

Appendix 5 - INSURANCE STATEMENT

This site is potentially eligible to receive state monies to assist you in site rehabilitation, if required. Before eligibility for State Underground Petroleum Environmental Response Bank (SUPERB) funds can be determined, written confirmation of the existence or non-existence of an environmental insurance policy for this site is required. Please complete the following information:

☒ I do not have any insurance that would cover releases from underground storage tanks.

☐ I have an insurance policy that covers releases from underground storage tanks.

My policy provider is:

The policy deductible is:

The policy limit is:

I HAVE NO POLICY
"
"

If you have this type of insurance, please include a copy of the policy with this report.

Signature: [Signature]

Date: 9.26-95

To be Completed by Notary Public:

Sworn before me this 26th day of September, 19 95.

Sheila D. Holliday
(Name)

Notary Public for the state of South Carolina.

My commission expires 7-17-96.

RECEIVED

SEP 27 1995

LIST DOCKET 33 T

Please affix State Seal if you are commissioned outside South Carolina.



2600 Bull Street
Columbia, SC 29201-1708

JUN 22 1998

Mr. Dan McEachin
726 Dogwood Drive
Garden City, SC 29576

Re: Coastal 76 Truck Stop
Site ID: #03538, Cost Proposal #04852
Release/Assessment Report received September 27, 1995
Florence County

Dear Mr. McEachin:

The Division 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 at the former UST basin on the west side of the store. 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 Ground-Water Assessment (IGWA) document is necessary. Since the above scope of work is detailed in the IGWA document, a separate plan is not required.

According to our records, the release was reported to the SCDHEC subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(B) of the Act, you are responsible for the first \$25,000 for site rehabilitation. To insure that any expenditures you make apply to this \$25,000 deductible, should the release become qualified to receive SUPERB funds, it is prudent for this agency to pre-approve such costs along with your technical plan of action. By law, the SUPERB Account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the \$25,000 deductible can be compensated from the SUPERB Account.

To proceed with the qualification process for the State Underground Petroleum Environmental Response Bank (SUPERB) Act, the following information is required:

- Written confirmation of the existence or non-existence of an environmental insurance policy for this site. **This information must be signed by the responsible party and a notary public.** For your convenience, an insurance statement form has been enclosed. If an environmental insurance policy existed at the time of the release, a copy of the policy with all endorsements must be submitted with the insurance statement. **Please complete and return the enclosed insurance information form within 14 days from the date of this letter.**

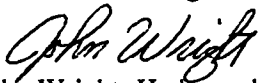
Please note that the maximum approvable amount for the IGWA is \$1,320.00. Upon receipt of the signed IGWA Invoice, IGWA Report, and a copy of your canceled check (front and back) or a notarized statement from the contractor verifying payment for this scope of work, up to \$1,320.00 may be applied toward your deductible. **Please complete and return the enclosed Owner/Operator Information Sheet within 14 days from the date of this letter (note that all rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98).** Cost proposal #04852 has been established to track the allowable costs associated with this IGWA. Please include the cost proposal number when submitting your invoice.

ST DOCKET 34, T

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.** The Division 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 SCDHEC reserves the authority to only apply costs to your deductible for work properly performed and/or technically justified in accordance with established criteria. 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 Site ID #03538 and cost proposal #04852. If you have any questions concerning this correspondence, please contact John Wright at (803) 734-5626.

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management


John Wright, Hydrogeologist


Christopher S. Doll, P.G., Manager

enc: Monitoring Well Approval
Information Sheet
Initial Ground-Water Assessment Document
Insurance Information Form

cc: Technical File (Copy of Monitoring Well Approval)
Financial File (without enclosures)

SCDHEC/UST/SLFSS/jww/060998



2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: June 9, 1998

Approval No.: 9521

Approval is hereby granted to: Dan McEachin

Site ID: #03538

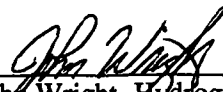
County: Florence

This approval is for the construction of one shallow monitoring well in accordance with the South Carolina Well Standards and Regulations. The well is 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 John Wright at (803) 734-5626 or Wrightjw@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 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:


John Wright, Hydrogeologist
State Lead and Field Services Section
Division of UST Management

cc: Pee Dee District EQC

SW

RE.

DAN M. McFACHIN
SITE # 03538
COST PROPOSAL # 04852
RELEASE/ASSESSMENT
REPORT RECEIVED
9-27-95

INSURANCE STATEMENT FORM

Site ID #03538 is potentially eligible to receive state monies to assist you in site rehabilitation, if required. Before eligibility for State Underground Petroleum Environmental Response Bank (SUPERB) funds can be determined, written confirmation of the existence or non-existence of an environmental insurance policy for this site is required. Please complete the following information:

☒ I do not have any insurance that would cover releases from underground storage tanks.

☐ I have an insurance policy that covers releases from underground storage tanks.

My policy provider is: _____

The policy deductible is: _____

The policy limit is: _____

If you have this type of insurance, please include a copy of the policy with this report.

Signature: [Signature]

Date: 6-29-98

RECEIVED
JUL 14 1998
DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

To be Completed by Notary Public:

Sworn before me this 7th day of JULY, 19 98

[Signature]
(Name)

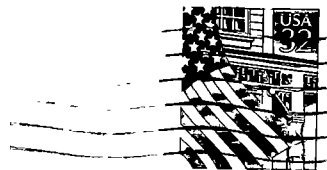
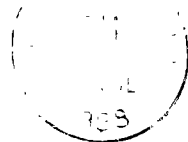
Notary Public for the state of S.C.

My commission expires 2-21-2005

Please affix State Seal if you are commissioned outside South Carolina.

EST DOCKET 35 T

726 S. Dogwood Dr.
GARDEN CITY S.C.
29 576



SOUTH CAROLINA DHEC
STATE LEAD & FIELD SERVICES SEC.
ASSESSMENT & CORRECTIVE ACTION BR
Div. of UNDERGROUND STORAGE TANK MAN.
ATT. JOHN WRIGHT
2600 BOLL
COLUMBIA
23201-12797



INITIAL GROUND-WATER ASSESSMENT REPORT

RECEIVED

NOV 2 1998

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

Facility Name: Coastal 76 Truck Stop

Site ID Number: 03538

UST Owner or Operator's Name: Mr. Dan McEachin

Address: 726 Dogwood Drive, Garden City, South Carolina 29576

Phone Number: (843) 651-8835

Contractor: Southeastern Environmental, Inc. Cert. # 82

Address: 323 Main Street, Conway, South Carolina 29526

Phone Number: (843) 248-3533

Well Driller: Bruce G. Newell Cert. # 880

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) or surface water supply intake within 1000 feet of the UST?	X	
Are irrigation or other non-drinking water wells located within 1000 feet of the UST?	X	
Are there other potential receptors (i.e., utilities, surface waters, wetlands) less than 500 feet from the UST?		X

* If "yes" provide additional information:

Were any water wells within 250 ft radius sampled? Yes X No
See Appendix F for Chain of Custody Form and Laboratory Data.

ST DOCKE 36 T

Is the current use of the site and surrounding properties commercial, residential, agricultural or industrial?

Site: commercial Adjacent Properties: commercial

Soil and Monitoring Well Data

Primary Soil Type: tan clay

Well Installation Method and Date: 7-23-98 rotary auger

Development Method: surge block

Soil Sample obtained at 11 feet.

SOIL ANALYTICAL DATA

Benzene (ug/kg)	Toluene (ug/kg)	Ethylbenzene (ug/kg)	Xylenes (ug/kg)	Naphthalene (ug/kg)
6.2	78.6	622	403	BDL

Benzo(a)- anthracene (ug/kg)	Benzo(b)- fluoranthene (ug/kg)	Benzo(k)- fluoranthene (ug/kg)	Chrysene (ug/kg)	Dibenz(a,h) anthracene (ug/kg)
BDL	BDL	BDL	BDL	BDL

Ground-Water Data

Depth to Ground Water: 12'

Well Purging/Sampling Method: N/A

Date Sampled: free product found

Free Product Thickness: 3/8"

Soil/Water Disposal Method: 1 55-gallon drum of soil stored on site. Arrangements are being made for pick up.

GROUND-WATER ANALYTICAL DATA

Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Xylenes (ug/l)	MTBE (ug/l)	Naphthalene (ug/l)

Benzo(a)- anthracene (ug/l)	Benzo(b)- fluoranthene (ug/l)	Benzo(k)- fluoranthene (ug/l)	Chrysene (ug/l)	Dibenz(a,h) anthracene (ug/l)

Appendices

The appendices required for this report are as follows:

Appendix A. Well Construction Log

Appendix B. Laboratory Data

Appendix C. Topographic map with site location marked.

