treatment areas.

Attachment C: Operating Data

Submit the following proposed operating data for each injection well:

1) Average and maximum daily rate and volume of fluid to be injected. In addition, indicate the average and maximum daily rate and volume of fluid to be withdrawn from each recovery well. Verification of the aquifer's hydraulic ability to product and accept the quantities proposed should be presented.

Injection quantities will vary from 250-500 gallons per injection point based on aquifer permeability. Typically, 2,500-3,000 gallons a day will be injected.

2) Average and maximum injection pressure.

10-50 psi.

3) Pumping schedule (i.e. continuous, alternating cycles, etc.)

N/A

4) Proposed ranges in the concentration of all contaminant constituents within the injection fluid. Include comprehensive ground-water quality data from a "worst case" well sample.

Injection treatment for dissolved phase treatment. The highest benzene concentration was detected at 21,900 µg/L during the December 2014 sampling event.

5) Length of time the project is expected to require injection to complete remediation (to ensure the effective dates of the permit will allow sufficient time to complete the project).

2 years.

Attachment D: <u>Monitoring Program</u>

Discuss the planned monitoring program in detail:

1) Include a discussion of monitoring devices, sampling frequency (sufficient to verify treatment system efficiency), sampling protocol, sampling location, parameters to be analyzed, and proposed method(s) of analysis.

Please refer to Section 4.5 and 4.6 of the CAP for details. In general, wells will be sampled semi-annually. In addition, geochemical parameters (pH, conductivity, temperature, DO, and ORP) will be evaluated.

2) This plan should indicate how, through monitoring, the proposed contaminant levels in the injectate will be verified.

Geochemical parameters will be collected during injection activities, and semi-annual groundwater sampling of all wells for analysis of BTEX, naphthalene, MTBE, 1,2-DCA, oxygenates (TAA, TBA, TAME, DIPE), and EDB.

3) This plan should also clearly illustrate exactly how hydraulic control of the contaminant plume (and injectate, where relevant) will be verified through monitoring (i.e., piezometers, quality analyses, etc.).

Perimeter wells will be sampled semi-annually to evaluate possible plume migration.

Attachment E: <u>Existing of Pending State/Federal Permits</u>

List the program and permit number of any existing State of Federal permits for the facility (i.e., NPDES, RCRA, UST, etc.).

UST Permit #05981.

Attachment F: <u>Description of Business</u>

Give a brief description of the nature of the business of the facility and any immediately adjacent facilities.

UST #05981 is a vacant gasoline station. The facility is located in a rural area of Leesville, SC. See Section 1.3 of the CAP for additional information.

Attachment G: <u>Area of Review</u>

1) The area of review should be a fixed radius of ¼ mile from the injection well, the outermost injection wells (if a wellfield).

Your comment is noted.

2) If a fixed radius is not selected, the methods and the calculations used to determine the size of the area of review should be submitted.

N/A

Attachment H: <u>Maps of Wells and Area of Review</u>

1) Submit a topographic map of the area, extending one mile beyond the project boundaries. This map should show all hazardous waste treatment, storage, or disposal facilities, and all intake and discharge structures associated with the project facility. Any known areas of soil and/or ground-water contamination within a one mile radius should be indicated. Also indicate all surface water bodies of water, springs, mines (surface or subsurface), quarries, and other pertinent surface features such as residences, roads, and geologic faults (known or suspected).

Please refer to Figure 1. Site groundwater flow, based on a review of previous groundwater flow maps, is to the north. Spring Creek (the nearest down gradient surface water body) is located approximately 800 feet northwest.

2) A scaled maps(s) should be included which shows the name and/or number and the location of ALL production, injection, monitoring, abandoned and dry wells within the area of review. This should be accomplished by file and field surveys. Information regarding the construction (i.e., total depth, diameter, casing/screened intervals, grouting, etc.) and the current status (i.e., actively used, temporarily abandoned, permanently abandoned) of ALL wells within the area of review should be submitted. If any wells have been abandoned, details on the method the wells were abandoned (i.e., cemented/grouted, filled with sand, etc.) should be included.

Please refer to Figure 3. A total of 26 wells are present.

3) A potentiometric map of the project site should be submitted which accurately located all monitoring wells and proposed recovery and injection wells and outlines the horizontal extent of both the free-phase contamination (where applicable) and dissolved contaminant plumes. Include all water level and product thickness data. The data and time that water levels and product thicknesses were measured should be indicated.

These maps have not been prepared by Envirorisk for the CAP. However, a potentiometric map and extent of BTEX prepared by previous consultants are attached. The most recent groundwater gauging and sampling event was conducted in December 2014. No free product is present at the site.

Attachment I: <u>Cross Sections/Diagrams</u>

1) Geologic cross sections indicating the lithology and stratigraphy of the site and the horizontal and vertical extent of the contaminant plume, should be submitted. At least two stratigraphic cross sections, one parallel and one perpendicular to the horizontal ground-water flow direction, should be submitted.

Cross sections have not been prepared by Envirorisk for the CAP.

2) A schematic diagram, in the form of a cross section, showing the proposed remediation system with the components of flow (above and below ground) and all associated appurtenances (i.e., stripping tower, piping, wells, etc.).

N/A

Attachment J: <u>Name and Depth of Underground Sources of Drinking Water (USDW's)</u>

Identify and describe all aquifers which may be affected by the injection.

Envirorisk does not have detailed aquifer information; however, only groundwater in the immediate vicinity of the injection wells/points should be affected.

Attachment K: <u>Hydraulic Control</u>

1) Sufficient supporting data (i.e. time/drawdown data, Theis curves and methods, calculations, etc.), used to determine aquifer characteristics to verify complete hydraulic control over the contaminant plume (and injectate, if proposed injectate quality does not conform to classified ground-water standards) during injection should be submitted. At a minimum, values should be given for transmissivity, hydraulic conductivity, effective porosity and specific yield

Injection will not exceed pore volumes in the contaminated water zone. Injection will be performed from the perimeter into the heart of the plume to limit potential migration. The average hydraulic conductivity of the surficial water bearing unit (calculated by previous consultants) was calculated at 3.39×10^{-4} (MW-3), 6.17×10^{-6} (MW-4), 8.2×10^{-5} (MW-6), 2.03×10^{-5} (MW-11), and 1.54×10^{-5} (MW-13) feet/minute using data derived by in-situ hydraulic conductivity testing (slug tests).

2) Demonstrate the presence and magnitude of, or the absence of, any vertical hydraulic gradient at the site. If a vertical hydraulic gradient exists, show how its direction and magnitude are incorporated in the calculations demonstrating hydraulic control.

Vertical gradients are not considered significant at this facility based on a review of file data.

3) Ground-water flow computer models (especially 2-D may view with potentiometric and flow lines) may be utilized and submitted. All calculations should be in English units. All model-derived data and maps should be properly labeled and keyed so as to be clearly understood.

N/A

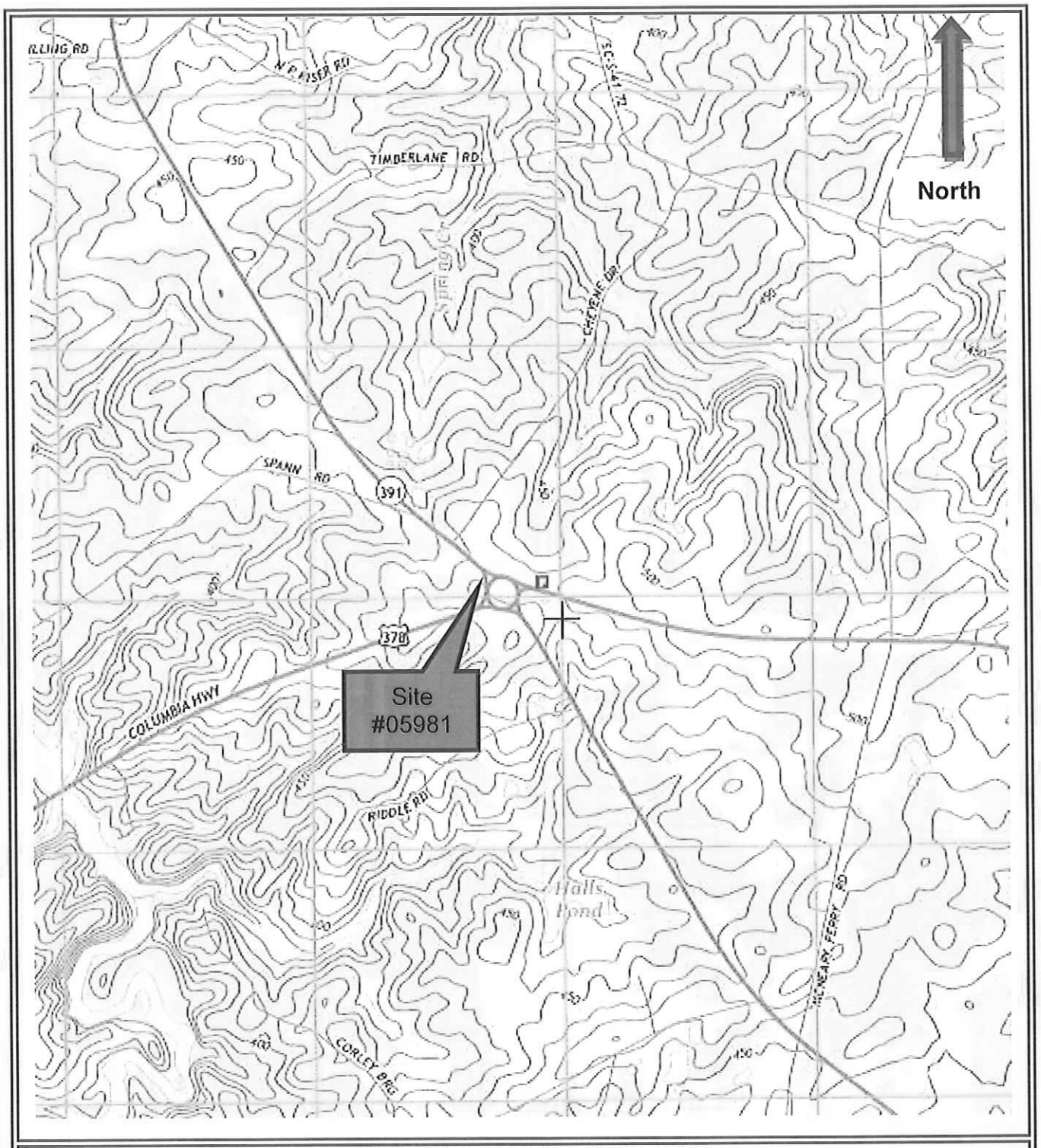
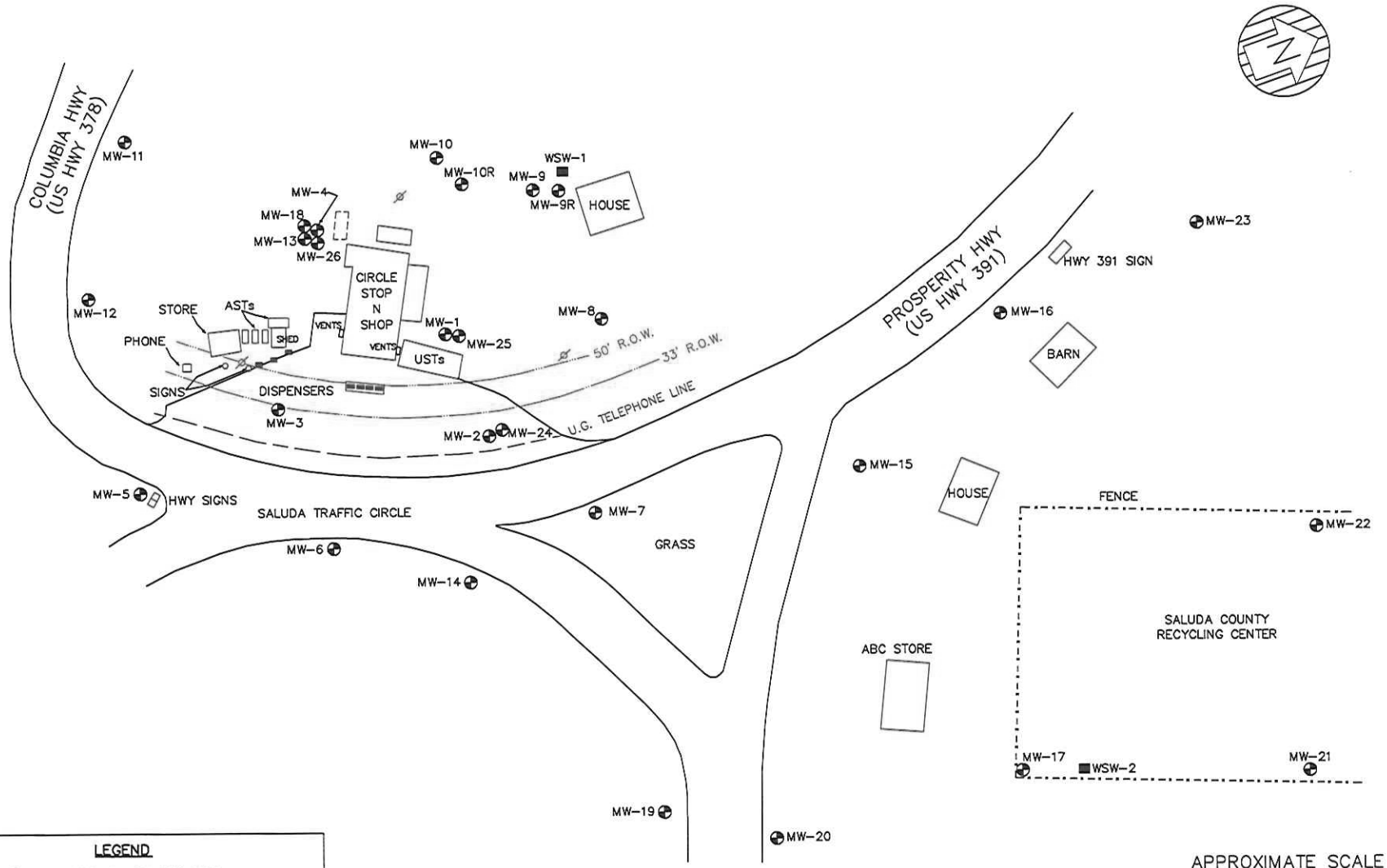


FIGURE 1. TOPOGRAPHIC MAP

Envirorisk Consultants, Inc. PO Box 945 Grayson, GA 30017	**LEGEND** Source: USGS Topographic Map, Delmar quad, dated 2014 Approx. scale: 1" = 1,580'	**Corrective Action Plan** July 2015 SCDHEC UST Permit #05981 Circle Stop & Shop 3287 Columbia Highway Leesville, Saluda County, SC