Appendix D. Site Base Map

Appendix E. Disposal Manifest(s)

Appendix F. Additional Data (Sampling Results of Existing Ground-Water Wells)

Appendix G. Invoice Form (SUPERB payment only)

Report Completed By: Bruce G. Newell Cert.# 880

(signature)

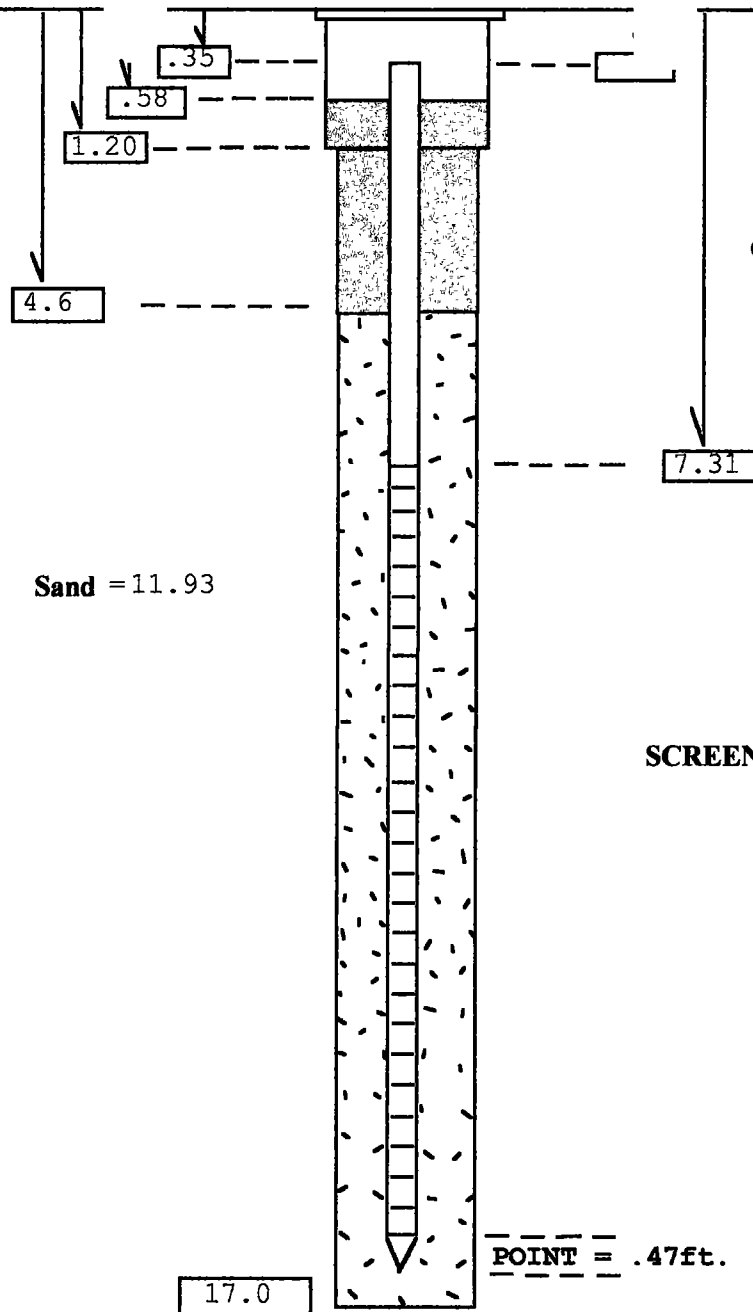
Date: 10/30/98

TOC to grade =

Grout to TOC =

Grout =

Bentonite =



CASING = 6.96

Sand = 11.93

SCREEN = 10.0'

POINT = .47ft.

17.0

SOUTHEASTERN ENVIRONMENTAL

Driller: BGN

Driller Lic. #: 880

Client: Coastal Truck stop

Location: US Hw 76 Florence, SC

Date: 7/23/98

Site ID #: 03538

Well Depth: (Grade to Point)

Well #: IGWA #1

Receptors/comments: thick layer of gas from 10-14'

Davis & Brown

PO Box 15038
Quinby, SC 29506
(803) 665-6746 FAX: (803) 629-1444

Certificate of Analysis

Client: SOUTHEASTERN ENVIRONMENTAL, INC.
323 MAIN STREET
CONWAY, SC 29526

South Carolina Certification Number: 21117

Client #: 991
Contact: BRUCE NEWELL

Receipt Date: 23-Jul-98
Report Date: 10-Aug-98

Sample Date: 23-Jul-98
SDG #: SDG-006421
Lab Sample ID: LSID-015110
Sample ID: COASTAL TRUCK STOP

Approved By:



Van Ward
Lab Director

Parameter	Result	Reporting		Unit	Method	Flag	Date	Time	Analyst
		Limit							
Polynuclear Aromatic Hydc.	BDL	1		ppm	3550\8270C	S11	7/29/98	15:06	MC
Benzene	0.0062	0.005		ppm	5030\8021B	S11	7/31/98	11:25	PD
BTEX, Total (Soils)	1.175	0.025		ppm	5030\8021B		7/31/98		SF
Ethylbenzene	0.622	0.005		ppm	5030\8021B	S11	7/31/98	11:25	PD
Toluene	0.0786	0.005		ppm	5030\8021B	S11	7/31/98	11:25	PD
Xylene, Total	0.468	0.01		ppm	5030\8021B	S11	7/31/98	11:25	PD
Napthalene	<0.005	0.005		ppm	8020	S11	7/31/98	11:25	PD

Proj. Manager
Davis & Brown
124 West McIver Road
Florence, SC 29501

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July 31, 1998
Report # 9807001252
Order # 80054253
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Soil Analysis

Sample I.D.: 15110
Collected: 07/23/98 14:47
Received: 07/25/98 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	85	%	160.3	0.01	07/28/98	07/28/9820:52MC	
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.) LL			MEDF	1			
Benzene	6.2	ug/Kg	5035/8260B	5.000	07/31/98	07/31/98 11:25	PMD
Toluene	78.6	ug/Kg	5035/8260B	5.000	07/31/98	07/31/98 11:25	PMD
Ethylbenzene	622	ug/Kg	5035/8260B	5.000	07/31/98	07/31/98 11:25	PMD
m & p-Xylene	65	ug/Kg	5035/8260B	5.000	07/31/98	07/31/98 11:25	PMD
o-Xylene	403	ug/Kg	5035/8260B	5.000	07/31/98	07/31/98 11:25	PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	07/31/98	07/31/98 11:25	PMD
SURROGATE: Toluene-D8	103.50%						
SURROGATE: 1,-DCB-D4	108.00%						
SURROGATE: Dibromofluoromethane	100.75%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/28/98	07/29/98 15:06	MEC

Proj. Manager
Davis & Brown
124 West McIver Road

Florence, SC 29501

Page 8
July 31, 1998
Report # 9807001252
Order # 80054253
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Soil Analysis

Sample I.D.: 15110
Collected: 07/23/98 14:47
Received: 07/25/98 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/28/98	07/29/98 15:06	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/28/98	07/29/98 15:06	MEC
SURROGATE: D5-Nitrobenzene	63.60%						
SURROGATE: 2-Fluorobiphenyl	68.30%						
SURROGATE: 4-Terphenyl-D14	73.80%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

DAVIS & BROWN, INC.
POST OFFICE BOX 15038
QUINBY, SOUTH CAROLINA 29506

UST CHAIN OF CUSTODY

COC# 6421

JOB: *Coastal Truck Stop*
Southeastern Environmental

SAMPLER SIGNATURE:

H. Anderson

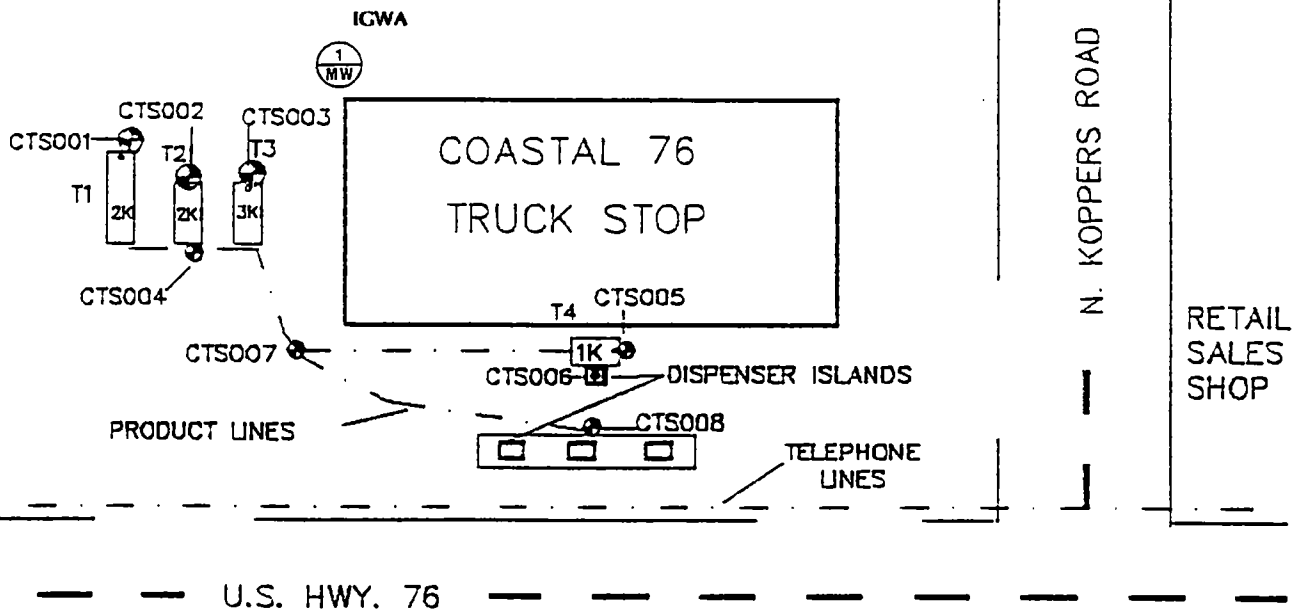
DATE: *7/23/98*

SAMPLE	LOCATION	JAR#	DEPTH	WEIGHT	SOIL	LIQ	TIME	ANALYSIS	LAB ID#
1	<i>COASTAL TRUCK STOP</i>	<i>1 & 2</i>	<i>11 ft.</i>	<i>5.02</i>	<i>✓</i>		<i>1447</i>	<i>BTEX, PAH, NAPHTHALENE</i>	<i>15110</i>
2	<i>"</i>			<i>5.06</i>	<i>—</i>				
3									
4									
5									
6									
7									
8									
9									
10									
11									
12									
13									
14									

RELINQUISHED BY: <i>H. Anderson</i>	DATE/TIME <i>7/23/98</i> <i>3:05</i>	RECEIVED BY: <i>Sharon W. McInnis</i> <i>7/23/98 1505</i>	DATE/TIME	ICED? ☒ YES ☐ NO
--	--	---	-----------	--

Sub Lab NA

balance ok - 10.02

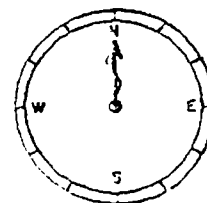


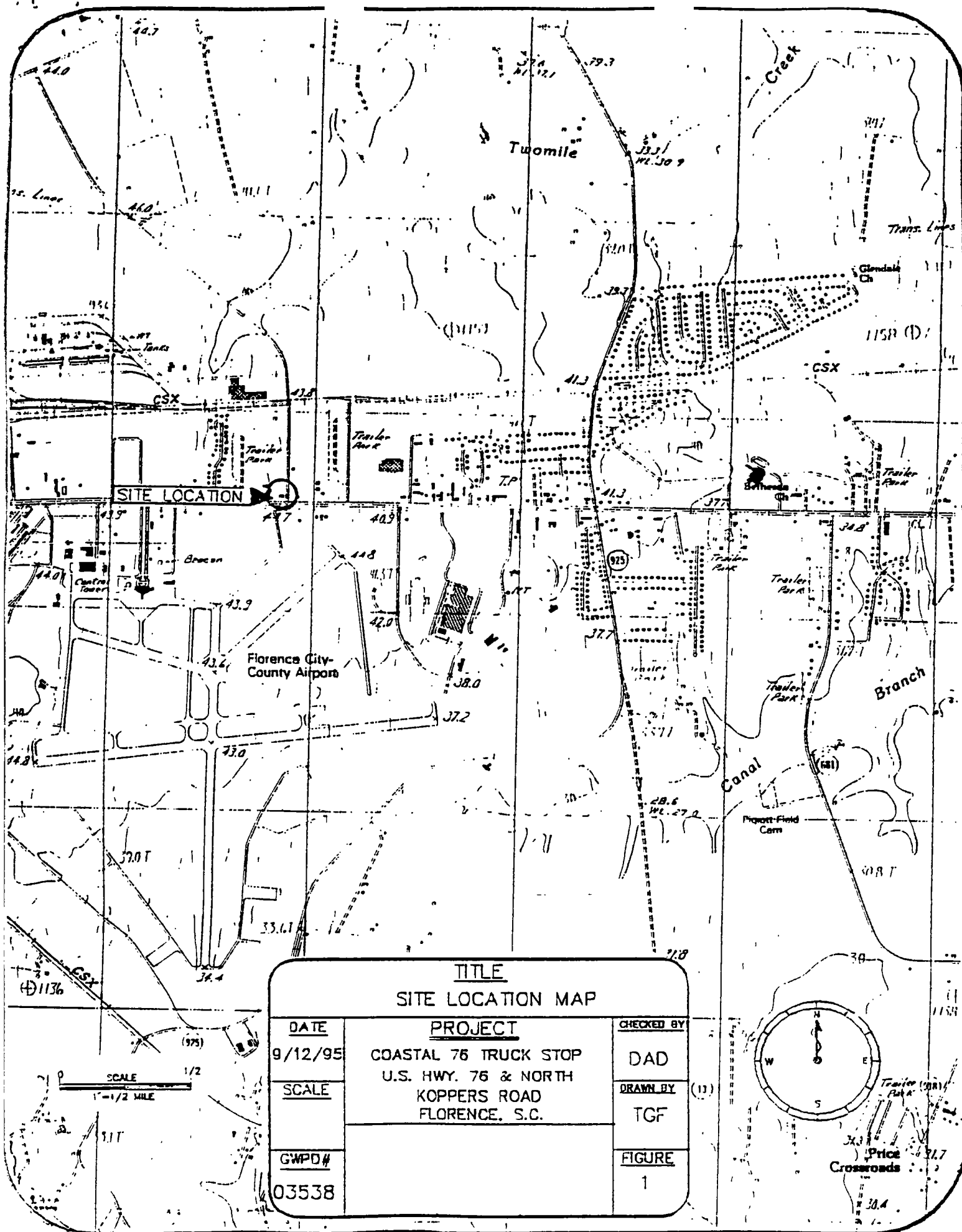
⊕ = SOIL SAMPLE LOCATIONS

□ = UNDERGROUND STORAGE TANKS

T1 = TANK #

TITLE		
SITE LOCATION MAP		
DATE	PROJECT	CHECKED BY
9/11/95	COASTAL 76 TRUCK STOP U.S. HWY. 76 & N. KOPPERS RD. FLORENCE, S.C.	DAD
SCALE		DRAWN BY
APPX 1"=40'		TGF
GWPD#		FIGURE
03538		2







2600 Bull Street
Columbia, SC 29201-1708

NOV 06 1998

Mr. Dan McEachin
726 Dogwood Drive
Garden City, SC 29576

Re: Coastal Truck Stop, Facility ID #03538
Initial Ground-Water Assessment received November 2, 1998
Florence County

Dear Mr. McEachin:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) has reviewed the referenced Assessment Report. The assessment indicates free product (3/8") at the former tank basin.

To determine what risk the release may pose to the environment and public health, and in accordance with Section 280.65 of the South Carolina Underground Storage Tank Control Regulations, implementation of the scope of work as outlined in the enclosed Rapid Assessment (RA) document is necessary. Please have your contractor complete and submit an Assessment Component Cost Proposal form and Rapid Assessment Plan forms within thirty days of the date of this letter. Please complete and return the enclosed Owner/Operator Information Sheet within 14 days from the date of this letter (note that all rehabilitation activities associated with a UST release must be performed by a SCDHEC certified site rehabilitation contractor as required by R.61-98). This scope of work must be completed by a Class 1 site rehabilitation contractor.

On all correspondence regarding this site, please reference Site ID #03538. 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 feel free to call John Wright, at (803) 734-5626 if you have questions or need additional information.

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management


John Wright, Hydrogeologist


Christopher S. Doll, P.G., Manager

enc: Rapid Assessment Document
Owner/Operator Information Sheet

cc: Bruce Newell, Southeastern Environmental, Inc., 323 Main Street, Conway, SC 29526
Technical File

SCDHEC/UST/SLFSS/jww/110298

BT DOCKE 37 T

RECEIVED

NOV 17 1998

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

1. CONTRACTOR OF CHOICE

As the UST Owner/Operator of Facility ID #03538, I would like to use the contractor or person(s)* listed below and request that they represent me for:

☒ Rapid Assessment.