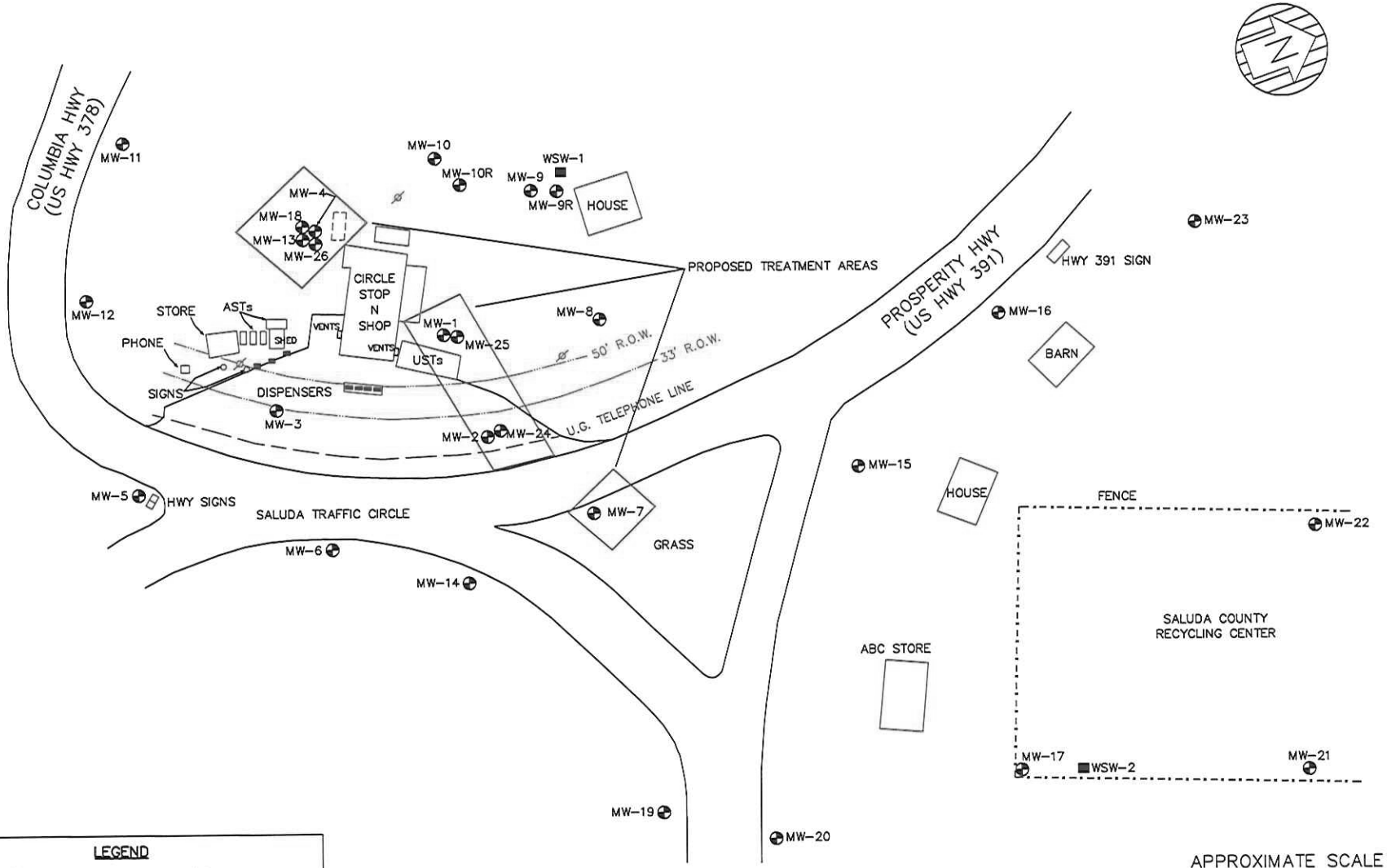
DISCLAIMER: WELL LOCATIONS BASED ON SEI ENVIRONMENTAL, INC. GROUNCWATER ELEVATION CONTOUR MAP, DATED 2/2/06

ENVIRORISK CONSULTANTS, INC.

CIRCLE STOP & SHOP, UST PERMIT 05981
3287 COLUMBIA HWY.
LEESVILLE, SALUDA COUNTY, SOUTH CAROLINA

SITE BASE MAP

FIGURE NO 3



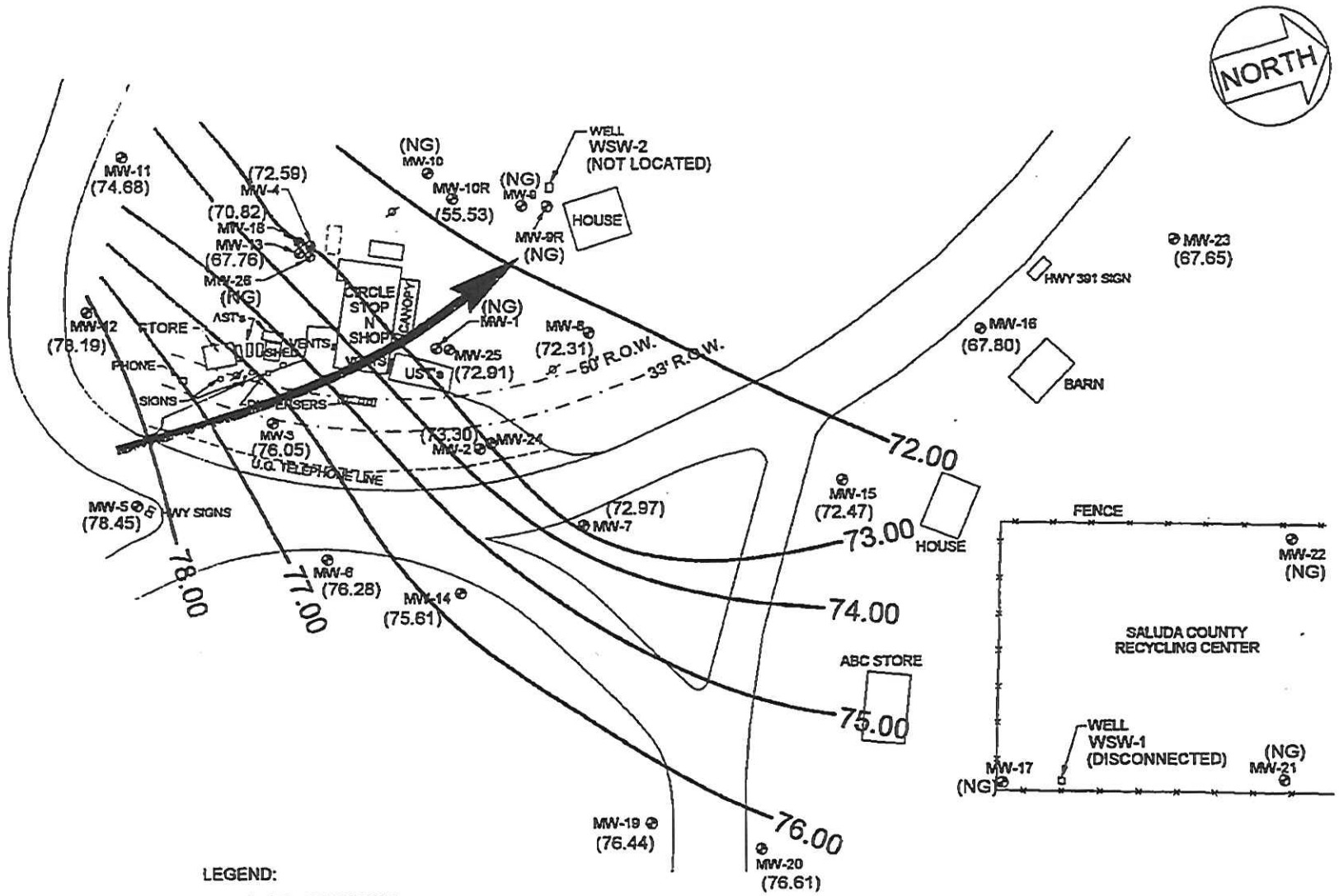
DISCLAIMER: WELL LOCATIONS BASED ON SEI ENVIRONMENTAL, INC. GROUNCWATER ELEVATION CONTOUR MAP, DATED 2/2/06

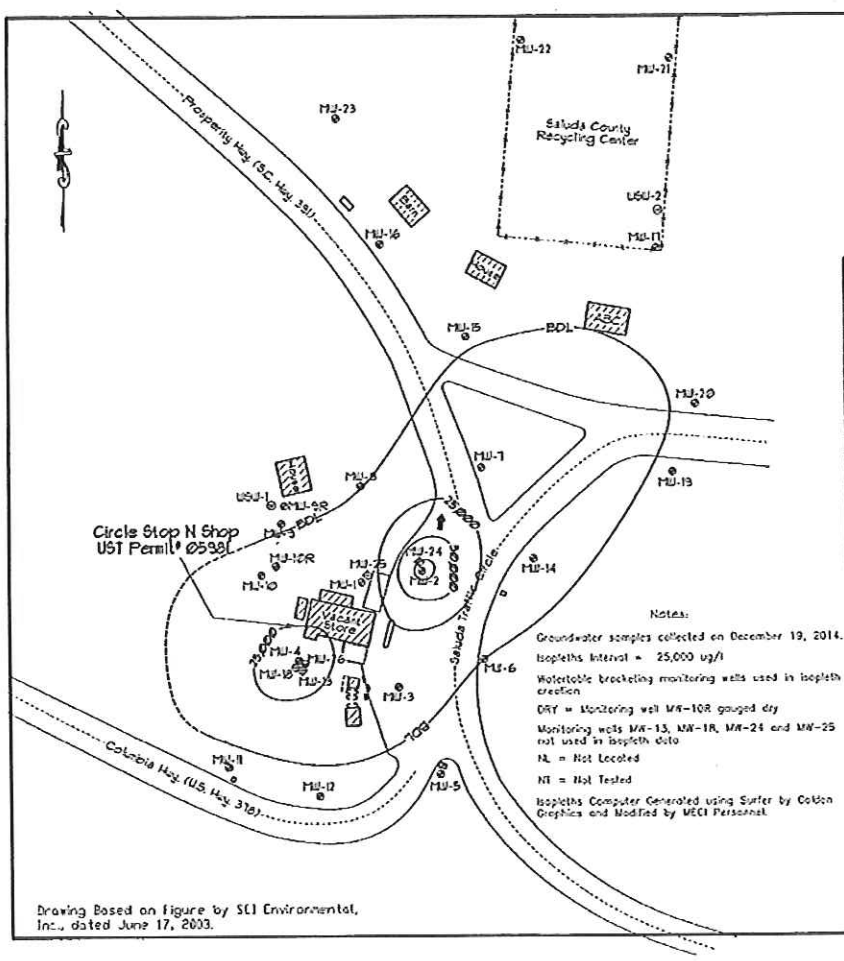
ENVIRORISK CONSULTANTS, INC.

CIRCLE STOP & SHOP, UST PERMIT 05981
3287 COLUMBIA HWY.
LEESVILLE, SALUDA COUNTY, SOUTH CAROLINA

PROPOSED TREATMENT AREAS

FIGURE NO 4


NORTH
WELL
WSW-2
(NOT LOCATED)
HOUSE
(NG)
MW-10
MW-10R
(55.53)
(NG)
MW-9
MW-9R
(NG)
MW-11
(74.68)
(72.59)
MW-4
(70.82)
MW-18
MW-13
(67.76)
MW-26
(NG)
CIRCLE STOP N SHOP
CANOPY
(NG)
MW-1
MW-25
(72.91)
MW-8
(72.31)
50' R.O.W.
33' R.O.W.
USTs
MW-12
(78.19)
STORE
ASTs
SHED
VENTS
PHONE
SIGNS
DISPENSERS
MW-3
(76.05)
(73.30)
MW-2
MW-24
U.G. TELEPHONE LINE
MW-5
(78.45)
HWY SIGNS
(72.97)
MW-7
MW-6
(76.28)
MW-14
(75.61)
78.00
77.00
72.00
73.00
74.00
75.00
76.00
MW-15
(72.47)
HOUSE
ABC STORE
MW-19
(76.44)
MW-20
(76.61)
MW-23
(67.65)
HWY 391 SIGN
MW-16
(67.80)
BARN
FENCE
MW-22
(NG)
SALUDA COUNTY
RECYCLING CENTER
WELL
WSW-1
(DISCONNECTED)
MW-17
(NG)
(NG)
MW-21
LEGEND:
MONITORING WELL
POWER POLE
(XXX) GROUNDWATER ELEVATION(FT.) BASED ON ARBITRARY DATUM OF 100.00 FT.
NG = NOT GAUGED
NL = NOT LOCATED
75.00
GROUNDWATER ELEVATION CONTOUR
GROUNDWATER FLOW DIRECTION
0 40 80 FT.
NOTE: WELLS GAUGED 2/2/06.
SEI Environmental, Inc.
FIGURE 3: GROUNDWATER ELEVATION CONTOUR MAP, 2/2/06
CIRCLE STOP & SHOP
3287 COLUMBIA HWY.
LEESVILLE, SC
WO #303-064
DWG #CS00643J
DATE: 2/2/06
DRAWN BY: JCJ



Drawing Based on Figure by SCI Environmental, Inc., dated June 17, 2003.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Intermediate" Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Location of Double Cased Monitoring Well Installed into Bedrock
- Location of Water Supply Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Estimated Location of Former Aboveground Storage Tanks
- Total BTEX 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)	1,2 DCA (ug/l)	EDB (ug/l)
MW-1(05981)	15.4	202	459	2,490	3,166.4	166	<5.0	<5.0	<0.020
MW-2(05981)	20,900	44,800	3,000	18,200	86,900	481	9,620	751	82.4
MW-3(05981)	62.6	4.71	2.83	<10.0	70.13	<5.0	<5.0	<5.0	0.040
MW-4(05981)	310	17,400	3,270	22,900	43,880	552	<125	<125	<0.020
MW-5(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-6(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-7(05981)	413	1,170	1,120	4,010	6,713	311	<50.0	<50.0	0.057
MW-8(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-9R(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	4.63	<5.0	<0.019
MW-10R(05981)	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY	DRY
MW-11(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-12(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-13(05981)	3,460	<25.0	353	1,470	5,303	143	44,200	<25.0	<0.020
MW-14(05981)	271	19.5	73.9	63.7	428.1	<5.0	<5.0	<5.0	<0.020
MW-15(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	5.8	<5.0	<0.020
MW-16(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-17(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-18(05981)	233J	<5.0	<5.0	61.6	294.6J	29.9	11,700	15.9	<0.020
MW-19(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-20(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.021
MW-21(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-22(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
MW-23(05981)	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-24(05981)	155	<5.0	<5.0	14.1	169.1	<5.0	1,620	29.0	<0.020
MW-25(05981)	110	<5.0	<5.0	20.2	130.2	62.9	1,230	12.8	<0.021
MW-26(05981)	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	20.6	<5.0	<0.020
WSW-1(05981)	<1.0	<1.0	<1.0	<2.0	BDL	<1.0	<1.0	<1.0	<0.020
WSW-2(05981)	NS	NS	NS	NS	NS	NS	NS	NS	NS
MW-1 Duplicate	16.9	204	476	2,460	3,157	163	8.5	<5.0	<0.20
MW-2 Duplicate	21,900	47,200	2,960	18,100	90,160	450	10,700	720	87.1
Field Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	<0.020
Trip Blank	<5.0	<5.0	<5.0	<10.0	BDL	<5.0	<5.0	<5.0	NT

Notes:

Groundwater samples collected on December 19, 2014.

Isopleths Interval = 25,000 ug/l

Watertable bracketing monitoring wells used in isopleth creation

DRY = Monitoring well MW-10R gauged dry

Monitoring wells MW-13, MW-18, MW-24 and MW-25 not used in isopleth data

NL = Not Located

NT = Not Tested

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel

GRAPHIC SCALE

0 40 80 120 160

1IN = 80FT

ALL LOCATIONS ARE APPROXIMATE

Groundwater CoC Site Map
(Total BTEX Isopleth)

Circle Stop N Shop
2381 Columbia Highway
Leesville, South Carolina
SCDHEC Site ID 05981

Midlands Environmental Consultants, Inc.

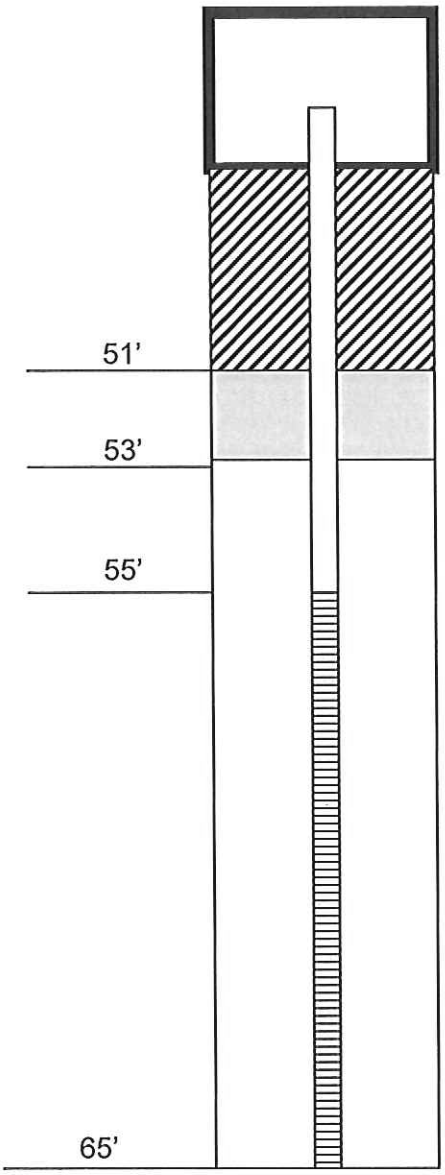
JOB NO. 11-1042
DATE January 12, 2015
FIGURE 4

ATTACHMENT B: Well Construction Details

ENVIRORISK CONSULTANTS, INC.

INJECTION WELL CONSTRUCTION DETAILS (Example)

DRILLING FIRM:	**SUPERVISING GEOLOGIST:**
PROJECT NAME:	
PROJECT LOCATION:	
INJECTION WELL NO.:	**DATE OF INSTALLATION:**



STEEL, BOLT-DOWN WELL VAULT (OPTIONAL)

WELL RISER

MATERIAL:	PVC
DIAMETER:	1 INCH
JOINT TYPE:	FLUSH THREADED
LENGTH:	55 FEET

SECOND SEAL

TYPE OF SEAL:	PORTLAND CEMENT
THICKNESS:	51 FEET

FIRST SEAL

TYPE OF SEAL:	BENTONITE CHIPS
THICKNESS:	2 FEET

FILTER PACK

TYPE OF FILTER:	SAND
DISTANCE ABOVE SCREEN:	2 FEET

WELL SCREEN

SCREEN MATERIAL:	PVC
DIAMETER:	1 INCH
LENGTH:	10 FEET
SLOT SIZE:	0.010 INCHES

DEPTH TO BOTTOM OF INJECTION WELL: 65 FEET

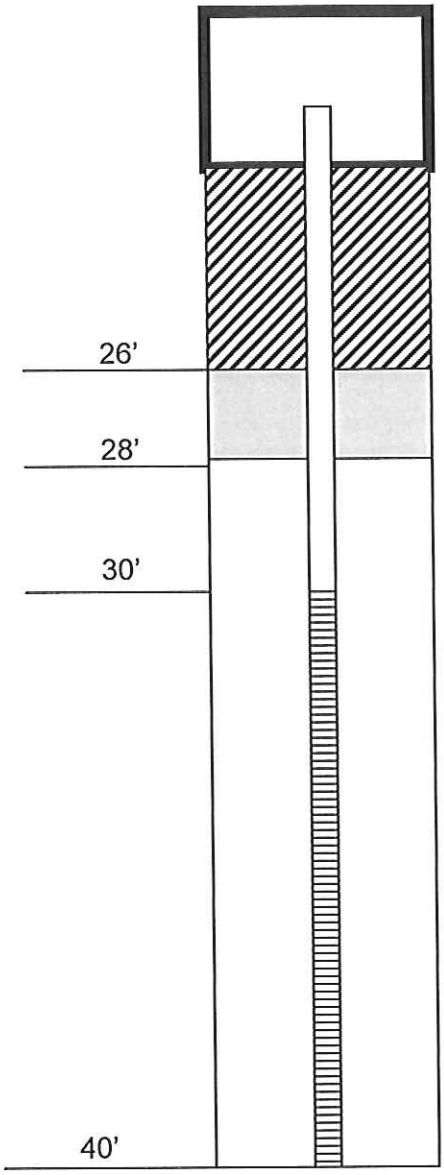
DEPTH TO BOTTOM OF FILTER SAND: 65 FEET

ATTACHMENT B: Well Construction Details

ENVIRORISK CONSULTANTS, INC.

INJECTION WELL CONSTRUCTION DETAILS (Example)

DRILLING FIRM:	**SUPERVISING GEOLOGIST:**
PROJECT NAME:	
PROJECT LOCATION:	
INJECTION WELL NO.:	**DATE OF INSTALLATION:**



STEEL, BOLT-DOWN WELL VAULT (OPTIONAL)

WELL RISER

MATERIAL:	PVC
DIAMETER:	1 INCH
JOINT TYPE:	FLUSH THREADED
LENGTH:	30 FEET

SECOND SEAL

TYPE OF SEAL:	PORTLAND CEMENT
THICKNESS:	26 FEET

FIRST SEAL

TYPE OF SEAL:	BENTONITE CHIPS
THICKNESS:	2 FEET

FILTER PACK

TYPE OF FILTER:	SAND
DISTANCE ABOVE SCREEN:	2 FEET

WELL SCREEN

SCREEN MATERIAL:	PVC
DIAMETER:	1 INCH
LENGTH:	10 FEET
SLOT SIZE:	0.010 INCHES

DEPTH TO BOTTOM OF INJECTION WELL: 40 FEET

DEPTH TO BOTTOM OF FILTER SAND: 40 FEET

Click http://www.guidechem.com/cas-130/1305-79-9.html for suppliers of this product

Calcium peroxide (cas 1305-79-9) MSDS

MATERIAL SAFETY DATA SHEET
Calcium Peroxide

MSDS Ref. No.: 1305-79-9-1
Date Approved: 04/30/2006
Revision No.: 9

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada??s Workplace Hazardous Materials Information System (WHMS) and, the EC Directive, 2001/58/EC.

1. PRODUCT AND COMPANY IDENTIFICATION
PRODUCT NAME: Calcium Peroxide
SYNONYMS: Calcium Peroxide, Food Grade (75% Mn. Assay); Calcium Superoxide
GENERAL USE: Used as a curing agent in certain rubber compounds. Other uses included starch modification, dough conditioner, and as an ingredient in deodorants, cosmetics and dentrifices.

MANUFACTURER EMERGENCY TELEPHONE NUMBERS
FMC CORPORATION (303) 595-9048 (Medical - U.S. - Call Collect)
FMC Peroxygens
1735 Market Street For leak, fire, spill, or accident emergencies, call:
Philadelphia, PA 19103 (800) 424-9300 (CHEMTREC - U.S.A. & Canada)
(215) 299-6000 (General Information)

2. HAZARDS IDENTIFICATION
EMERGENCY OVERVIEW:
?? White to yellowish, almost odorless, powder.
?? Oxidizer.
?? Contact with combustibles may cause fire.
?? Under fire conditions product may decompose releasing oxygen that intensifies fire.
?? Deluge container with water at safe distance or in protected area.
?? Severely irritating to the eyes.

POTENTIAL HEALTH EFFECTS: Airborne dust may be irritating to eyes, nose, throat and lungs. No significant long term inhalation hazard; irritation usually subsides after exposure ceases.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Calcium Peroxide	1305-79-9	75	215-139-4	Not classified
Calcium Hydroxide	1305-62-0	25	215-137-3	Not classified

4. FIRST AID MEASURES

EYES: Immediately flush with water for at least 15 minutes, lifting the upper and lower eyelids intermittently. See a medical doctor or ophthalmologist immediately.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.
INGESTION: Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, obtain medical attention.

NOTES TO MEDICAL DOCTOR: Modest irritation is the only expected effect. No serious consequences are expected, except perhaps in the case of direct eye contact. Contaminated external surfaces should be flooded with water, and direct eye contact deserves ophthalmologic evaluation. If ingested, gastrointestinal irritation but not caustic burns are to be expected; dilution with water indicated as may be gastric evacuation via emesis or lavage if large doses or severe irritation is evident. Demulcents should be helpful. No systemic effects are expected though human toxicity data is sparse.

5. FIRE FIGHTING MEASURES
EXTINGUISHING MEDIA: Water

FIRE / EXPLOSION HAZARDS: Under fire conditions, may decompose and release oxygen gas. Mixtures with polysulfide polymers may ignite.

FIRE FIGHTING PROCEDURES: Use flooding quantities of water. Use water spray to keep fire exposed containers cool.

FLAMMABLE LIMITS: Non-Combustible

Calcium Peroxide (1305-79-9-1) Date: 04/30/2006

SENSITIVITY TO IMPACT: Oxidizable materials can be ignited by grinding and may become explosive.

SENSITIVITY TO STATIC DISCHARGE: Not available

6. ACCIDENTAL RELEASE MEASURES
RELEASE NOTES: Confine spill and place into container; dilute with a large quantity of water for disposal. Do not return product to the original container. Runoff to sewer may create fire or explosion hazard (do not flush powdered material to sewer).

7. HANDLING AND STORAGE
HANDLING: Avoid contact by using personal protective equipment. Use respiratory protective equipment when release of airborne dust is expected. If compounded with organics or combustible materials be sure to exclude moisture.

STORAGE: Keep material dry. Store in a clean cool place. Do not store near or expose to heat sources i.e., steam pipes, radiant heaters, hot hair vents or welding sparks. Avoid contact with reducing agents. Reacts with moisture. Keep container tightly closed when not in use.

COMMENTS: VENTILATION: Provide mechanical general and/or local exhaust ventilation to prevent release of dust into work environment. If ventilation is inadequate or not available, use dust respirator and eye protection.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION
EXPOSURE LIMITS
Chemical Name ACGIH OSHA Supplier

5 mg/m3 (TWA) 5 mg/m3 (TWA) 5 mg/m3 (TWA)
Calcium Hydroxide

ENGINEERING CONTROLS: Provide mechanical local exhaust ventilation to prevent the release of vapors or mist into the work area. If release is expected use respiratory protection.

PERSONAL PROTECTIVE EQUIPMENT
EYES AND FACE: Chemical goggles or face shield.

RESPIRATORY: Use approved dust respirator with full face piece.

Calcium Peroxide (1305-79-9-1) Date: 04/30/2006

PROTECTIVE CLOTHING: Long sleeve shirt, impervious apron or clothing.
Rubber or neoprene footwear.

GLOVES: Rubber or neoprene gloves. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

9. PHYSICAL AND CHEMICAL PROPERTIES
None
ODOR:
White to yellow powder
APPEARANCE:
Non-combustible
AUTOIGNITION TEMPERATURE:
Not applicable
BOILING POINT:
Not available
COEFFICIENT OF OIL / WATER:
27 lb/ft3 bulk density
DENSITY / WEIGHT PER VOLUME:
Not applicable (Butyl Acetate = 1)
EVAPORATION RATE:
Decomposes on heating (About 275oC)
MELTING POINT:
Not applicable
ODOR THRESHOLD:
Oxidizer
OXIDIZING PROPERTIES:
Not applicable
PERCENT VOLATILE:

1 @ 25 ??C slurry (1% solution)
pH:
Insoluble
SOLUBILITY IN WATER:
Approximately 2.92 (H2O=1)
SPECIFIC GRAVITY:
Air=1: Not available
VAPOR DENSITY:
Not applicable
VAPOR PRESSURE:

10. STABILITY AND REACTIVITY
Heat (decomposes at 275oC), moisture, reducing
CONDITIONS TO AVOID:
agents. Grinding with organics.
Stable (decomposition could occur when exposed
STABILITY:
to heat or moisture)
Will not occur
POLYMERIZATION:
Grinding mixtures with organics (oxidizable
INCOMPATIBLE MATERIALS:
materials can be ignited by grinding and may
become explosive); heavy metals.
Oxygen that supports combustion and calcium
HAZARDOUS DECOMPOSITION PRODUCTS:
hydroxide.

Calcium Peroxide (1305-79-9-1) Date: 04/30/2006

11. TOXICOLOGICAL INFORMATION
EYE EFFECTS: Severely irritating to unwashed eyes.
Minimally irritating to washed eyes. (rabbit) [Ref. FMC I88-1053]

SKIN EFFECTS: Non-irritating (rabbit) [Ref. FMC I88-1054]

DERMAL LD50: > 10 g/kg (rat) [FMC Study Number: ICG/T-79.026]

ORAL LD50: > 5 g/kg (rat) [Ref. FMC I88-1052]

INHALATION LC50: > 17 mg/l (1 h) (rat) [Ref. FMC ICG/T-79.026]

TARGET ORGANS: Eyes and respiratory passages

ACUTE EFFECTS FROM OVEREXPOSURE: Dust is irritating to eyes, nose, throat, and lungs.

CHRONIC EFFECTS FROM OVEREXPOSURE: No data available for the product.

CARCINOGENICITY:
NTP: Not listed
IARC: Not listed
OSHA: Not listed
OTHER: ACGIH: Not listed

12. ECOLOGICAL INFORMATION
ECOTOXICOLOGICAL INFORMATION: Effect of low concentrations on aquatic life are unknown.
[Ref. NIOSH RTECS No. 79-100]

CHEMICAL FATE INFORMATION: As indicated by chemical properties oxygen is released into the environment.

13. DISPOSAL CONSIDERATIONS
DISPOSAL METHOD: Dissolve in water to allow the release of oxygen and dispose via a treatment system in accordance with governmental agencies regulations. Contact appropriate regulatory agency prior to disposal.

14. TRANSPORT INFORMATION
U.S. DEPARTMENT OF TRANSPORTATION (DOT)
Calcium Peroxide
PROPER SHIPPING NAME:
5.1 (Oxidizer)
PRIMARY HAZARD CLASS / DIVISION:
UN 1457
UN/NA NUMBER:
II
PACKING GROUP:
5.1 (Oxidizer)
LABEL(S):
5.1 (Oxidizer)
PLACARD(S):
Oxidizing solid, N.O.S. (calcium peroxide),
MARKING(S):
UN 1457
Not applicable
REPORTABLE QUANTITY (RQ):

49 STCC Number: 49187717
ADDITIONAL INFORMATION:
This material is shipped in 30 lb and 100 lb. fiber drums, as well as 1000-2000 lb. IBC??s (supersacks).

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)
Calcium Peroxide
PROPER SHIPPING NAME:

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) /
INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)
Calcium Peroxide
PROPER SHIPPING NAME:

OTHER INFORMATION:
Place spilled product in suitable container and wash residue with plenty of water.

15. REGULATORY INFORMATION
UNITED STATES
SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)
SECTION 311 HAZARD CATEGORIES (40 CFR 370):
Fire Hazard, Immediate (Acute) Health Hazard

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):
The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:
None

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):
Not listed

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AN LIABILITY ACT)

CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):
Calcium Peroxide (unlisted), RQ = 100 lbs., Ignitability

TSCA (TOXIC SUBSTANCE CONTROL ACT)
TSCA INVENTORY STATUS (40 CFR 710):
Listed

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)
RCRA IDENTIFICATION OF HAZARDOUS WASTE (40 CFR 261):
Waste Number: Calcium Peroxide, D001

CANADA
WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):
Product Identification Number: 1457
Hazard Classification / Division: Class D, Div. 2, Subdiv. B. (Toxic), Class C (Oxidizer)
Ingredient Disclosure List: Listed

INTERNATIONAL LISTINGS
Calcium peroxide:
Australia (AICS): Listed
China: Listed
Japan (ENCS): (1)-190
Korea: KE-04597
Philippines (PICCS): Listed

Calcium hydroxide:
Australia (AICS): Listed
China: Listed
Japan (ENCS): (1)-181
Korea: KE-04518

Calcium Peroxide (1305-79-9-1) Date: 04/30/2006

Philippines (PICCS): Listed

16. OTHER INFORMATION
HMS

Health 2
Flammability 0
Physical Hazard 1
Personal Protection (PPE) J
Protection = J (Safety goggles, gloves, apron & combination dust & vapor respirator)

HMS = Hazardous Materials Identification System

Degree of Hazard Code:
4 = Severe
3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

NFPA

Health 2
Flammability 0
Reactivity 1
Special OX
SPECIAL = OX (Oxidizer)

NFPA = National Fire Protection Association

Degree of Hazard Code:
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

REVISION SUMMARY:
This MSDS replaces Revision #8, dated January 28, 2004.
Changes in information are as follows:
Section 1 (Product and Company Identification)
Section 3 (Composition / Information on Ingredients)
Section 16 (Other Information)

FMC Logo - FMC Corporation Trademark

Calcium Peroxide (1305-79-9-1) Date: 04/30/2006

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MATERIAL SAFETY DATA SHEET REGULATORY DATA

FILE UPDATE: 02/13/2013
PRODUCT CODE: 100407
DESCRIPTION: Ferrous Sulfate

MSDS VERSION DATE: 1-1-2012
ORIGINAL ENTRY: 11/14/1992

CAS Number and Names of Primary Chemical and/or its Components

7720-78-7	Ferrous Sulfate	100.00

Section 313 Regulated Substances

Regulating Authority

Extremely Hazardous Substance subject to section 302 emergency planning and notification requirements (EHS)	NO
Hazardous chemical and/or components subject to section 311 and 312 MSDS and inventory requirements (OSH)	YES
Toxic chemical and/or components subject to toxic chemical release reporting under Section 313 (TOXIC)	NO
Hazardous contents subject to section 304 spill reporting of Comprehensive Environmental Liability Act (CERCLA)	Yes
Subject to the reporting requirements of the EPA Toxicity Characteristic Leaching Process (CFR40 261.24)	NO
This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA)	YES
Contains a Toxic Air Pollutant listed under the 1990 Clean Air Act Ammendments [42 USC sec 7412(b)(1)]	NO
Subject to the EPA Risk Management Program under Section 112(r) of the Clean Air Act and 40 CFR Part 68	NO

SARA Title III Hazard Categories

Fire Hazard	NO
Reactivity Hazard	NO
Sudden Release of Pressure	NO
Acute (immediate health hazard)	YES
Chronic (delayed health hazard)	YES
Extremely Hazardous Substance	NO

Department of Transportation Data

Other regulated substances, solid, n.o.s.