☐ All future assessment scopes. **

Name of Contractor/Person(s) SOUTHEASTER ENVIRONMENTAL INC.

Address

BROCK G NEWELL
323 MAIN ST
COXWAY / S.C. 29524

Telephone Number

843 248-3533

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 assessment 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) Am

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 fiancée.

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]
11-14-98

Date

ST DOCKE

38.7

DAN M. FACHIN
1007 Wentworth
Florence, SC 29501



S.C. O H E C

2600 BULL, ST.

COLUMBIA, S.C. 29201

BUREAU OF UST MANAGEMENT

ATTN. MR. ~~JOHN~~ ~~JOHN~~ ~~JOHN~~



RAPID ASSESSMENT PLAN

SOUTH CAROLINA

DEC 16 1998

Department of Health and Environmental Control

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

Bureau of Underground Storage Tank Management

Site ID # 03538 County Florence Facility Name Coastal Truck Stop
Facility Address US Hwy 76 & N Koppers Rd
Responsible party Dan McEachin Address 726 Dogwood Dr., Garden City, SC
No. USTs 4 removed? Aug. 30, 1995 replaced? N/A
(date) (date)

Current use of facility/property

Current property owner name

Current property owner address

Mr. Dan McEachin

626 Dogwood Drive, Garden City, S.C. 29576

Field Screening Methodology

Specify the field screening methodology to be used. The use of field screening methods to optimize the number and location of permanent wells is required.

Soil samples will be screened using a OVA. Worst case from each boring will be sent for laboratory analysis.

Permanent monitoring wells will be installed after site screening

Water samples will be taken from each monitoring well and shipped to the laboratory for analysis.

Permanent Monitoring wells (Estimate number and total completed depth)
of shallow wells 15 total depth 20'
of deep wells 1 total depth 40' (If necessary)
Comments, if warranted _____

Analyses

List the analytical parameters (e.g., BTEX, MTBE) and estimated number.

Soil: 16 ea. - for BTEX and NAPTH Water: 16 ea. for BTEX, Napth, Mtbe

16 ea. for PAH

16 ea. for PAH

1 TPH 3550

16 ea. for Lead

1 for grain size/ hydrometer

16 ea. for EDB

1 for total orgain carbon

16 ea. for Nitrate

16 ea. for Sultrate

16 ea. for Ferrous Iron

16 ea. for 8 RCRA Metals

Implementation Schedule

Start up date _____

Completion date _____

Report submittal date _____

ST DOCKET

39 T

CERT
42

04852
06889

25000
132000
2368000

RAPID ASSESSMENT PLAN

SOUTH CAROLINA

Department of Health and Environmental Control Bureau of Underground Storage Tank Management

Site ID # 03538 Facility Name Coastal Truck Stop

Site Maps

1. Attach a copy of the relevant portion of the USGS topographic map showing the site location.
2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following:

North Arrow

Location of property lines

Location of buildings

Paved areas on or adjacent to site

Previous soil sampling locations

Previous monitoring well locations

Legend with facility name and address, Site ID number, date, and a bar scale

Streets or highways (indicate names and numbers)

Identification of located buildings

Location of all present and former ASTs and USTs

Underground and above ground utilities on or adjacent to site

Location of any other potential receptor

Aquifer Characterization (Check one and provide explanation for choice)

Pump Test _____ Slug Tests X

Slug test will be performed on the three permanent monitoring wells to define the aquifer characteristics for the site.
Comparison to the laboratory hydrometer/grain size test will be made.

Small Volume Disposal Type and Method

Soil Soil will be stored in 55 gallon drums and removed to the proper location after laboratory analysis is received.

Purge Water Any ground water collected from the monitoring wells will be stored in 55 gallon drums on site while arrangements for disposal is made.

Additional Comments 17B Free product - if required

ASSESSMENT COMPONENT INVOICE <u>Proposal</u>				
SOUTH CAROLINA				
Department of Health and Environmental Control				
Division of Underground Storage Tank Management				
State Underground Petroleum Environmental Response Bank Account				
Facility Name : <u>Coastal Truck Stop</u>				
Facility ID # : <u>03538</u> CP# : _____				
ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan Preparation*	<u>1</u>	x	\$100.00	\$ <u>100.00</u>
2. Receptor Survey*	<u>1</u>	x	\$500.00	\$ <u>500.00</u>
3. Comprehensive Survey	<u>1</u>	x	\$1,000.00	\$ <u>1000.00</u>
4. Mob/Demob (List component #)				
A. Equipment <u>6, 9, 11</u>	<u>2</u>	x	\$500.00	\$ <u>1,000.00</u>
B. Personnel <u>6, 9, 11</u>	<u>2</u>	x	\$250.00	\$ <u>500.00</u>
5. Soil Borings (hand auger)*	<u>600</u>	feet x	\$14.00	\$ <u>8400.00</u>
6. Soil Borings (drilled) and Field Screening*	(includes collection and quantification)			
	_____	feet x	\$17.00	\$ _____
7. Soil Leachability Model	_____	x	\$200.00	\$ _____
8. Abandonment*	<u>600</u>	feet x	\$4.00	\$ <u>2400.00</u>
9. Well Installation*	(includes drilling costs)			
A. Water Table (hand auger)	_____	feet x	\$20.00	\$ _____
B. Water Table (drilled)	<u>300</u>	feet x	\$38.00	\$ <u>11,400.00</u>
C. Telescoping	<u>40</u>	feet x	\$58.00	\$ <u>2,320.00</u>
D. Rock Drilling	_____	feet x	\$58.00	\$ _____
10. Sample Collection *				
Water or Vapor	<u>17</u>	<u>16</u> samples x	\$55.00	\$ <u>880.00</u>
11. Analyses-Groundwater	(See RA Guidance for site specific analyses)			
A. BTEX+Napth.+MTBE	<u>17</u>	<u>16</u> samples x	\$100.00	\$ <u>1600.00</u>
B. BTEX+Napth.+MTBE+ Trimethylbenzene		_____ samples x	\$135.00	\$ _____
C. PAH's	<u>17</u>	<u>16</u> samples x	\$120.00	\$ <u>1920.00</u>
D. Lead	<u>17</u>	<u>16</u> samples x	\$20.00	\$ <u>320.00</u>
E. EDB	<u>17</u>	<u>16</u> samples x	\$55.00	\$ <u>880.00</u>
F. 8 RCRA Metals	<u>NO</u>	<u>16</u> samples x	\$140.00	\$ <u>2240.00</u>
G. TPH (9070)		_____ samples x	\$55.00	\$ _____
H. pH		_____ samples x	\$10.00	\$ _____
I. BOD		_____ samples x	\$40.00	\$ _____
J. Nitrate	<u>17</u>	<u>16</u> samples x	\$20.00	\$ <u>320.00</u>
K. Sulfate	<u>17</u>	<u>16</u> samples x	\$20.00	\$ <u>320.00</u>
L. Ferrous Iron	<u>17</u>	<u>16</u> samples x	\$20.00	\$ <u>320.00</u>

Continue on back of page

ASSESSMENT COMPONENT COST PROPOSAL

11. Analyses – Soil					
I. BTEX + Napth.	<u>16</u>	samples x	\$100.00	\$	<u>1600.00</u>
J. PAH's	<u>16</u>	samples x	\$120.00	\$	<u>1920.00</u>
K. 8 RCRA Metals		samples x	\$150.00	\$	
L. TPH (9071)		samples x	\$60.00	\$	
M. TPH (3550)	<u>1</u>	samples x	\$65.00	\$	<u>65.00</u>
N. Grain size / hydrometer	<u>1</u>	samples x	\$63.00	\$	<u>63.00</u>
O. Total Organic Carbon	<u>1</u>	samples x	\$35.00	\$	<u>35.00</u>
12. Aquifer Characterization*					
A. Pumping Test		hours x	\$120.00	\$	
B. Slug test	<u>3</u>	tests x	\$150.00	\$	<u>450.00</u>
13. Free Product Recovery Rate Test*					
		tests x	\$120.00	\$	
14. Fate/Transport Modeling					
A. Mathematical Model		models x	\$300.00	\$	
B. Computer Model	<u>1</u>	models x	\$500.00	\$	<u>500.00</u>
15. Risk Evaluation					
A. Tier I		x	\$300.00	\$	
B. Tier II	<u>1</u>	x	\$500.00	\$	<u>500.00</u>
16. Subsequent Survey*					
		x	\$260.00	\$	
17. Disposal					
A. Wastewater					
1. Purging/Sampling	<u>2</u>	drums x	\$90.00	\$	<u>180.00</u>
2. Pumping test		gallons x	\$0.60	\$	
B. Free Product		drums x	\$110.00	\$	
C. Soil (Treatment/Disposal)*		tons x	\$50.00	\$	
	<u>4</u>	drums x	\$50.00	\$	<u>200.00</u>
18. Miscellaneous					
		x		\$	
		x		\$	
		x		\$	
		x		\$	
19. Report/Project Management and Coordination					
			(SUBTOTAL)		<u>43,433.00</u>
	<u>0.15</u>	x	\$0.00	\$	<u>6514.95</u>
20. Total					<u>\$ 49,947.95</u>

RECEIVED

DEC 21

Option 1



2600 Bull Street

COLUMBIA, SC 29204

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.
UNDERGROUND STORAGE TANK (UST) OWNER/OPERATOR LEAD
INFORMATION SHEET
SITE ID# 03538

1. CHOICE OF CONTRACTOR

As the UST Owner/Operator of Site ID# 03538, I would like to proceed with the
Rapid Assessment using the contractor or person(s)* listed below.