Hazard Class:	9
ID Number:	NA3077
ERG Guide #:	171
Packing Group:	III
RQ Pounds:	1000

HMIS & NFPA Hazard Ratings

HMIS		
H	Health	1
M	Flammability	0
I	Reactivity	0
S	PPE	E

NFPA		
N	Health	1
F	Flammability	0
P	Reactivity	0
A	Special	

HEALTH	[illegible]
FLAMMABILITY	0
REACTIVITY	0
PERSONAL PROTECTION	E

MATERIAL SAFETY DATA SHEET

Ferrous Sulfate

HEPTAHYDRATE - MONOHYDRATE

Manufacturer Information	
Product/Material:	Ferrous Sulfate Moist & Dried Heptahydrate & Monohydrate
Manufacturer's Name & Address:	QC Corporation 5566 Nash Road Cape Girardeau, MO 63701
Emergency Tel. No.:	410-486-0010
Chemtrec Number:	800-424-9300
Date Prepared:	1/01/12
Prepared By:	Jason Gordon

Section I - Product Identification	
Trade Name:	Ferrous Sulfate: Moist Heptahydrate, Dried Heptahydrate, Monohydrate
Synonym:	Copperas, Iron (II) Sulfate
Chemical Family:	Iron (II) Sulfate
Formula:	$FeSO_4 \cdot 7H_2O$ - Heptahydrate $FeSO_4 \cdot 1H_2O$ - Monohydrate
CAS:	7720-78-7 - Ferrous Sulfate 7782-63-0 - Heptahydrate 17375-41-6 - Monohydrate
HMIS:	H1 FO RO, Personal Protection Code-E (Safety glasses, gloves)
*DOT Category (only for packages containing 1,000 lbs. or more):	Other regulated substances, solid, N.O.S., 9, NA 3077, III, RQ (Ferrous Sulfate) *Per 49CFR 172.504 (f) (9), Class 9 placards are not required for domestic (USA ground) transportation, however shipments with packaging or bulk in excess of 1,000 lbs. each, will require a marking on a white square of 3077. Shipments with markings DO NOT require a driver CDL with hazardous endorsements.

Section II - Hazardous Ingredients	
Ferrous Sulfate:	$FeSO_4 . H_2O$
OSHA PEL:	N.A.
ACGIH TLV (1979):	Rat. Oral LD50: 1480 mg/m^3
Other Limits:	None

Section III - Physical Data	
Boiling Point:	Decomposition at 300° C.
Vapor Pressure (mm Hg):	0
Vapor Density:	N.A.
Solubility in Water (20°C):	Heptahydrate: 48.50 gms in 100 ml Monohydrate: 29.65 gms in 100 ml
Appearance & Odor:	Heptahydrate: Blue-green, acidic/sour Monohydrate: Gray, acidic/sour
Specific Gravity:	Heptahydrate: 1.898 @ 25°C Monohydrate: 2.970 @ 25°C

Section IV - Fire and Explosion Hazard Data	
Flash Point;	None
Flammable Limits:	NAN.
LELA and UEL:	N.A.
Extinguishing Media:	N.A.
Special Firefighting Procedures:	N.A.
Unusual Fire & Explosion Hazards:	None

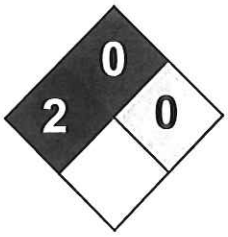
Section V - Reactivity Data	
Stability:	Stable
Incompatibility	Oxidizing Agents and Alkalies.
Conditions to Avoid:	Extremely high temperatures.
Hazardous Decomposition or By-products:	Products of sulfur oxides, i.e. SO_2 & SO_3
Hazardous Polymerization:	Will Not Occur

Section VI - Health Hazard Data	
Route(s) of Entry:	Inhalation (Yes); Skin (Yes), Ingestion (Yes); Eyes (Yes)
Inhalation:	Irritation to respiratory system.
Skin:	Mild irritant.
Eyes:	Will cause painful irritation.
Ingestion:	Ingestion of large quantities can produce GI tract disturbances, severe shock, vomiting, liver damage, tachycardia and death.
Carcinogenicity:	Not established.
Medical Conditions Generally Aggravated by Exposure:	Dermatitis, asthma, conjunctivitis, stomach or digestive problems.
Signs and Symptoms of Exposure:	Irritation or itching, stinging of eyes, breathing problems, stomach ache, acid or sour taste.
Emergency and First-Aid Procedures:	Flood skin and eyes with water for 15 minutes, consult physician. If inhaled, remove to fresh air, consult physician. If ingested, drink large amounts of water, induce vomiting, consult physician.

Section VII - Precautions for Safe Handling and Use	
Steps to be Taken in Case Material is Released or Spilled:	Sweep up and repackage or place in receptacle for future disposal.
Waste Disposal Method:	Remove to properly designated landfill or, if in solution, precipitate with alkali and filter off iron for removal to landfill with pH adjustments of the filtrate and discharge to sewer.
Precautions to be taken in Handling and Storage:	Wear gloves, safety goggles, breathing mask and coveralls when handling. Stored materials should be placed in a dry and reasonably temperatured area, preferably below 120°F.
Other Precautions:	None

Section VIII - Control Measures	
Respiratory Protection:	Dusk mask
Protective Gloves:	Work gloves
Eye Protection:	Safety goggles
Clothing:	Coveralls
Ventilation:	Local exhaust-none required. Special - None Mechanical - None Other - None
Work/Hygienic Practices:	Available safety showers as well as end of shift clean-up facilities.

ScienceLab.com
Chemicals & Laboratory Equipment



Health	2
Fire	0
Reactivity	0
Personal Protection	H

Material Safety Data Sheet
Sodium Lactate, 60% MSDS

Section 1: Chemical Product and Company Identification

Product Name: Sodium Lactate, 60%

Catalog Codes: SLS1315, SLS2737

CAS#: Mixture.

RTECS: Not applicable.

TSCA: TSCA 8(b) inventory: Sodium lactate; Water

CI#: Not available.

Synonym:

Chemical Name: Not applicable.

Chemical Formula: Not applicable.

Contact Information:

Sciencelab.com, Inc.
14025 Smith Rd.
Houston, Texas 77396

US Sales: **1-800-901-7247**
International Sales: **1-281-441-4400**

Order Online: ScienceLab.com

CHEMTREC (24HR Emergency Telephone), call: 1-800-424-9300

International CHEMTREC, call: 1-703-527-3887

For non-emergency assistance, call: 1-281-441-4400

Section 2: Composition and Information on Ingredients

Composition:

Name	CAS #	% by Weight
Sodium lactate	72-17-3	60
Water	7732-18-5	40

Toxicological Data on Ingredients: Sodium lactate LD50: Not available. LC50: Not available.

Section 3: Hazards Identification

Potential Acute Health Effects:
Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Non-corrosive for skin. Non-sensitizer for skin. Non-permeator by skin. Inflammation of the eye is characterized by redness, watering, and itching. Skin inflammation is characterized by itching, scaling, reddening, or, occasionally, blistering.

Potential Chronic Health Effects:
Very hazardous in case of skin contact (irritant), of eye contact (irritant), of ingestion, of inhalation. Non-corrosive for skin. Non-sensitizer for skin. Non-permeator by skin. CARCINOGENIC EFFECTS: Not available. MUTAGENIC EFFECTS: Not available. TERATOGENIC EFFECTS: Not available. DEVELOPMENTAL TOXICITY: Not available. Repeated or prolonged inhalation of vapors may lead to chronic respiratory irritation.

Section 4: First Aid Measures

Eye Contact:
Check for and remove any contact lenses. Immediately flush eyes with running water for at least 15 minutes, keeping eyelids open. Cold water may be used. Do not use an eye ointment. Seek medical attention.

Skin Contact:
After contact with skin, wash immediately with plenty of water. Gently and thoroughly wash the contaminated skin with running water and non-abrasive soap. Be particularly careful to clean folds, crevices, creases and groin. Cold water may be used. Cover the irritated skin with an emollient. If irritation persists, seek medical attention.

Serious Skin Contact:
Wash with a disinfectant soap and cover the contaminated skin with an anti-bacterial cream. Seek medical attention.

Inhalation: Allow the victim to rest in a well ventilated area. Seek immediate medical attention.

Serious Inhalation: Not available.

Ingestion:
Do not induce vomiting. Loosen tight clothing such as a collar, tie, belt or waistband. If the victim is not breathing, perform mouth-to-mouth resuscitation. Seek immediate medical attention.

Serious Ingestion: Not available.

Section 5: Fire and Explosion Data

Flammability of the Product: Non-flammable.

Auto-Ignition Temperature: Not applicable.

Flash Points: Not applicable.

Flammable Limits: Not applicable.

Products of Combustion: Not available.

Fire Hazards in Presence of Various Substances: Not applicable.

Explosion Hazards in Presence of Various Substances:
Risks of explosion of the product in presence of mechanical impact: Not available. Risks of explosion of the product in presence of static discharge: Not available.

Fire Fighting Media and Instructions: Not applicable.

Special Remarks on Fire Hazards: Not available.

Special Remarks on Explosion Hazards: Not available.

Section 6: Accidental Release Measures

Small Spill:
Dilute with water and mop up, or absorb with an inert dry material and place in an appropriate waste disposal container. Finish cleaning by spreading water on the contaminated surface and dispose of according to local and regional authority requirements.

Large Spill:
Absorb with an inert material and put the spilled material in an appropriate waste disposal. Finish cleaning by spreading water on the contaminated surface and allow to evacuate through the sanitary system.

Section 7: Handling and Storage

Precautions:

Do not breathe gas/fumes/ vapour/spray. In case of insufficient ventilation, wear suitable respiratory equipment If you feel unwell, seek medical attention and show the label when possible. Avoid contact with skin and eyes Keep away from incompatibles such as acids.

Storage:
No specific storage is required. Use shelves or cabinets sturdy enough to bear the weight of the chemicals. Be sure that it is not necessary to strain to reach materials, and that shelves are not overloaded.

Section 8: Exposure Controls/Personal Protection

Engineering Controls:
Provide exhaust ventilation or other engineering controls to keep the airborne concentrations of vapors below their respective threshold limit value.

Personal Protection:
Splash goggles. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Gloves.

Personal Protection in Case of a Large Spill:
Splash goggles. Full suit. Vapor respirator. Boots. Gloves. A self contained breathing apparatus should be used to avoid inhalation of the product. Suggested protective clothing might not be sufficient; consult a specialist BEFORE handling this product.

Exposure Limits: Not available.

Section 9: Physical and Chemical Properties

Physical state and appearance: Liquid.

Odor: Not available.

Taste: Not available.

Molecular Weight: Not applicable.

Color: Not available.

pH (1% soln/water): Neutral.

Boiling Point: The lowest known value is 100°C (212°F) (Water).

Melting Point: Not available.

Critical Temperature: Not available.

Specific Gravity: The only known value is 1 (Water = 1) (Water).

Vapor Pressure: The highest known value is 17.535 mm of Hg (@ 20°C) (Water).

Vapor Density: The highest known value is 0.62 (Air = 1) (Water).

Volatility: Not available.

Odor Threshold: Not available.

Water/Oil Dist. Coeff.: Not available.

Ionicity (in Water): Not available.

Dispersion Properties: See solubility in water.

Solubility: Easily soluble in cold water, hot water.

Section 10: Stability and Reactivity Data

Stability: The product is stable.

Instability Temperature: Not available.

Conditions of Instability: Not available.

Incompatibility with various substances: Highly reactive with acids.

Corrosivity: Non-corrosive in presence of glass.

Special Remarks on Reactivity: Not available.

Special Remarks on Corrosivity: Not available.

Polymerization: No.

Section 11: Toxicological Information

Routes of Entry: Eye contact. Inhalation. Ingestion.

Toxicity to Animals:
LD50: Not available. LC50: Not available.

Chronic Effects on Humans: Not available.

Other Toxic Effects on Humans:
Very hazardous in case of skin contact (irritant), of ingestion, of inhalation. Non-corrosive for skin. Non-sensitizer for skin. Non-permeator by skin.

Special Remarks on Toxicity to Animals: Not available.

Special Remarks on Chronic Effects on Humans: Not available.

Special Remarks on other Toxic Effects on Humans: Not available.

Section 12: Ecological Information

Ecotoxicity: Not available.

BOD5 and COD: Not available.

Products of Biodegradation:
Possibly hazardous short term degradation products are not likely. However, long term degradation products may arise.

Toxicity of the Products of Biodegradation: The product itself and its products of degradation are not toxic.

Special Remarks on the Products of Biodegradation: Not available.

Section 13: Disposal Considerations

Waste Disposal:

Section 14: Transport Information

DOT Classification: Not a DOT controlled material (United States).

Identification: Not applicable.

Special Provisions for Transport: Not applicable.

Section 15: Other Regulatory Information

Federal and State Regulations: TSCA 8(b) inventory: Sodium lactate; Water

Other Regulations: OSHA: Hazardous by definition of Hazard Communication Standard (29 CFR 1910.1200).

Other Classifications:

WHMIS (Canada): CLASS D-2B: Material causing other toxic effects (TOXIC).

DSCL (EEC):
R38- Irritating to skin. R41- Risk of serious damage to eyes.

HMIS (U.S.A.):

Health Hazard: 2

Fire Hazard: 0

Reactivity: 0

Personal Protection: h

National Fire Protection Association (U.S.A.):

Health: 2

Flammability: 0

Reactivity: 0

Specific hazard:

Protective Equipment:
Gloves. Lab coat. Vapor respirator. Be sure to use an approved/certified respirator or equivalent. Wear appropriate respirator when ventilation is inadequate. Splash goggles.

Section 16: Other Information

References: Not available.

Other Special Considerations: Not available.

Created: 10/10/2005 12:06 PM

Last Updated: 05/21/2013 12:00 PM

The information above is believed to be accurate and represents the best information currently available to us. However, we make no warranty of merchantability or any other warranty, express or implied, with respect to such information, and we assume no liability resulting from its use. Users should make their own investigations to determine the suitability of the information for their particular purposes. In no event shall ScienceLab.com be liable for any claims, losses, or damages of any third party or for lost profits or any special, indirect, incidental, consequential or exemplary damages, howsoever arising, even if ScienceLab.com has been advised of the possibility of such damages.

MATERIAL SAFETY DATA SHEET REGULATORY DATA

FILE UPDATE: 07/12/2013
PRODUCT CODE: 101082
DESCRIPTION: Sodium Percarbonate

MSDS VERSION DATE: 1-3-2013
ORIGINAL ENTRY: 12/26/1990

CAS Number and Names of Primary Chemical and/or its Components

15630-89-4	Sodium Percarbonate	100.00

Section 313 Regulated Substances

Regulating Authority

Extremely Hazardous Substance subject to section 302 emergency planning and notification requirements (EHS)	NO
Hazardous chemical and/or components subject to section 311 and 312 MSDS and inventory requirements (OSH)	YES
Toxic chemical and/or components subject to toxic chemical release reporting under Section 313 (TOXIC)	NO
Hazardous contents subject to section 304 spill reporting of Comprehensive Environmental Liability Act (CERCLA)	No
Subject to the reporting requirements of the EPA Toxicity Characteristic Leaching Process (CFR40 261.24)	NO
This product, or its components, are listed on or are exempt from the Toxic Substance Control Act (TSCA)	YES
Contains a Toxic Air Pollutant listed under the 1990 Clean Air Act Ammendments [42 USC sec 7412(b)(1)]	NO
Subject to the EPA Risk Management Program under Section 112(r) of the Clean Air Act and 40 CFR Part 68	NO

SARA Title III Hazard Categories

Fire Hazard	NO
Reactivity Hazard	NO
Sudden Release of Pressure	NO
Acute (immediate health hazard)	YES
Chronic (delayed health hazard)	NO
Extremely Hazardous Substance	NO

Department of Transportation Data

Sodium carbonate peroxyhydrate

Hazard Class:	5.1
ID Number:	UN3378
ERG Guide #:	140
Packing Group:	II
RQ Pounds:	

HMIS & NFPA Hazard Ratings

HMIS		
H	Health	1
M	Flammability	1
I	Reactivity	2
S	PPE	

NFPA	
N	Health
F	Flammability
P	Reactivity
A	Special

2008 EMERGENCY RESPONSE GUIDE SHEET

Guide Number: 140

POTENTIAL HAZARDS

FIRE OR EXPLOSION

- These substances will accelerate burning when involved in a fire.
- Some may decompose explosively when heated or involved in a fire.
- May explode from heat or contamination.
- Some will react explosively with hydrocarbons (fuels).
- May ignite combustibles (wood, paper, oil, clothing, etc.).
- Containers may explode when heated.
- Runoff may create fire or explosion hazard.

HEALTH

- Inhalation, ingestion or contact (skin, eyes) with vapors or substance may cause severe injury, burns or death.
- Fire may produce irritating, corrosive and/or toxic gases.
- Runoff from fire control or dilution water may cause pollution.

PUBLIC SAFETY

- **CALL Emergency Response Telephone Number on Shipping Paper first. If Shipping Paper not available or no answer, refer to appropriate telephone number listed on the inside back cover.**
- As an immediate precautionary measure, isolate spill or leak area in all directions for at least 50 meters (150 feet) for liquids and at least 25 meters (75 feet) for solids.
- Keep unauthorized personnel away.
- Stay upwind.
- Keep out of low areas.
- Ventilate closed spaces before entering.

PROTECTIVE CLOTHING

- Wear positive pressure self-contained breathing apparatus (SCBA).
- Wear chemical protective clothing that is specifically recommended by the manufacturer. It may provide little or no thermal protection.
- Structural firefighters' protective clothing will only provide limited protection.

EVACUATION

Large Spill

- Consider initial downwind evacuation for at least 100 meters (330 feet).

Fire

- If tank, rail car or tank truck is involved in a fire, ISOLATE for 800 meters (1/2 mile) in all directions; also, consider initial evacuation for 800 meters (1/2 mile) in all directions.

EMERGENCY RESPONSE

FIRE

Small Fire

- Use water. Do not use dry chemicals or foams. CO_2 or Halon® may provide limited control.

Large Fire

- Flood fire area with water from a distance.
- Do not move cargo or vehicle if cargo has been exposed to heat.
- Move containers from fire area if you can do it without risk.

2008 EMERGENCY RESPONSE GUIDE SHEET

Guide Number: 140

Fire involving Tanks or Car/Trailer Loads

- Fight fire from maximum distance or use unmanned hose holders or monitor nozzles.
- Cool containers with flooding quantities of water until well after fire is out.
- ALWAYS stay away from tanks engulfed in fire.
- For massive fire, use unmanned hose holders or monitor nozzles; if this is impossible, withdraw from area and let fire burn.

SPILL OR LEAK

- Keep combustibles (wood, paper, oil, etc.) away from spilled material.
- Do not touch damaged containers or spilled material unless wearing appropriate protective clothing.
- Stop leak if you can do it without risk.
- Do not get water inside containers.

Small Dry Spill

- With clean shovel place material into clean, dry container and cover loosely; move containers from spill area.

Small Liquid Spill

- Use a non-combustible material like vermiculite or sand to soak up the product and place into a container for later disposal.

Large Spill

- Dike far ahead of liquid spill for later disposal.
- **Following product recovery, flush area with water.**

FIRST AID

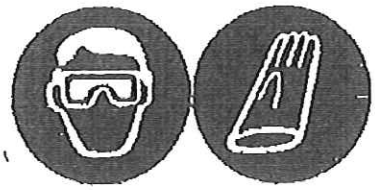
- Move victim to fresh air.
- Call 911 or emergency medical service.
- Give artificial respiration if victim is not breathing.
- Administer oxygen if breathing is difficult.
- Remove and isolate contaminated clothing and shoes.
- Contaminated clothing may be a fire risk when dry.
- In case of contact with substance, immediately flush skin or eyes with running water for at least 20 minutes.
- Keep victim warm and quiet.
- Ensure that medical personnel are aware of the material(s) involved and take precautions to protect themselves.

Chemical Specialty Group, Inc.

20 Buckingham Court, Cartersville, GA 30120
770-386-3555/Fax 770-386-2009

MATERIAL SAFETY DATA SHEET

SODIUM CARBONATE PEROXYHYDRATE



Product	MSDS No.
US25	001

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION
SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS
SECTION 3: HAZARDS IDENTIFICATION
SECTION 4: FIRST AID MEASURES
SECTION 5: FIRE FIGHTING MEASURES
SECTION 6: ACCIDENTAL RELEASE MEASURES
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SECTION 17: LABEL INFORMATION

SECTION 1: PRODUCT AND COMPANY IDENTIFICATION

SUPPLIER..... .....Chemical Specialty Group, Inc.

EMERGENCY PHONE NUMBER(S)....CHEM-TEL 1-800-255-3924
REVISION DATE.....01/03/2013
REVISION.....NEW PRODUCT ENTRY
TRADE NAMES/SYNONYMS:.....PEROXY SODIUM CARBONATE; SODIUM PERCARBONATE;
SODIUM CARBONATE PEROXIDE.
CHEMICAL FAMILY.....SODIUM SALT OF CARBONIC ACID/HYDROGEN PEROXIDE
PRODUCT USE.....BLEACHING AGENT, ANTISEPTIC, DENTURE CLEANER.
CHEMICAL FORMULA.....2Na-CO3.3H2O2
HAZARD RATING
FIRE.....1
HEALTH.....1
REACTIVITY.....2

SECTION 2: COMPOSITION/INFORMATION ON INGREDIENTS

INGREDIENT	%CONC.	C.A.S.	ACGIH-TLV	OSHA-PEL
SODIUM CARBONATE PEROXYHYDRATE	98-100	15630-89-4	10 MG/M3 TWA INHALABLE PARTICLES	15 MG/M3 TWA TOTAL DUST
			3 MG/M3 TWA RESPIRABLE PARTICULATE	5 MG/M3 TWA RESPIRABLE FRACTION
			PARTICLES NOT OTHERWISE SPECIFIED (PNOC)	PARTICLES NOT OTHERWISE REGULATED (PNOR)

SECTION 3: HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW.....PRODUCT IS WHITE HYGROSCOPIC CRYSTALS.
OXIDIZER. MAY BE HARMFUL OR FATAL IF SWALLOWED
OR INHALED. MAY CAUSE SEVERE EYE AND
RESPIRATORY TRACT IRRITATION OR BURNS. MAY
CAUSE SKIN IRRITATION. CONTACT WITH OTHER
MATERIALS MAY CAUSE FIRE.

POTENTIAL HEALTH EFFECTS:
INGESTION.....VOMITING AND DIARRHEA.
SKIN CONTACT.....MAY CAUSE SKIN IRRITATION AND REDNESS.
INHALATION.....IRRITATING TO THE RESPIRATORY TRACT.
COUGHING, SNEEZING, DIFFICULTY BREATHING AND
SORE THROAT.
EYE CONTACT.....MAY CAUSE IRRITATION TO THE EYES, INCLUDING
PAIN, REDNESS AND REVERSIBLE DAMAGE.

MEDICAL CONDITIONS

AGGRAVATED.....PERSONS WITH CHRONIC RESPIRATORY OR SKIN DISEASES.

SUBCHRONIC (TARGET ORGAN)
EFFECTS.....NO DATA
CHRONIC EFFECTS.....NO DATA
CARCINOGENICITY
NTP.....NO
IARC.....NO
OSHA.....NO
OTHER TOXICOLOGICAL DATA....NO DATA
PRINCIPAL ROUTES OF ENTRY...EYE CONTACT
SKIN CONTACT
INHALATION

SECTION 4: FIRST AID MEASURES

EYE CONTACT.....WASH EYES IMMEDIATELY WITH LARGE AMOUNTS OF WATER OR NORMAL SALINE, OCCASIONALLY LIFTING UPPER AND LOWER LIDS, UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

SKIN CONTACT.....REMOVE CONTAMINATED CLOTHING AND SHOES IMMEDIATELY. WASH WITH SOAP OR MILD DETERGENT AND LARGE AMOUNTS OF WATER UNTIL NO EVIDENCE OF CHEMICAL REMAINS (AT LEAST 15-20 MINUTES). GET MEDICAL ATTENTION IMMEDIATELY.

INHALATION.....IMMEDIATELY REMOVE VICTIM TO FRESH AIR, IF VICTIM IS NOT BREATHING A QUALIFIED PERSON SHOULD IMMEDIATELY BEGIN ARTIFICIAL RESPIRATION, OBTAIN IMMEDIATE MEDICAL ASSISTANCE !

INGESTION.....OBTAIN IMMEDIATE MEDICAL ASSISTANCE - DO NOT INDUCE VOMITING. IF VOMITING OCCURS SPONTANEOUSLY, KEEP HEAD BELOW HIPS TO AVOID ASPIRATION.

NOTE TO PHYSICIAN.....TREAT SYMPTOMATICALLY

SECTION 5: FIRE FIGHTING MEASURES

FLASH POINT.....NONE
METHOD.....NOT APPLICABLE
IGNITION TEMPERATURE.....NOT APPLICABLE
UPPER FLAMMABLE LIMIT.....NOT APPLICABLE
LOWER FLAMMABILITY LIMIT....NOT APPLICABLE
SENSITIVITY TO MECHANICAL
IMPACT.....NO
SENSITIVITY TO STATIC
DISCHARGE.....NOT EXPECTED
EXTINGUISHING MEDIA.....USE SUITABLE EXTINGUISHING AGENTS FOR

SURROUNDING FIRE.

SPECIAL FIREFIGHTING PROCEDURES.....EVACUATE AREA AND FIGHT FIRE FROM A SAFE DISTANCE. AS IN ANY FIRE, WEAR SELF-CONTAINED BREATHING APPARATUS PRESSURE-DEMAND, AND FULL PROTECTIVE GEAR.

FLAMMABILITY CLASS (OSHA)...NOT APPLICABLE

SECTION 6: ACCIDENTAL RELEASE MEASURES

ACTION TO BE TAKEN FOR SPILLS OR RELEASES.....DO NOT TOUCH SPILLED MATERIAL. STOP FLOW OF MATERIAL, IF THIS IS WITHOUT RISK. PREVENT MATERIAL FROM ENTERING SEWERS AND WATERWAYS. ENSURE CLEAN-UP IS CONDUCTED BY TRAINED PERSONNEL. WEAR APPROPRIATE PERSONAL PROTECTIVE EQUIPMENT.
SHOVEL INTO CLEAN, DRY LABELED CONTAINERS. USE EXTREME CARE TO PREVENT CONTAMINATION WITH COMBUSTIBLE OR ORGANIC MATERIALS.
KEEP UNNECESSARY PERSONNEL AWAY. CLOSE OFF AREA.

SECTION 7: HANDLING AND STORAGE

HANDLING PROCEDURES.....AVOID GETTING IN EYES, ON SKIN OR ON CLOTHING. AVOID BREATHING FUMES OR DUST FROM THIS MATERIAL. AVOID GENERATION OF MIST OR DUST. USE THIS PRODUCT ONLY WITH ADEQUATE VENTILATION. PREVENT CONTACT WITH COMBUSTIBLE OR ORGANIC MATERIALS. LABEL CONTAINERS AND KEEP THEM TIGHTLY CLOSED WHEN NOT IN USE. WASH THOROUGHLY AFTER HANDLING.

STORAGE PROCEDURES.....STORE IN TIGHTLY CLOSED CONTAINERS IN A CLEAN, DRY, WELL-VENTILATED AREA. STORE AWAY FROM SOURCES OF HEAT, INCOMPATIBLE MATERIALS, AND COMBUSTIBLE MATERIALS.

SECTION 8: EXPOSURE CONTROLS/PERSONAL PROTECTION

ENGINEERING CONTROLS.....DESIGN AND IMPLEMENT CONTROLS AND PROCEDURES TO AVOID ACCUMULATION OF DUST.

EXPOSURE LIMITS.....SEE SECTION 2 - SPECIFIC INGREDIENTS

RESPIRATORY PROTECTION.....THE SPECIFIC RESPIRATOR SELECTED MUST BE BASED ON CONTAMINATION LEVELS FOUND IN THE WORK PLACE, MUST NOT EXCEED THE WORKING LIMITS OF THE RESPIRATOR AND BE JOINTLY APPROVED BY THE NATIONAL INSTITUTE FOR OCCUPATIONAL SAFETY AND HEALTH AND THE MINE SAFETY AND HEALTH ADMINISTRATION (NIOSH-MSHA).

PROTECTIVE CLOTHES.....IMPERVIOUS GLOVES AND CLOTHING TO PREVENT SKIN CONTACT.

EYE AND FACE PROTECTION.....DUST OR SPLASH PROOF CHEMICAL SAFETY GOGGLES OR FACE SHIELDS (EIGHT-INCH MINIMUM).

OTHER PROTECTIVE EQUIPMENT..WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S EYES MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE AN EYE WASH FOUNTAIN WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

WHERE THERE IS ANY POSSIBILITY THAT AN EMPLOYEE'S SKIN MAY BE EXPOSED TO THIS SUBSTANCE, THE EMPLOYER SHOULD PROVIDE A QUICK DRENCH SHOWER WITHIN THE IMMEDIATE WORK AREA FOR EMERGENCY USE.

EMPLOYEES SHOULD BE TRAINED IN EMERGENCY MEASURES IN CASE OF LEAK, SPILL, FIRE OR EXPLOSION. TRAINING IN USE OF EMERGENCY RESPONSE EQUIPMENT SHOULD BE PROVIDED TO INCLUDE LOCATION OF PHONE, FIRST AID KITS, ALARMS, FIRE EXTINGUISHERS FOR THE SPECIFIC WORKPLACE.

VENTILATION.....USE LOCAL EXHAUST AND PROCESS ENCLOSURE TO CONTROL DUSTS OR VAPORS. USE OF A CORROSION-RESISTANT VENTILATION SYSTEM IS RECOMMENDED.