Name of Contractor/Person(s) Southeastern Environmental, Inc. (Bruce G. Newell)

Address 323 Main Street

Conway, SC 29526

Telephone Number 843-248-3533

* indicate if the person listed is your own employee

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

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 fiancée.

3. PAYMENT

You can pay the contractor and, upon the submittal of the cancelled 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

I request that payment be made directly to the contractor. ☒ Yes ☐ No

Underground Storage Tank Owner/Operator Signature [Signature]

Date 12-10-98

DHEC/UST/ACAD/00/stm/970307

ST DOCKE 40T



2600 Bull Street
Columbia, SC 29201-1708

JAN 08 1999

Mr. Dan McEachin
726 Dogwood Drive
Garden City, SC 29576

Re: Coastal Truck Stop
Facility ID #03538, Cost Proposal #06889
Assessment Plan/Cost Proposal received December 16, 1998
Florence County

Dear Mr. McEachin:

The Division of Underground Storage Tank Management has approved a cost proposal for the implementation of the Assessment Plan and preparation of an associated report of findings. The cost proposal has been approved for up to **\$44,726.95** and assigned #06889 to track the allowable costs associated with this assessment. The following adjustments were made to the cost proposal:

- \$500.00 more for personnel mob/demob to include slug/free product recovery rate tests and disposal.
- \$2,240.00 less for analyses of groundwater as sampling for the 8 RCRA Metals is not required.
- \$240.00 more for two free product recovery rate tests if required.
- \$1,760.00 less for soil analyses as field screening boring samples do not require laboratory analyses. Eight soil samples for BTEX + Naph. + PAH's have been approved and should be used to delineate soil contamination at the source area.

Upon receipt of the signed Assessment Component Invoice, Assessment 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, eligible costs will be applied toward your deductible and any eligible costs exceeding the deductible will be paid directly to Southeastern Environmental.

According to our records, Initial Ground-Water Assessment (IGWA) Invoice (cost proposal #04852) with copies of your canceled check (front and back) or a notarized statement from the contractor verifying payment has not been submitted. These must be submitted within thirty days for the associated costs, up to \$1,320.00 for the IGWA, to be applied toward your deductible.

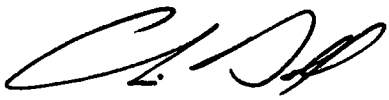
Implementation of the Assessment may proceed upon receipt of this correspondence. The required monitoring well approval has been issued to your environmental contractor and a copy is enclosed for your records. **The report should be submitted within 90 days from the date of this letter.** The Division 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.

OST DOCKET 41T

On all correspondence regarding this site and scope of work, please reference Facility ID #03538 and cost proposal #06889. Please include the cost proposal number when submitting your invoice. If you have any questions concerning this correspondence, please contact John Wright at (803) 898-4367.

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management


John Wright, Hydrogeologist


Christopher S. Doll, P.G., Manager

enc: Copy of Monitoring Well Approval
Assessment Component Invoice
Approved Assessment Cost Proposal

cc: Bruce Newell, Southeastern Environmental, 323 Main Street, Conway, SC 29526 (with Original
Monitoring Well Approval and Approved Assessment Component Cost Proposal)
Technical File (Copy of Monitoring Well Approval)
Financial File (Approved Assessment Component Cost Proposal)
Read File (without enclosures)

SCDHEC/UST/SLFSS/jww/123198



2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: December 31, 1998

Approval No.: 10729

Approval is hereby granted: Southeastern Environmental
(On behave of): Mr. Dan McEachin (Coastal Truck Stop)

Facility ID: #03538
County: Florence

This approval is for the construction of up to fifteen shallow monitoring wells and one telescoping monitoring well 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 John Wright at (803) 734-5626 or Wrightjw@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 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:


John Wright, Hydrogeologist
State Lead and Field Services Section
Division of UST Management

cc: Pee Dee District EQC
Technical File

Dan McEachin, 726 Dogwood Drive, Garden City, SC 29576 **T DOCKE**



2600 Bull Street
Columbia, SC 29201-1708

Monitoring Well Installation Approval Form

Date of Issue: March 18, 1999 Approval No.: 11179

Approval is hereby granted to: Southeastern

Facility ID #: 03538

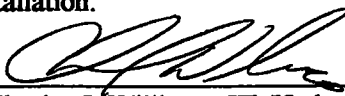
County: Florence

MAR 18 1999

This approval is for the construction of 300 feet of temporary 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: Pee Dee District EQC
Mr. James Parker, 726 S. Dogwood Dr., Garden City, SC 29576
Southeastern Env., 323 Main St., Conway, SC 29526
Technical File

ST DOCKET 42T



2600 Bull Street
Columbia, SC 29201-1708

**DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT**

Phone (803) 898-4350 Fax (803) 898-4330

APR 26 1999

Coastal 76 Truck Stop
Mr. Dan McEachin
1007 Wentworth Drive
Florence, SC 29501-5751

Re: Coastal 76 Truck Stop
Permit #03538, Cost Proposal #06889; Release #1
Rapid Assessment Plan received December 16, 1998
Bamberg County

Dear Mr. McEachin:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control (SCDHEC) reviewed and approved the referenced Rapid Assessment Plan and associated costs on December 31, 1998.

According to our records, the release was reported to the SCDHEC subsequent to the early detection incentive program. Therefore, in accordance with Section 44-2-40(B) of the State Underground Petroleum Environmental Response Bank (SUPERB) Act, you are responsible for the first \$25,000 for site rehabilitation. To insure that any expenditures you make apply to this \$25,000 deductible, it is prudent for this agency to pre-approve such costs along with your technical plan of action. By law, the SUPERB account cannot compensate any costs that are not pre-approved. Eligible costs exceeding the \$25,000 deductible can be compensated from the SUPERB Account.

The SCDHEC reserves the authority to only apply costs to your deductible for work properly performed and/or technically justified in accordance with established criteria. Upon receipt of the signed Assessment Component Invoice and a copy of your canceled check (front and back) or a notarized statement from the contractor verifying payment for this scope of work, eligible costs will be applied toward your deductible.

On all correspondence regarding this site and scope of work, please reference Facility ID #03538 and cost proposal #06889. If you have any questions concerning this correspondence, please contact me at (803) 898-4366 or 1-800-826-5435.

Sincerely,
State Lead and Field Services Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Christopher S. Doll, P.G., Manager

cc: Technical File
Financial File

BT DOCKE 43 T

SCDHEC/UST/SLFS/CSD/990426

Southeastern Environmental, Inc.
323 Main Street
Conway, SC 29626
(843) 248-3533 Phone
(843) 248-5034 Fax

**Southeastern
Environmental, Inc.**

RECEIVED

JUL 06 1999

DIVISION OF UNDER
STORAGE TANK

Fax

Attn: Christopher Doll

To: SC DHEC

From: Southeastern Environmental

Fax: 803-4330

Pages: 3

Phone: 803-

Date: 7-6-99

Re: Coastal Creek Stop ID # 03538 CC:

☐ Urgent

☒ For Review

☐ Please Comment

☒ Please Reply

☐ Please Recycle

John A.