SECTION 9: PHYSICAL AND CHEMICAL PROPERTIES

VAPOR DENSITY (AIR=1).....NO DATA

FREEZING/MELTING POINT.....NO DATA

PHYSICAL STATE.....SOLID

ODOR.....ODORLESS

COLOR.....WHITE CRYSTALLINE

ODOR THRESHOLD (PPM).....NO DATA

VOLATILES % VOLUME.....NOT APPLICABLE

EVAPORATION RATE (BUTYL ACETATE=1.0).....NOT APPLICABLE

SPECIFIC GRAVITY (WATER=1.0).....0.97

MOLECULAR WEIGHT.....324.0

ACID/ALKALINITY (MEQ/G).....UNKNOWN

PH.....10.0 - 11.0 (3% SOLUTION)

VOC (EPA METHOD 24).....NOT APPLICABLE

SOLUBILITY IN ORGANIC SOLVENTS.....NO DATA

BOILING POINT.....NO DATA

VAPOR PRESSURE MM/HG

(20°C).....NO DATA
SOLUBILITY IN WATER (20°C)..120 g/L
OCTANOL/WATER PARTITION
COEFFICIENT.....NO DATA

SECTION 10: STABILITY AND REACTIVITY

STABILITY.....STABLE AS SOLID
HAZARDOUS POLYMERIZATION....WILL NOT OCCUR
HAZARDOUS THERMAL
DECOMPOSITION/COMBUSION
PRODUCTS.....OXYGEN
INCOMPATIBILITY
(MATERIALS TO AVOID).....BASES
FLAMMABLE AND COMBUSTIBLE MATERIALS, NITROGEN
COMPOUNDS, ACIDS, METAL OXIDES AND MOISTURE.
CONDITIONS TO AVOID.....CONTACT WITH INCOMPATIBLE SUBSTANCES.
EXPOSURE TO INTENSE HEAT
MOISTURE
HIGH TEMPERATURES
AVOID CONTACT WITH ALL COMBUSTIBLE MATERIALS.

SECTION 11: TOXICOLOGICAL INFORMATION

LD50 ORAL.....2400 mg/kg RAT
2200 mg/kg MOUSE
LD50 DERMAL.....NO DATA
LC50 INHALATION.....NO DATA
OTHER.....NO DATA
AMES TEST RESULTS.....NO DATA AVAILABLE COVERING AMES TEST RESULTS

SECTION 12: ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL
INFORMATION.....NO DATA AT THIS TIME
CHEMICAL FATE INFORMATION...NO DATA AT THIS TIME

SECTION 13: DISPOSAL CONSIDERATION

DISPOSAL METHOD.....IN ACCORDANCE WITH FEDERAL, STATE, LOCAL REGULATIONS

REPORTABLE QUANTITY.....MAY MEET THE REQUIREMENTS OF IGNITABLE WASTE D001.

SECTION 14: TRANSPORT INFORMATION

DOT SHIPPING NAME..... SODIUM CARBONATE PEROXYHYDRATE

DOT HAZARD CLASS.....5.1

DOT LABELS.....OXIDIZER

UN NUMBER..... UN 3378

PLACARDS.....OXIDIZER

IATA.....NOT REGULATED

IMO/IMDG.....NOT REGULATED

TRANSPORT EMERGENCY PROCEDURES.....CONTACT CHEMTREC 1-800-424-9300

OTHER.....NOT APPLICABLE

SECTION 15: REGULATORY INFORMATION

SARA SECTION 302.....YES

SARA (313) CHEMICALS.....NO

EPA TSCA INVENTORY.....APPEARS

CERCLA SECTION 103.....NO

CANADIAN WHMIS CLASSIFICATION.....C, D2B

CANADIAN DOMESTIC SUBSTANCES LIST (DSL).....APPEARS

CALIFORNIA PROPOSITION 65...NO

EINECS INVENTORY.....APPEARS

OTHER.....THIS PRODUCT IS REGULATED BY THE FOLLOWING STATES:
CA; FL; MA; MN; NJ; PA

SECTION 16: ADDITIONAL INFORMATION

DISCLAIMER.....THIS MATERIAL SAFETY DATA SHEET WAS PRODUCED FROM RELIABLE SOURCES. HOWEVER, IT IS PROVIDED WITHOUT REPRESENTATION OR WARRANTY EXPRESSED OR IMPLIED REGARDING ACCURACY OR CORRECTNESS. CONDITIONS AND METHODS OF USE ARE BEYOND THE CONTROL AND KNOWLEDGE OF CHEMICAL SPECIALTY GROUP, INC.

CHEMICAL SPECIALTY GROUP, INC. DOES NOT ASSUME ANY RESPONSIBILITY AND EXPRESSLY DISCLAIMS LIABILITY FOR INJURY, LOSS, DAMAGE OR EXPENSES ARISING FROM THE USE OF THIS PRODUCT.

ABBREVIATIONS USED.....ABBREVIATIONS USED THROUGHOUT THIS MSDS ARE:
ACGIH = AMERICAN CONFERENCE OF GOVERNMENTAL INDUSTRIAL HYGIENISTS
TWA = TIME WEIGHTED AVERAGE (EXPOSURE VALUES)
STEL = SHORT TERM EXPOSURE LIMITS
OSHA = OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION
PEL = PERMITTED EXPOSURE LIMITS
ppm = PARTS PER MILLION
mg = MILLIGRAMS
NIOSH = NATIONAL INSTITUTE FOR OCCUPATIONAL HEALTH AND SAFETY
MSHA = MINE SAFETY AND HEALTH ADMINISTRATION
lb = POUNDS
m3 = PER METRE CUBED
NTP = NATIONAL TOXICOLOGICAL PROGRAM
g = GRAMS
ml = MILLILITRE
RTECS = REGISTRY OF TOXICS EFFECTS OF CHEMICAL SUBSTANCES (NIOSH)

SECTION 17: LABEL INFORMATION

WARNING/PRECAUTIONS.....PRODUCT IS WHITE HYGROSCOPIC CRYSTALS. OXIDIZER. MAY BE HARMFUL OR FATAL IF SWALLOWED OR INHALED. MAY CAUSE SEVERE EYE AND RESPIRATORY TRACT IRRITATION OR BURNS. MAY CAUSE SKIN IRRITATION. CONTACT WITH OTHER MATERIALS MAY CAUSE FIRE.

FOR FURTHER INFORMATION.....SEE THE MATERIAL SAFETY DATA SHEET

SUPPLIER..... CHEMICAL SPECIALTY GROUP, INC.
120 BUCKINGHAM COURT
CARTERSVILLE, GA 30120
TELE 770-386-3555 FAX 770-386-2009 1

MATERIAL SAFETY DATA SHEET

Klozür™

MSDS Ref. No.: 7775-27-1-12
Date Approved: 02/22/2005
Revision No.: 1

This document has been prepared to meet the requirements of the U.S. OSHA Hazard Communication Standard, 29 CFR 1910.1200; the Canada's Workplace Hazardous Materials Information System (WHMIS) and, the EC Directive, 2001/58/EC.

1. PRODUCT AND COMPANY IDENTIFICATION

PRODUCT NAME:	Klozür™
SYNONYMS:	Sodium Persulfate, Sodium Peroxydisulfate; Disodium Peroxydisulfate
GENERAL USE:	In situ and ex situ chemical oxidation of contaminants and compounds of concern for environmental remediation applications.

MANUFACTURER

FMC CORPORATION
Active Oxidants Division
1735 Market Street
Philadelphia, PA 19103
(215) 299-6000 (General Information)

EMERGENCY TELEPHONE NUMBERS

(800) 424-9300 (CHEMTREC - U.S.)
(303) 595-9048 (Medical - Call Collect)

2. HAZARDS IDENTIFICATION

EMERGENCY OVERVIEW:

- White, odorless, crystals
- Oxidizer.
- Decomposes in storage under conditions of moisture (water/water vapor) and/or excessive heat causing release of oxides of sulfur and oxygen that supports combustion. Decomposition could form a high temperature melt. See Section 10 ("Stability and Reactivity").

POTENTIAL HEALTH EFFECTS: Airborne persulfate dust may be irritating to eyes, nose, lungs, throat and skin upon contact. Exposure to high levels of persulfate dust may cause difficulty in breathing in sensitive persons.

3. COMPOSITION / INFORMATION ON INGREDIENTS

Chemical Name	CAS#	Wt.%	EC No.	EC Class
Sodium Persulfate	7775-27-1	>99	231-892-1	Not classified as hazardous

4. FIRST AID MEASURES

EYES: Flush with plenty of water. Get medical attention if irritation occurs and persists.

SKIN: Wash with plenty of soap and water. Get medical attention if irritation occurs and persists.

INGESTION: Rinse mouth with water. Dilute by giving 1 or 2 glasses of water. Do not induce vomiting. Never give anything by mouth to an unconscious person. See a medical doctor immediately.

INHALATION: Remove to fresh air. If breathing difficulty or discomfort occurs and persists, contact a medical doctor.

NOTES TO MEDICAL DOCTOR: This product has low oral toxicity and is not irritating to the eyes and skin. Flooding of exposed areas with water is suggested, but gastric lavage or emesis induction for ingestions must consider possible aggravation of esophageal injury and the expected absence of system effects. Treatment is controlled removal of exposure followed by symptomatic and supportive care.

5. FIRE FIGHTING MEASURES

EXTINGUISHING MEDIA: Deluge with water.

FIRE / EXPLOSION HAZARDS: Product is non-combustible. On decomposition releases oxygen which may intensify fire. Presence of water accelerates decomposition.

FIRE FIGHTING PROCEDURES: Do not use carbon dioxide or other gas filled fire extinguishers; they will have no effect on decomposing persulfates. Wear full protective clothing and self-contained breathing apparatus.

FLAMMABLE LIMITS: Non-combustible

SENSITIVITY TO IMPACT: No data available

SENSITIVITY TO STATIC DISCHARGE: Not available

6. ACCIDENTAL RELEASE MEASURES

RELEASE NOTES: Spilled material should be collected and put in approved DOT container and isolated for disposal. Isolated material should be monitored for signs of decomposition (fuming/smoking). If spilled material is wet, dissolve with large quantity of water and dispose as a hazardous waste. All disposals should be carried out according to regulatory agencies procedures.

7. HANDLING AND STORAGE

HANDLING: Use adequate ventilation when transferring product from bags or drums. Wear respiratory protection if ventilation is inadequate or not available. Use eye and skin protection. Use clean plastic or stainless steel scoops only.

STORAGE: Store (unopened) in a cool, clean, dry place away from point sources of heat, e.g. radiant heaters or steam pipes. Use first in, first out storage system. Avoid contamination of opened product. In case of fire or decomposition (fuming/smoking) deluge with plenty of water to control decomposition. For storage, refer to NFPA Bulletin 430 on storage of liquid and solid oxidizing materials.

COMMENTS: VENTILATION: Provide mechanical general and/or local exhaust ventilation to prevent release of dust into work environment. Spills should be collected into suitable containers to prevent dispersion into the air.

8. EXPOSURE CONTROLS / PERSONAL PROTECTION

EXPOSURE LIMITS

Chemical Name	ACGIH	OSHA	Supplier
Sodium Persulfate	0.1 mg/m^3 (TWA)		

ENGINEERING CONTROLS: Provide mechanical local general room ventilation to prevent release of dust into the work environment. Remove contaminated clothing immediately and wash before reuse.

PERSONAL PROTECTIVE EQUIPMENT

EYES AND FACE: Use cup type chemical goggles. Full face shield may be used.

RESPIRATORY: Use approved dust respirator when airborne dust is expected.

PROTECTIVE CLOTHING: Normal work clothes. Rubber or neoprene footwear.

GLOVES: Rubber or neoprene gloves. Thoroughly wash the outside of gloves with soap and water prior to removal. Inspect regularly for leaks.

9. PHYSICAL AND CHEMICAL PROPERTIES

ODOR:	None
APPEARANCE:	White crystals
AUTOIGNITION TEMPERATURE:	Not applicable. No evidence of combustion up to 800°C. Decomposition will occur upon heating.
BOILING POINT:	Not applicable
COEFFICIENT OF OIL / WATER:	Not applicable
DENSITY / WEIGHT PER VOLUME:	Not available
EVAPORATION RATE:	Not applicable (Butyl Acetate = 1)
FLASH POINT:	Non-combustible
MELTING POINT:	Decomposes
ODOR THRESHOLD:	Not applicable
OXIDIZING PROPERTIES:	Oxidizer
PERCENT VOLATILE:	Not applicable
pH:	typically 5.0 - 7.0 @ 25 °C (1% solution)
SOLUBILITY IN WATER:	73 % @ 25 °C (by wt.)
SPECIFIC GRAVITY:	2.6 (H_2O=1)
VAPOR DENSITY:	Not applicable (Air = 1)
VAPOR PRESSURE:	Not applicable

10. STABILITY AND REACTIVITY

CONDITIONS TO AVOID:	Heat, moisture and contamination.
STABILITY:	Stable (becomes unstable in presence of heat, moisture and/or contamination).
POLYMERIZATION:	Will not occur
INCOMPATIBLE MATERIALS:	Acids, alkalis, halides (fluorides, chlorides, bromides and iodides), combustible materials, most metals and heavy metals, oxidizable materials, other oxidizers, reducing agents, cleaners, and organic or carbon containing compounds. Contact

with incompatible materials can result in a material decomposition or other uncontrolled reactions.

HAZARDOUS DECOMPOSITION PRODUCTS: Oxygen that supports combustion and oxides of sulfur.

COMMENTS: PRECAUTIONARY STATEMENT: Pumping and transport of Klozür persulfate requires appropriate precautions and design considerations for pressure and thermal relief.

Decomposing persulfates will evolve large volumes of gas and/or vapor, can accelerate exponentially with heat generation, and create significant and hazardous pressures if contained and not properly controlled or mitigated.

Use with alcohols in the presence of water has been demonstrated to generate conditions that require rigorous adherence to process safety methods and standards to prevent escalation to an uncontrolled reaction.

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11. TOXICOLOGICAL INFORMATION

EYE EFFECTS: Non-irritating (rabbit) [FMC Study Number: ICG/T-79.029]

SKIN EFFECTS: Non-irritating (rabbit) [FMC Study Number: ICG/T-79.029]

DERMAL LD_{50}: > 10 g/kg [FMC Study Number: ICG/T-79.029]

ORAL LD_{50}: 895 mg/kg (rat) [FMC Study Number: ICG/T-79.029]

INHALATION LC_{50}: 5.1 mg/l (rat) [FMC I95-2017]

SENSITIZATION: May be sensitizing to allergic persons. [FMC Study Number: ICG/T-79.029]

TARGET ORGANS: Eyes, skin, respiratory passages

ACUTE EFFECTS FROM OVEREXPOSURE: Dust may be harmful and irritating. May be harmful if swallowed.

CHRONIC EFFECTS FROM OVEREXPOSURE: Sensitive persons may develop dermatitis and asthma [Respiration 38:144, 1979]. Groups of male and female rats were fed 0, 300 or 3000 ppm sodium persulfate in the diet for 13 weeks, followed by 5000 ppm for 5 weeks. Microscopic examination of tissues revealed some injury to the gastrointestinal tract at the high dose (3000 ppm) only. This effect is not unexpected for an oxidizer at high concentrations. [Ref. FMC I90-1151, Toxicologist 1:149, 1981].

CARCINOGENICITY:

NTP:	Not listed
IARC:	Not listed
OSHA:	Not listed
OTHER:	ACGIH: Not listed

12. ECOLOGICAL INFORMATION

ECOTOXICOLOGICAL INFORMATION:

Bluegill sunfish, 96-hour LC_{50} = 771 mg/L [FMC Study I92-1250]
Rainbow trout, 96-hour LC_{50} = 163 mg/L [FMC Study I92-1251]
Daphnia, 48-hour LC_{50} = 133 mg/L [FMC Study I92-1252]
Grass shrimp, 96-hour LC_{50} = 519 mg/L [FMC Study I92-1253]

CHEMICAL FATE INFORMATION: Biodegradability does not apply to inorganic substances.

13. DISPOSAL CONSIDERATIONS

DISPOSAL METHOD: Dispose as a hazardous waste in accordance with local, state and federal regulatory agencies.

14. TRANSPORT INFORMATION

U.S. DEPARTMENT OF TRANSPORTATION (DOT)

PROPER SHIPPING NAME:	Sodium Persulfate
PRIMARY HAZARD CLASS / DIVISION:	5.1 (Oxidizer)
UN/NA NUMBER:	UN 1505
PACKING GROUP:	III
LABEL(S):	5.1 (Oxidizer)
PLACARD(S):	5.1 (Oxidizer)
MARKING(S):	Sodium Persulfate, UN 1505
ADDITIONAL INFORMATION:	Hazardous Substance/RQ: Not applicable

49 STCC Number: 4918733

This material is shipped in 225 lb. fiber drums, 55 lb. poly bags and 1000 - 2200 lb. IBC's (supersacks).