ST DOCKET 44 T

Southeastern Environmental

323 Main Street, Conway, S.C. 29526 • (843)248-3533 • (800)257-3533 • Fax (843)248-5034

SC DHEC

Attention: Christopher Doil

Site ID # : 03538

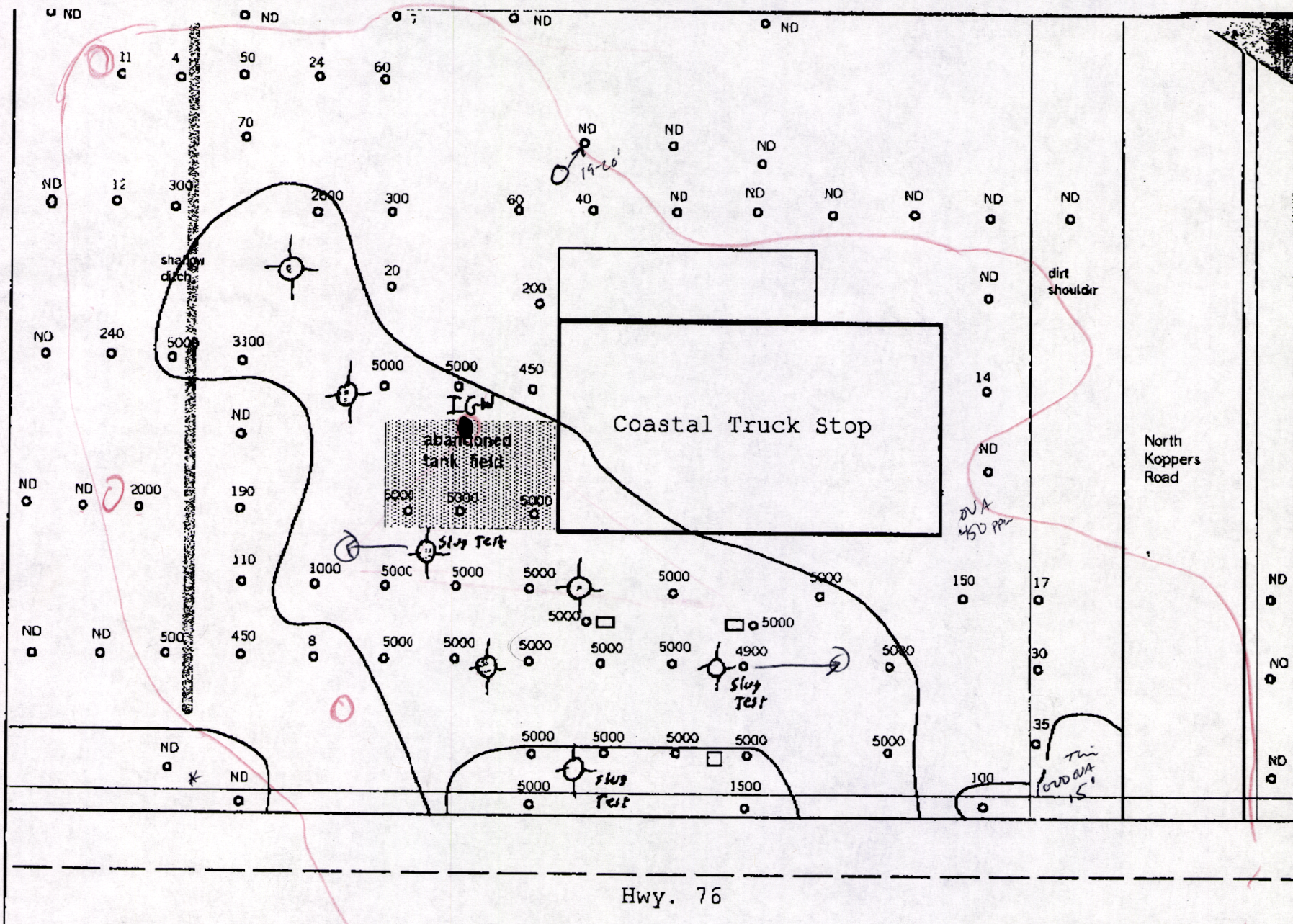
July/6/1999

Mr. Doil,

Attached is a copy of the site map for Coastal Truck Stop. On this map are the locations for the monitoring wells as proposed by our new Geologist. We were allotted fifteen 20' wells not including the telescoping well. Please review this map and give your input on the location of these wells. Please call or fax us the information as soon as possible, as we are planing to start drilling as of tomorrow, 7/6/99.

Thank You


Anthony Bell



OK
CJW
7/7/99

Site Name: Coastal Truck Stop Hwy. 76/N. Koppers Rd. Florence SC		Site ID #: 03538		Southeastern Environmental, Inc. 323 Main Street Conway, SC 29526 (843) 248-3533	
		Date: 3/4 - 3/25/99			
Scale: 1" = 30'		Drawn By: JM			
		BH 47 By: (ND)		BH 48 (ND)	
				BH 51 (ND)	
				BH 49 (ND)	
				BH 50 (ND)	

 **DAN M. MCEACHIN**
1007 WENTWORTH DR 888-6177
FLORENCE, SC 29501

2768
08-1/532

8-10 1998

Pay to the order of *South Eastern Environmental* \$ *1120.00*
Eleven hundred & twenty Dollars ☒ ☐

WACHOVIA
Wachovia Bank of South Carolina, N.A.
Florence, SC 29501

For *IGWA* *[Signature]*

INVESTORS ACCOUNT

payment
toward
IGWA

POST DOCKET 45T

Invoice

DATE	INVOICE #
3/23/99	1404

BILL TO
Mr. Dan McEachin 726 Dogwood Drive Garden City, SC 29576

P.O. NO.	TERMS	PROJECT
180399	Due on receipt	

QUANTITY	DESCRIPTION	RATE	AMOUNT
1	Standard Limited/Rapid Assessment	100.00	100.00
1	RAP and SLA for recetor survey	500.00	500.00
1	Mob/Demob (drilling/field screen. equip.)	500.00	500.00
1	Mob/Demob (personnel)	250.00	250.00
600	Soil borings (hand auger)	14.00	8,400.00
600	Abandon soil borings	4.00	2,400.00
Payment due upon receipt. A late fee of 1.5% per month will apply to unpaid balance.		Total	\$12,150.00

3
 GENERAL RECEIPT
 Issued by the
 Treasurer of the
 State of South Carolina
 on the 11th day of
 August 1999 for the
 sum of \$12,150.00
 in full payment of the
 balance due on the
 account of the
 State of South Carolina
 for the year 1998.

DO NOT SIGN / WRITE IN THESE SPACES
 FOR FURTHER INFORMATION

POST CHECKED
 FOR DEPOSIT ONLY
 SOUTHEASTERN
 ENVIRONMENTAL, INC.
 OK FDD 20517 U.S.

RECEIVED

JUL 09 1999

**DIVISION OF UNDERGROUND
 STORAGE TANK MGMT.**

3157

DAN M. McEACHIN
 1007 WENTWORTH DR. 668-8177
 FLORENCE, SC 29501

Date: 4-21-99 87-01/532 1A

Pay to the Order of Southeastern Environmental \$ 12,150.00
twelve thousand one hundred fifty Dollars

WACHOVIA
 Wachovia Bank, N.A.
 Charlotte, NC 28202

For Summar 1404

[Signature]

SOUTHEASTERN ENVIRONMENTAL, INC
323 MAIN STREET
CONWAY, SOUTH CAROLINA 29526

FACSIMILE TRANSMITTAL SHEET

TO:	FROM: Jared Hendrix
John Abernathy	DATE:
PHONE NUMBER:	SENDER'S REFERENCE NUMBER:
(803) 898-4330	
RE:	YOUR REFERENCE NUMBER:
Coastal Truck Stop	
☐ URGENT ☒ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE	

NOTES/COMMENTS:

(2 pages)

John,

These are the remaining proposed well(7) locations by our geologist. Please review these and get back to us ASAP (we will be drilling today [Tuesday]). Thanks.

Jared

CONFIDENTIALITY NOTICE:

The information contained in this transmission is privileged and confidential. It is intended only for the use of the individual or entity named above. If you are not the intended recipient or an authorized agent or employee of the intended recipient who has been authorized to deliver this facsimile, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone, and arrangements will be made to return the message. Thank you!

RECEIVED

AUG 03 1999

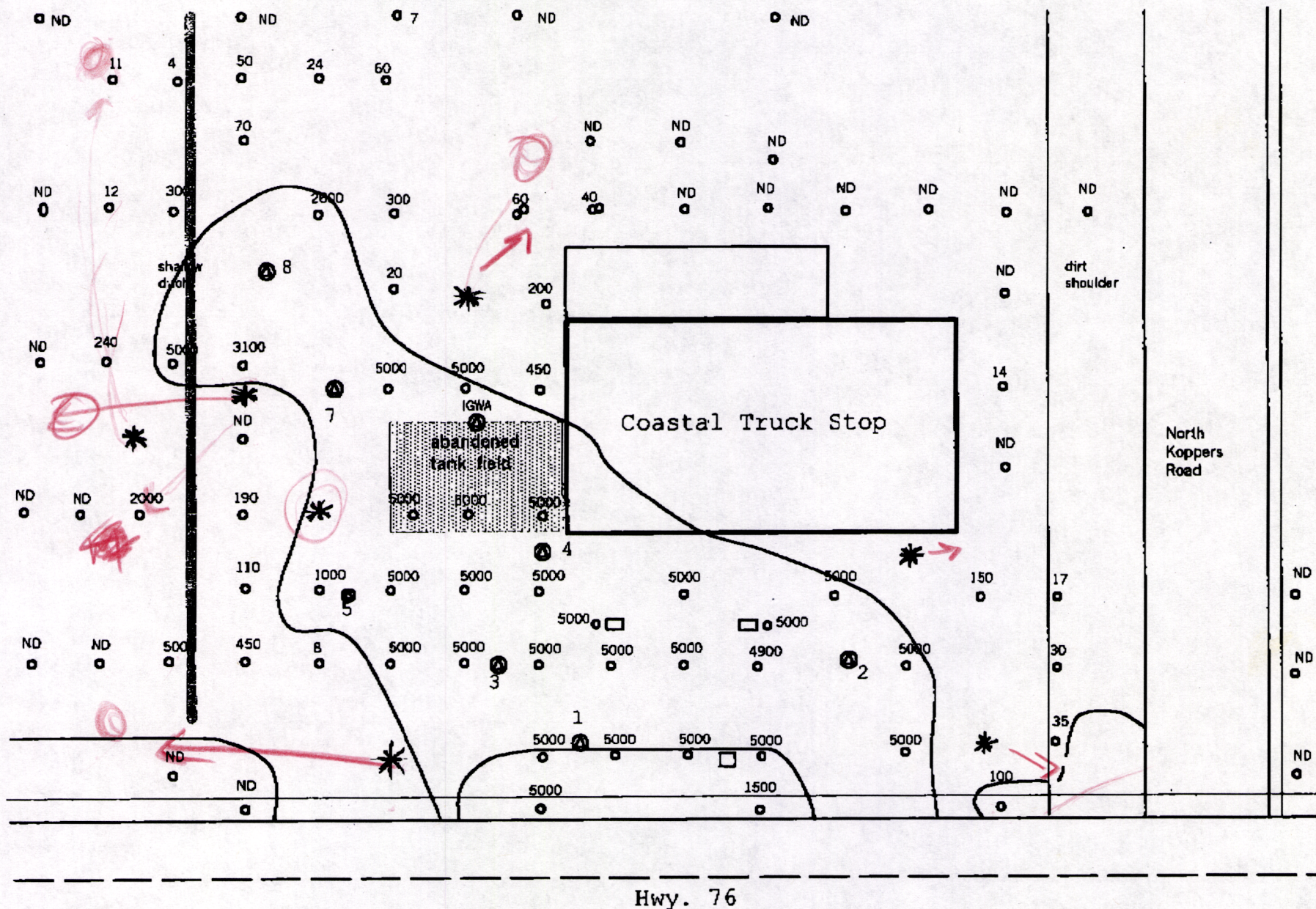
DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

PHONE: (803) 248-3533

FAX: (803) 248-5034

ST DOCKE

46 T



Hwy. 76

Site Name:

Coastal Truck Stop
Hwy. 76/N. Koppers Rd.
Florence SC

Site ID #:

03538

Date:

3/4 - 3/25/99

Drawn
JMHBH 47
By: (ND)BH48
(ND) 6BH51
(ND)BH49
(ND)BH50
(ND)

Southeastern Environmental, Inc.

323 Main Street
Conway, SC 29526
(843) 248-3533

Scale:

1" = 30'

Southeastern Environmental

323 Main Street, Conway, S.C. 29526 • (843)248-3533 • (800)257-3533 • Fax (843)248-5034

RECEIVED

AUG 17 1999

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

August 17, 1999

Ms. Kristen Hein
SC DHEC
2600 Bull Street
Columbia, SC 29201
Bureau of UST Management

Re: Coastal Truck Stop
UST # 03538

Ms. Hein:

This letter is to confirm that Southeastern Environmental, Inc. will need an additional 120 feet for soil borings to define the plume. Please fax me a letter regarding this matter at your earliest convenience. If you should have any questions, please contact our office.

Thank you,

Kim Garrett

Kim Garrett
Southeastern Environmental, Inc.

ST DOCKET

47 T

06889
08/17/99
CP#
CP# 1
44746.95



2600 Bull Street
Columbia, SC 29201-1708

Kim Garrett
Southeastern Environmental, Inc.
323 Main Street
Conway, South Carolina 29526

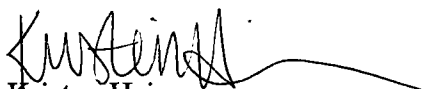
Re: Coastal Truck Stop
UST Permit #03536, Cost Proposal #06889
Approval for additional field screening footage

Dear Ms. Garrett:

The Division has reviewed your request for additional field screening footage. Additional costs totaling \$3,013.00 (to include 120 feet for field screening and abandonment and two drums for disposal) have been technically approved. A Cost Proposal Addendum is currently in finance awaiting financial approval.

If you have any further questions regarding this site, please do not hesitate to call at (800) 826-5435 (within South Carolina only) or (803) 898-4343. Please reference UST Permit #03536 and Cost Proposal #06889.

Sincerely,


Kristen Hein

SOUTHEASTERN ENVIRONMENTAL, INC
323 MAIN STREET
CONWAY, SOUTH CAROLINA 29526

FACSIMILE TRANSMITTAL SHEET

TO: Kristen Hern FROM: Kim Garrett
DATE: 8/31/99
PHONE NUMBER: SENDER'S REFERENCE NUMBER:
RE: Coastal Truck Stop ID# 03538 YOUR REFERENCE NUMBER:

☒ URGENT ☐ FOR REVIEW ☐ PLEASE COMMENT ☐ PLEASE REPLY ☐ PLEASE RECYCLE

NOTES/COMMENTS:

Kristen!
I have been instructed to send these to
you. Any questions - please call

total pages: 7

RECEIVED

AUG 31 1999

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

CONFIDENTIALITY NOTICE:

The information contained in this transmission is privileged and confidential. It is intended only for the use of the individual or entity named above. If you are not the intended recipient or an authorized agent or employee of the intended recipient who has been authorized to deliver this facsimile, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone, and arrangements will be made to return the message. Thank you!

PHONE: (803) 248-3533

FAX: (803) 248-5034

ST DOCKET 48T

726 S. Dogwood Dr
Murrells Inlet, SC

~~291756~~

29576

end of
sept.

moving to
sept

Florence
till

May.

Tried to call

8/31

10 AM

1:30 PM

9/2 9:00 AM

Southeastern Environmental

323 Main Street, Conway, S.C. 29526 • (843)248-3533 • (800)257-3533 • Fax (843)248-5034

Site ID # 03538

August 19, 1999

Mr. Dan McEachin
Coastal Truck Stop
1007 Wentworth Drive
Florence, SC 29501

RE: Invoice #1442
\$25,000.00 Deductible

Dear Mr. McEachin:

Enclosed please find the invoice for the additional soil borings, abandonment and drilling of monitoring wells.

The amount is \$14,978.12; you are only required to pay \$11,730.00. SC DHEC will pay the balance since the amount of \$11,730.00 will satisfy your \$25,000.00 deductible.

Please remit a check in the amount of \$11,730.00.

Please call me should you have any questions.

We thank you for your business.

Sincerely,

Lori J. Grainger
Southeastern Environmental, Inc.

LJG/s

Enclosure

RECEIVED

AUG 31 1999

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

Invoice**SOUTHEASTERN ENVIRONMENTAL, INC.**323 MAIN STREET
CONWAY, SC 29526
(843) 248-3533

DATE

INVOICE #

8/11/99

1442

BILL TO:Mr. Dan McEachin
726 Dogwood Drive
Garden City, SC 29576

P.O. NUMBER

TERMS

PROJECT

180399

Due on receipt

QUANTITY	DESCRIPTION	RATE	AMOUNT
1	Mob/Demob (drilling/field screen. equip.)	500.00	500.00
2	Mob/Demob (personnel)	250.00	500.00
300	Soil borings (hand auger)	14.00	4,200.00
300	Abandon soil borings	4.00	1,200.00
225.74	Monitoring well	38.00	8,578.12

Thank you for your business.