INTERNATIONAL MARITIME DANGEROUS GOODS (IMDG)

PROPER SHIPPING NAME: Sodium Persulfate

INTERNATIONAL CIVIL AVIATION ORGANIZATION (ICAO) / INTERNATIONAL AIR TRANSPORT ASSOCIATION (IATA)

PROPER SHIPPING NAME: Sodium Persulfate

OTHER INFORMATION:

Protect from physical damage. Do not store near acids, moisture or heat.

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15. REGULATORY INFORMATION

UNITED STATES

SARA TITLE III (SUPERFUND AMENDMENTS AND REAUTHORIZATION ACT)

SECTION 302 EXTREMELY HAZARDOUS SUBSTANCES (40 CFR 355, APPENDIX A):
Not applicable

SECTION 311 HAZARD CATEGORIES (40 CFR 370):
Fire Hazard, Immediate (Acute) Health Hazard

SECTION 312 THRESHOLD PLANNING QUANTITY (40 CFR 370):
The Threshold Planning Quantity (TPQ) for this product, if treated as a mixture, is 10,000 lbs; however, this product contains the following ingredients with a TPQ of less than 10,000 lbs.:
None

SECTION 313 REPORTABLE INGREDIENTS (40 CFR 372):
Not listed

CERCLA (COMPREHENSIVE ENVIRONMENTAL RESPONSE COMPENSATION AND LIABILITY ACT)

CERCLA DESIGNATION & REPORTABLE QUANTITIES (RQ) (40 CFR 302.4):
Unlisted, RQ = 100 lbs., Ignitability

TSCA (TOXIC SUBSTANCE CONTROL ACT)

TSCA INVENTORY STATUS (40 CFR 710):

Listed

RESOURCE CONSERVATION AND RECOVERY ACT (RCRA)
RCRA IDENTIFICATION OF HAZARDOUS WASTE (40 CFR 261):
Waste Number: D001

CANADA

WHMIS (WORKPLACE HAZARDOUS MATERIALS INFORMATION SYSTEM):

Product Identification Number: 1505
Hazard Classification / Division: Class C (Oxidizer), Class D, Div. 2, Subdiv. B. (Toxic)
Ingredient Disclosure List: Listed

INTERNATIONAL LISTINGS

Sodium persulfate:
Australia (AICS): Listed
China: Listed
Japan (ENCS): (1)-1131
Korea: KE-12369
Philippines (PICCS): Listed

HAZARD, RISK AND SAFETY PHRASE DESCRIPTIONS:

EC Symbols: (Not classified as hazardous)

EC Risk Phrases: (Not classified as hazardous)

EC Safety Phrases: (Not classified as hazardous)

16. OTHER INFORMATION

HMIS

Health	1
Flammability	0
Physical Hazard	1
Personal Protection (PPE)	J

Protection = J (Safety goggles, gloves, apron & combination dust & vapor respirator)

HMIS = Hazardous Materials Identification System

Degree of Hazard Code:
4 = Severe

3 = Serious
2 = Moderate
1 = Slight
0 = Minimal

NFPA

Health	1
Flammability	0
Reactivity	1
Special	OX

SPECIAL = OX (Oxidizer)

NFPA = National Fire Protection Association

Degree of Hazard Code:
4 = Extreme
3 = High
2 = Moderate
1 = Slight
0 = Insignificant

REVISION SUMMARY:
New MSDS

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Table 1. Site Specific Target Levels
Circle Stop & Shop, UST Permit #05981

Well	Benzene	Toluene	Ethylbenzene	Xylenes	Naphthalene	MTBE	1,2-DCA	EDB	TAA	TBA	TAME	DIPE
MW-1	17*	204*	489*	2,490*	168*	9*	5**	0.02**	100**	100**	10**	5**
MW-2	99	16,028	3,000*	18,200*	481*	1,203	63	0.91	36,400*	2,330*	552*	6,220*
MW-3	63*	5*	5**	10**	5**	5**	5**	0.04*	105*	100**	10**	29*
MW-4	88	14,385	3,270*	21,680	552*	125**	57	0.02**	2,500**	2,500**	250**	125**
MW-5	5**	5**	5**	10**	5**	5**	5**	0.02**	100**	100**	10**	5**
MW-6	5**	5**	5**	10**	5**	5**	5**	0.02**	100**	100**	10**	5**
MW-7	245	1,170*	1,120*	4,010*	311*	50**	50**	0.057*	1,000**	1,000**	100**	50**
MW-8	5**	5**	5**	10**	5**	5**	5**	0.02**	100**	100**	10**	5**
MW-9R	5**	5**	5**	10**	5**	5**	5**	0.02**	100**	100**	10**	5**
MW-11	5**	5**	5**	10**	5**	5**	5**	0.02**	100**	100**	10**	5**
MW-13	88	25**	353*	1,470*	143*	1,052	25**	0.02**	25,000**	3,420*	1,470*	4,200*
MW-14	271*	20*	74*	64*	5**	5**	5**	0.02**	358*	100**	10**	5**
MW-15	5**	5**	5**	10**	5**	6*	5**	0.02**	100**	100**	10**	5**
MW-18	88	5**	5**	62*	30*	1,052	16*	0.02**	10,000**	641*	258*	2,120*
MW-24	99	5**	5**	14*	5**	1,203	29*	0.02**	1,210*	189*	21*	400*
MW-25	42	5**	5**	20*	63*	451	13*	0.02**	1,900*	301*	71*	450*
MW-26	5**	5**	5**	10**	5**	21*	5**	0.02**	100**	100**	10**	5**
WSW-1	5**	5**	5**	10**	5**	5**	5**	0.02**	100**	100**	10**	5**
SSTL mass	**1,140**	**31,892**	**8,366**	**48,100**	**1,803**	**5,212**	**308**	**1.307**	**79,373**	**11,481**	**2,832**	**13,644**

Notes:
Units are in parts per billion (ppb)
Table provided by SC DHEC in the Appendix file
**Laboratory analysis is less than calculated SSTLs, therefore SSTL mass is set equal to laboratory mass*
***Laboratory analysis is below detection, therefore SSTL mass is set equal to detection limits*

Table 2. Current CoC Concentrations in Groundwater
Circle Stop & Shop, UST Permit #05981

Release reported December 27, 1991, 5 USTs removed 1998, 1 UST removed October 2006

Well	Date	DTW	Benzene	Toluene	Ethylbenzene	Xylenes	Naph.	MTBE	1,2-DCA	EDB	TAA	TBA	TAME	DIPE
MW-1	4/8/2008	30.41	1080	5300	2770	15200	568	1040						
MW-1	2/2/2010	29.48	270	903	1800	11900	713	372	<50	<0.02	<1000	<1000	<100	<50
MW-1	9/16/2010	31.32	304	1380	1800	9290	409	352	<250	<0.02	<5000	<5000	<500	<250
MW-1	8/2/2013	34.46	65	490	930	5300	330	40	<250	<0.02	<5000	<5000	<500	<500
MW-1	12/19/2014	34.43	17	204	489	2490	168	9	<5	<0.02	<100	<100	<10	<5
MW-2	4/8/2008	29.08	18000	43500	3220	17900	540	5170						
MW-2	2/2/2010	28.38	15200	39300	3790	16500	862	3970	689	103	18600	<2000	397	3540
MW-2	9/16/2010	29.36	17700	42900	2790	17100	<1250	8400	990	127	36800	<25000	<2500	4440
MW-2	8/2/2013	33.5	18000	37000	3700	19000	480	5500	1000	73	12000	<20000	340	4000
MW-2	12/19/2014	31.92	21900	47200	3000	18200	481	10700	751	87.1	36400	2330	552	6220
MW-3	4/8/2008	28.24	4	1	<1	1	<1	<1						
MW-3	2/2/2010	26.75	7	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-3	9/16/2010	30.39	67	19	<5	11	<5	<5	<5	<0.02	202	<100	<10	7
MW-3	8/2/2013	32.75	80	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	10
MW-3	12/19/2014	33.41	63	5	<5	<10	<5	<5	<5	0.04	105	<100	<10	29
MW-4	4/8/2008	33.34	2840	39790	4020	23300	467	1080						
MW-4	2/2/2010	32.51	526	16,300	3,310	18,400	825	95	<100	<0.02	1430	<2000	<200	<100
MW-4	9/16/2010	33.65	237	17,100	3,750	20,300	432	<500	<500	0.11	<10000	<10000	<1000	<500
MW-4	8/2/2013	39.52	380	22,000	3,900	24,000	490	<500	<500	<0.02	1800	<10000	<1000	<1000
MW-4	12/19/2014	32.29	310	17,400	3,270	22,900	552	<125	<125	<0.02	<2500	<2500	<250	<125
MW-5	3/21/2005	20.7	<1	<1	<1	<3	<2	<1						
MW-5	2/2/2010	25.03	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-5	9/16/2010	30.19	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-5	8/2/2013		well not sampled due to standing water											
MW-5	12/19/2014	33.03	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-6	4/8/2008	25.9	<1	<1	<1	<1	<1	<1						
MW-6	2/2/2010	24.53	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-6	9/16/2010	28.14	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-6	8/2/2013	30.45	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-6	12/19/2014	31.63	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5

Well	Date	DTW	Benzene	Toluene	Ethylbenzene	Xylenes	Naph.	MTBE	1,2-DCA	EDB	TAA	TBA	TAME	DIPE
MW-7	4/8/2008	29.07		0.01 feet free product										
MW-7	2/2/2010	28.6	4870	17200	2010	12700	1570	151	67	5.7	5340	<5000	<500	347
MW-7	9/16/2010	29.02	17	76	15	66	<5	<5	<5	5.8	<100	<100	<10	<5
MW-7	8/2/2013	dry												
MW-7	12/19/2014	33.27	413	1170	1120	4010	311	<50	<50	0.057	<1000	<1000	<100	<50
MW-8	4/8/2008	31.02	<1	<1	<1	<1	<1	<1						
MW-8	2/2/2010	30.4	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-8	9/16/2010	32.27	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-8	8/2/2013	36.82	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-8	12/19/2014	35.53	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-9R	4/8/2008	43.89	<1	<1	<1	<1	<1	2						
MW-9R	2/2/2010	44.57	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-9R	9/16/2010	41.57	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-9R	8/2/2013	48.73	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-9R	12/19/2014	46.32	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-10R	7/23/2007	46.72	38	<1	2	17	8	24						
MW-10R	2/2/2010				well not found									
MW-10R	9/16/2010	45.58	17	<5	<5	22	<5	43	<5	<0.02	<100	<100	<10	26
MW-10R	8/2/2013				well not found									
MW-10R	12/19/2014	dry												
MW-11	3/21/2005	23.56	<1	<1	<1	<3	<2	<1						
MW-11	2/2/2010	28.98	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-11	9/16/2010	31.21	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-11	8/2/2013	33.71	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-11	12/19/2014	33.89	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-12	3/21/2005	21.06	<1	<1	<1	<3	<2	<1						
MW-12	2/2/2010	25.88	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-12	9/16/2010	29.63	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-12	8/2/2013	31.33	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-12	12/19/2014				well not found									
MW-13	4/8/2008	33.93	23	77	12	62	3	141						
MW-13	2/2/2010	33.3	12600	18900	3820	14100	995	49300	<500	1.3	26700	<10000	2400	6340
MW-13	9/16/2010	33.84	10900	13500	3170	10500	<2500	51600	<2500	0.95	<50000	<50000	<5000	5050
MW-13	8/2/2013	38.49	8300	370	2900	6000	520	44000	<500	0.27	18000	2400	1500	4200
MW-13	12/19/2014	37.35	3480	<25	353	1470	143	44200	<25	<0.02	<25000	3420	1470	4200

Well	Date	DTW	Benzene	Toluene	Ethylbenzene	Xylenes	Naph.	MTBE	1,2-DCA	EDB	TAA	TBA	TAME	DIPE
MW-14	4/8/2008	25.46	2	<1	<1	1	<1	<1						
MW-14	2/2/2010	23.91	49	14	<5	23	<5	<5	<5	<0.02	<100	50	<10	<5
MW-14	9/16/2010	27.59	102	<5	<5	<10	<5	<5	<5	<0.02	148	195	<10	<5
MW-14	8/2/2013	30	330	230	130	210	<250	<250	<250	<0.02	760	<5000	<500	<500
MW-14	12/19/2014	33.18	271	20	74	64	<5	<5	<5	<0.02	358	<100	<10	<5
MW-15	4/8/2008	26.82	<1	<1	<1	<1	<1	1						
MW-15	2/2/2010	26.28	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-15	9/16/2010	28.05	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-15	8/2/2013	31.6	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-15	12/19/2014	31.31	<5	<5	<5	<10	<5	6	<5	<0.02	<100	<100	<10	<5
MW-16	4/8/2008	29.13	<1	<1	<1	<1	<1	<1						
MW-16	2/2/2010	27.72	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-16	9/16/2010	30.91	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-16	8/2/2013	33.46	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-16	12/19/2014				well not found									
MW-17	3/21/2005		<1	<1	<1	<3	<2	<1						
MW-17	8/2/2013	27.85	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-17	12/19/2014	31.84	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-18	4/8/2008	34.75	<1	<1	<1	<1	<1	4550						
MW-18	2/2/2010	59	<5	<5	<5	<10	<5	62	<5	<0.02	<100	<100	<10	7
MW-18	9/16/2010	34.6	115	<5	<5	66	12	3940	8	<0.02	1070	<100	97	609
MW-18	8/2/2013	40.43	110	<50	<50	<50	<50	11000	15	<0.02	2500	350	190	1700
MW-18	12/19/2014	38.02	233	<5	<5	62	30	11700	16	<0.02	<10000	641	258	2120
MW-19	3/21/2005	16.31	<1	<1	<1	<3	<2	<1						
MW-19	2/2/2010	18.6	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-19	9/16/2010	25.1	<5	<5	<5	<10	<5	<5	<5	<0.02	125	<100	<10	<5
MW-19	8/2/2013	25.64	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-19	12/19/2014	27.89	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-20	3/21/2005	16.4	<1	<1	<1	<3	<2	<1						
MW-20	2/2/2010	21.2	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-20	9/16/2010	26.39	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-20	8/2/2013	28.44	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-20	12/19/2014	29.54	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5

Well	Date	DTW	Benzene	Toluene	Ethylbenzene	Xylenes	Naph.	MTBE	1,2-DCA	EDB	TAA	TBA	TAME	DIPE
MW-21	3/21/2005	14.51	<1	<1	<1	<3	<2	<1						
MW-21	8/2/2013	25.36	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-21	12/19/2014	32.12	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-22	3/21/2005	17.42	<1	<1	<1	<3	<2	<1						
MW-22	8/2/2013	30.32	<5	<5	<5	<5	<5	<5	<5	<0.02	<100	<100	<10	<10
MW-22	12/19/2014	33.49	<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5
MW-23	12/13/2007	33.72	<1	<2	<2	<6	<4	<2						
MW-23	2/2/2010				well not found									
MW-23	8/2/2013				well not found									
MW-23	12/19/2014				well not found									
MW-24	4/8/2008	29.18	2	<1	<1	<3	<2	212						
MW-24	2/2/2010	28.38	81	<5	<5	10	<5	667	16	0.038	1350	103	12	192
MW-24	9/16/2010	30.07	141	<25	<25	<50	<25	710	34	0.057	955	<500	<50	231
MW-24	8/2/2013	33.84	42	<5	<5	<5	<5	1100	23	<0.02	940	110	15	280
MW-24	12/19/2014	33.3	155	<5	<5	14	<5	1620	29	<0.02	1210	189	21	400
MW-25	4/8/2008	31.28	<1	<1	<1	<1	<1	<1						
MW-25	2/2/2010	30.8	84	<25	13	54	45	991	11	0.045	2010	<500	73	446
MW-25	9/16/2010	31.6	120	<25	<25	44	20	1140	14	<0.02	1670	<500	73	469
MW-25	8/2/2013	35.91	130	<100	<100	<100	82	1000	<100	<0.02	1700	220	61	390
MW-25	12/19/2014	35.01	110	<5	<5	20	63	1230	13	<0.02	1900	301	71	450
MW-26	4/8/2008	83.89	<1	<1	<1	<1	<1	26						
MW-26	2/2/2010	34.2	149	<25	<25	112	37	5140	8	0.039	1610	344	109	844
MW-26	9/16/2010	105.06	<5	<5	<5	<10	<5	42	<5	<0.02	<100	<100	<10	<5
MW-26	8/2/2013	126.37	<5	<5	<5	<5	<5	54	<5	<0.02	<100	<100	<10	<10
MW-26	12/19/2014	127.24	<5	<5	<5	<10	<5	21	<5	<0.02	<100	<100	<10	<5
DW-1	2/2/2010				well not operational									
WSW-1	12/19/2014		<5	<5	<5	<10	<5	<5	<5	<0.02	<100	<100	<10	<5

Note: Data provided by SC DHEC, samples collected and analyzed by prior consultants.

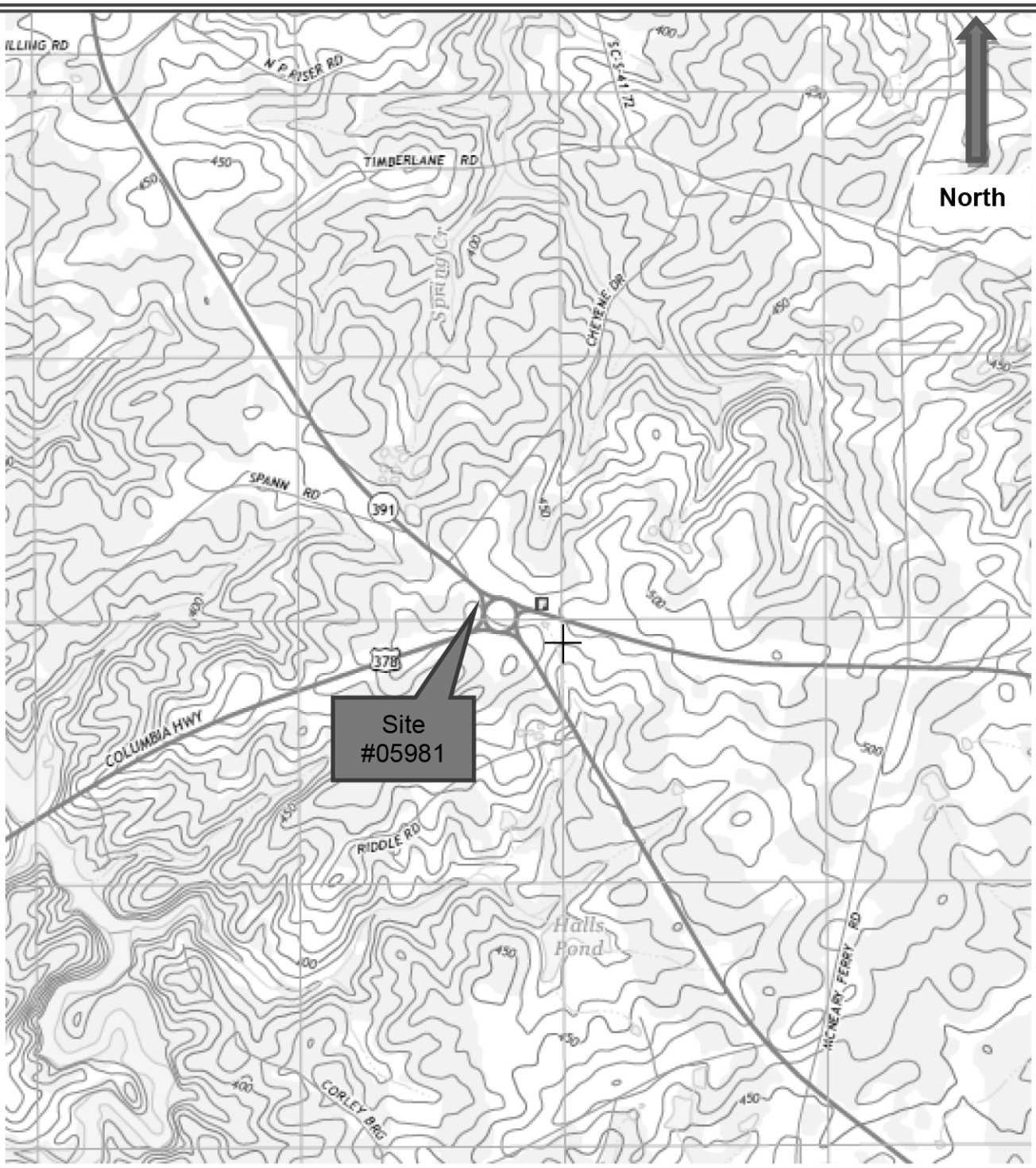
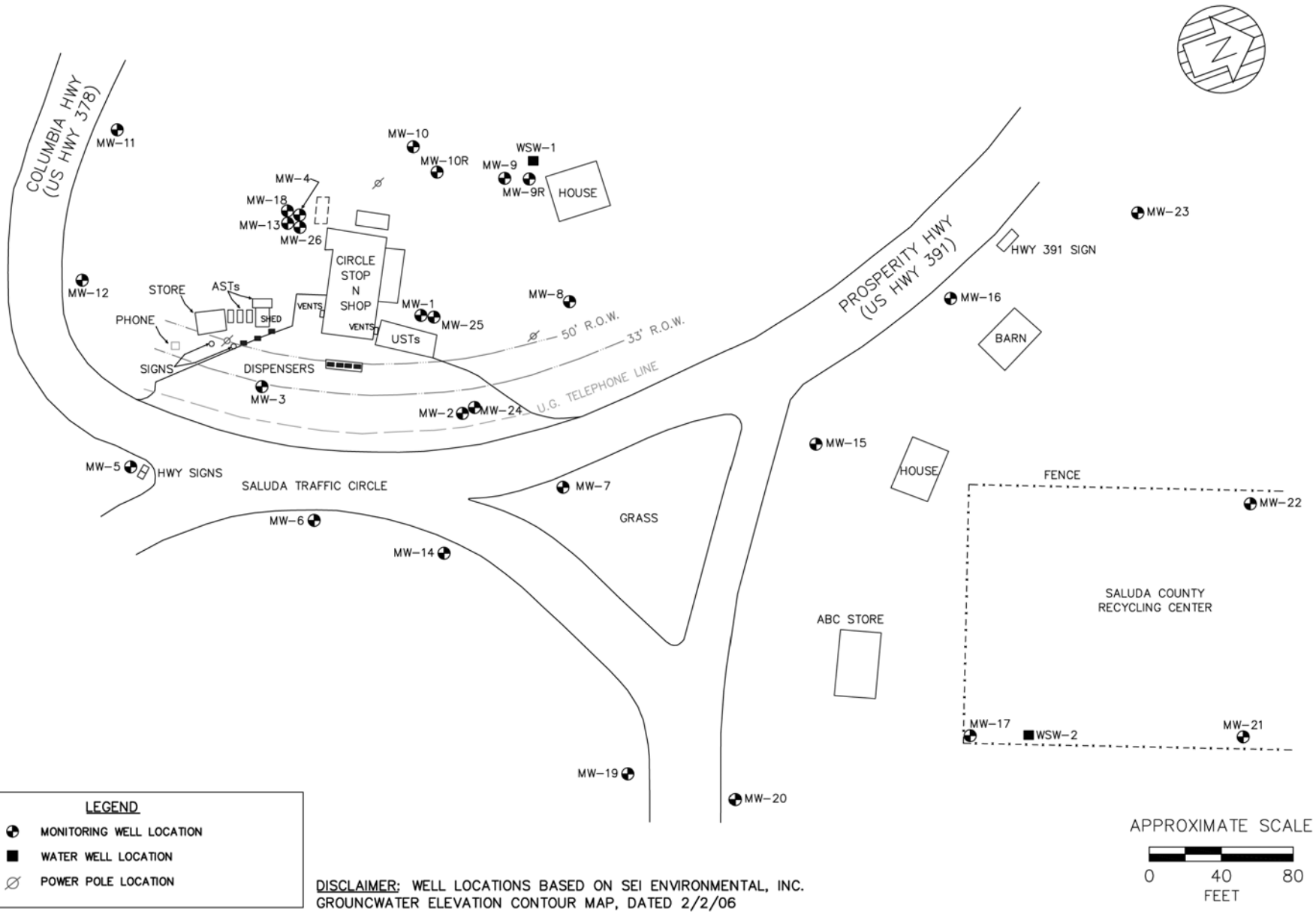


FIGURE 1. TOPOGRAPHIC MAP

Envirorisk Consultants, Inc. PO Box 945 Grayson, GA 30017	**LEGEND** Source: USGS Topographic Map, Delmar quad, dated 2014 Approx. scale: 1" = 1,580'	**Corrective Action Plan** July 2015 SCDHEC UST Permit #05981 Circle Stop & Shop 3287 Columbia Highway Leesville, Saluda County, SC

Envirorisk Consultants, Inc. PO Box 945 Grayson, GA 30017	**FIGURE 2.** **AERIAL SITE MAP**	**LEGEND** Source: Google Maps Map dated 2015 Scale shown above	**Corrective Action Plan** July 2015 SCDHEC UST Permit #05981 Circle Stop & Shop 3287 Columbia Highway Leesville/Saluda County, SC



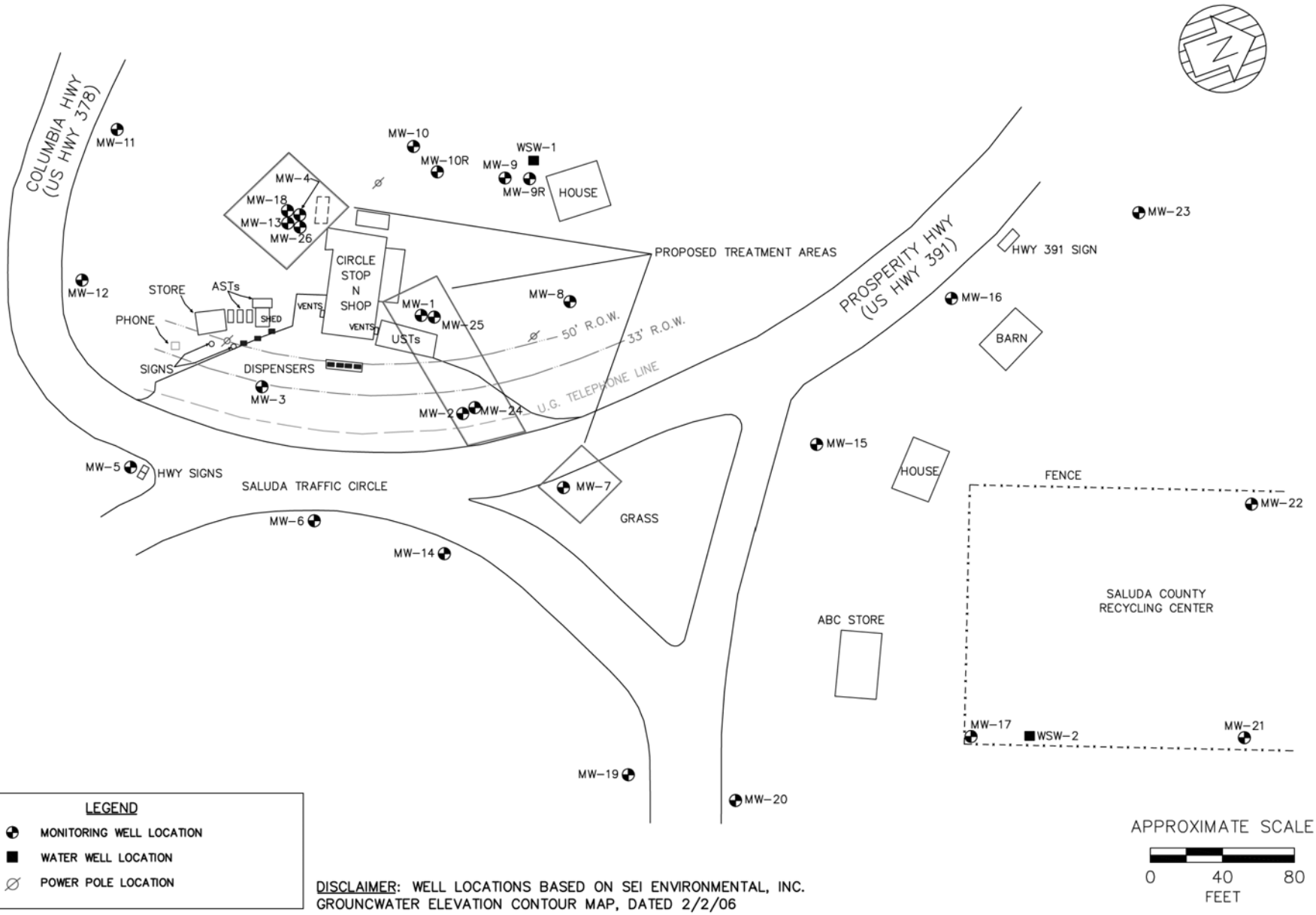
DISCLAIMER; WELL LOCATIONS BASED ON SEI ENVIRONMENTAL, INC. GROUNCWATER ELEVATION CONTOUR MAP, DATED 2/2/06

ENVIRORISK CONSULTANTS, INC.

CIRCLE STOP & SHOP, UST PERMIT 05981
3287 COLUMBIA HWY.
LEESVILLE, SALUDA COUNTY, SOUTH CAROLINA

SITE BASE MAP

FIGURE NO 3



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ENVIRORISK CONSULTANTS, INC.

CIRCLE STOP & SHOP, UST PERMIT 05981
3287 COLUMBIA HWY.
LEESVILLE, SALUDA COUNTY, SOUTH CAROLINA

PROPOSED TREATMENT AREAS

FIGURE NO 4

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JUN 07 2007

STEVE AND JOAN BOOZER
CIRCLE STOP N SHOP
3287 COLUMBIA HWY
LEESVILLE SC 29070-7216

Re: CASE Review
Circle Stop N Shop, Hwy 378 & 379, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received June 5, 2007
Saluda County

Dear Mr. and Mrs. Boozer:

The Underground Storage Tank Program (UST) has reviewed the referenced report. SEI Environmental, Inc. is currently conducting corrective action activities in response to groundwater contamination at the referenced facility. The current overall Chemicals of Concern (CoC) reduction has been calculated to be 99.22%. The next sampling will be conducted in approximately three months.

On all correspondence regarding this site, please reference the UST Permit #05981. Please feel free to contact me at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov if you have questions or need additional information.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CASE report

cc: Technical File (w/o enc)

UST PROGRAM DOCKETING # 2

DHEC/UST/STU/060607

D H E C

PROMOTE PROTECT PROSPER

C. Earl Hunter, Commissioner

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

JUN 07 2007

CHRIS L BOGGS
SEI ENVIRONMENTAL INC
130 PENMARC DR
SUITE 108
RALEIGH NC 27603

Re: CASE Review
Circle Stop N Shop, 3287 Columbia Hwy, Leesville, SC
UST Permit #05981
Corrective Action System Evaluation (CASE) received June 5, 2007
Saluda County

Dear Mr. Boggs:

The Underground Storage Tank (UST) Program has reviewed the referenced CASE Report. The overall CoC reduction has been calculated to be 99.22% (see enclosed sheets). The report documents toluene concentrations above effective solubility levels in monitoring well MW-2. Therefore, the Program grants SEI a variance to the bid solicitation allowing SEI to conduct an AFVR event on monitoring well MW-2. Groundwater samples should not be taken for a minimum of thirty days once the AFVR event is complete.

The next Corrective Action System Evaluation (CASE) report documenting the AFVR event and the subsequent quarterly sampling event is due on or before August 8, 2007. On all correspondence regarding this site, please reference UST Permit #05981. If you have any questions, please contact me by phone at (803) 896-6649, by fax at (803) 896-6245 or by email at utzst@dhec.sc.gov.

Sincerely,

Sonya T. Utz

Sonya T. Utz, Hydrogeologist
Southwestern SC Corrective Action Section
Assessment and Corrective Action Division
Underground Storage Tank Program
Bureau of Land and Waste Management

enc: CoC reduction calculation sheets

cc: Technical File

DHEC/UST/STU/060607

UST PROGRAM
DOCKETING # 3