TOTAL**\$14,978.12**



2600 Bull Street
Columbia, SC 29201-1708

**DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT**

Phone (803) 898-4350 Fax (803) 898-4330

September 10, 1999

Mr. Mallory McEachin
PO Box 337
Florence, SC 29503

Re: Coastal Truck Stop
UST Permit #03538
Correspondence received August 4, 1999
Florence County

Dear Mr. McEachin:

In response to your request, a copy of the tank closure report by Duncan Environmental and a copy of the Initial Ground-Water Assessment Report by Southeratarn Environmental, Incorporated is enclosed for your information. Additionally, a copy of a letter to your father from Kristen Hein, the UST Program project manager, is enclosed for your information.

If you have any questions, please feel free to contact me at (803) 898-4354.

Sincerely,

Arthur Shrader, Director
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

enc.: Tank Closure Report
Initial Ground-Water Assessment Report
SCDHEC Letter dated September 10, 1999

cc: Kristen Hein
Technical File

UST DOCKET 49T

DHEC/UST/091099

SOUTH CAROLINA DEPARTMENT OF HEALTH AND ENVIRONMENTAL CONTROL



2600 Bull Street
Columbia, SC 29201-1708

**DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT**

Phone (800) 826-5435 Fax (803) 898-4330

Mr. Dan McEachin
726 South Dogwood Drive
Murrells Inlet, South Carolina 29576

SEP 10 1999

Re: Coastal Truck Stop 76
UST Permit # 03538
Florence County

Dear Mr. McEachin:

The Division of Underground Storage Tank Management of the South Carolina Department of Health and Environmental Control has been requested to provide you with information regarding costs associated with the Rapid Assessment which is currently being conducted by Southeastern Environmental at the referenced facility.

Upon review of the Departmental file, our records indicate that the Rapid Assessment Plan was approved in December 1998. All costs associated with this scope of work were pre-approved by the Department. A copy of the approved costs is enclosed.

In August 1999, the Division received a copy of the bill sent to you by Southeastern Environmental. It appears that the amount charged concurs with the pre-approved costs. Upon review of the final report, these re-approved costs may be applied to your \$25,000 deductible.

Should you have any further questions or comments, please contact me at (800) 826-5435 (within South Carolina only) or (803) 898-4343.

Sincerely,

Kristen A. Hein, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Enc: SCDHEC correspondence dated April 20, 1999
SCDHEC correspondence dated January 8, 1999

cc: Read/Technical Files (without enclosures)

SCDHEC/UST/091099

UST DOCKET 50 T



2600 Bull Street
Columbia, SC 29201-1708

DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT

SEP 27 1999

Mr. Dan McEachin
1007 Wentworth Drive
Florence, South Carolina 29501-5751

Re: Coastal Truck Stop
UST Permit #03538
State Lead Permission Form
Telephone conversation on September 27, 1999
Florence County

Dear Mr. McEachin:

During the referenced conversation, you indicated to Art Shrader that you prefer to utilize the State Lead option to procure site rehabilitation on your behalf for any necessary activities following the submittal of the Rapid Assessment which is currently being prepared by Southeastern Environmental. Therefore, your signature is required on the enclosed Permission Form before work using the State Lead option can begin at this facility. The work will be funded by the SUPERB Account and there will be no out of pocket cost to you up to the one million dollar coverage limit. Please sign the enclosed Permission Form and return it to this office as soon as possible.

On all correspondence or inquiries regarding this project, please reference UST Permit #03538. If you have any questions, please feel free to contact Kristen Hein at (803) 898-4343 or 1-800-826-5435 (within South Carolina only). Thank you for your time and cooperation in this matter.

Sincerely

Kristen A. Hein, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

Enc: State Lead Permission Form

cc: Technical File (n/enc)
Read File

DHEC/UST/092799

UST DOCKET 51 T

UST #03538

RECEIVED

25 1999

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

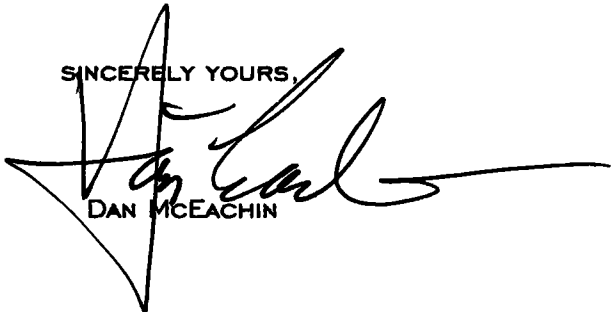
MS. KRISTEN HEIN
DHEC
UNDERGROUND STORAGE TANK DIV.

DEAR MADAM:

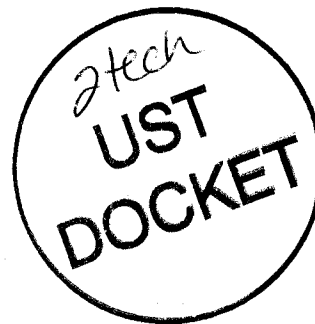
ENCLOSED PLEASE FIND STATE LEAD FORM SIGNED BY ME. I WISH IT CLEARLY
UNDERSTOOD
THAT UPON THE CONCLUSION OF THE RAPID ASSESSMENT OF SIGHT NO. 03538 THAT
SOUTHEASTERN ENVIRONMENTAL WILL HAVE NO RELATIONSHIP WITH ME WHATSOEVER ,
CONTRACTUAL OR OTHERWISE.

OCTOBER 22, 1999

SINCERELY YOURS,


DAN MCEACHIN

ST DOCKET 52 T



RECEIVED

JAN 11 2000

DIVISION OF
STORAGE TANK MGMT.

RAPID ASSESSMENT REPORT

**COASTAL TRUCK STOP (ID# 03538)
FLORENCE, SOUTH CAROLINA**

**PREPARED FOR:
SOUTH CAROLINA DEPARTMENT OF HEALTH
AND ENVIRONMENTAL CONTROL
20 DECEMBER, 1999**

Chris L. Boggs, P.G.
Southeastern Environmental, Inc.



1 Introduction and Site History

The Coastal 76 Truck Stop facility (ID# 03538) is located on Highway 76/301 east of Florence, South Carolina (see Figure 1). Results of the investigation conducted at the time of UST removal and the Initial Groundwater Assessment conducted by Southeastern Environmental, Inc. at the facility indicated the presence of organic compounds commonly associated with petroleum releases in soil and groundwater at the facility. Additionally, free phase hydrocarbons were also noted on groundwater during the installation of the well for the IGWA.

2 Receptor Survey

No potential receptors were identified within 1000 feet of the facility. Utility lines run parallel to Highway 76/301 but appear to be shallower than the impacted area. (See Figure 2). Water is currently supplied to the property and adjacent properties by the city of Florence.

3 Geology and Hydrogeology

The site is located in an area underlain by marine sediments of Pleistocene Age. Shallow groundwater occurs in this area as a water table aquifer. Based on observations made during monitoring well installation at the site soils are sands and sandy to clayey loams. Groundwater was encountered at a depth of approximately fourteen feet below ground surface at the site.

4 Scope of Work

Additional assessment was conducted to further investigate the extent of soil and groundwater impact at the facility. These actions included collection and OVA screening of soil samples from 90 locations on the property (See Figure 3) and the installation of 12 additional Type II monitoring wells (MW-1 through MW-11 and MW-14) and one Type III monitoring well (TW) on the property. A surveyed site plan indicating the locations of all wells and other relevant features at the site is included as Figure 4. Boring logs and well construction information for the additional monitoring wells are included as Appendix A. A summary of the results of OVA screening is included as Table 1.

5 Soil Investigation

Soil samples for laboratory analysis were obtained from a depth of 8.5 to 11 feet below ground surface during the installation of monitoring wells. Soil samples were submitted for laboratory analysis in accordance with SCDHEC guidelines for gasoline releases.

6 Ground Water Investigation

6.1 Ground Water Sample Collection

Groundwater samples were obtained from monitoring wells MW-1 through MW-8 on July 19 and 20, 1999 from monitoring wells MW-9, MW-10, MW-11, and MW-14 on August 5, 1999, and from the telescoping well (TW) on August 26, 1999. Field measurements taken during groundwater sample collection are included in Table 2. Depth to

groundwater measurements from September 29, 1999 was used to construct the potentiometric map included as Figure 5. Groundwater measurements and water table elevations are summarized in Table 3. It should be noted that free phase hydrocarbons were observed on groundwater in the IGWA well on the site during groundwater sample collection. The observed thickness of the free phase hydrocarbons was 0.21 feet (2.5 inches) on September 29, 1999.

6.2 Hydraulic Conductivity Testing

Hydraulic conductivity tests (rising head tests) were performed at monitoring wells MW-1, MW-2 and MW-5 on July 20, 1999 to determine the approximate average horizontal hydraulic conductivity of the surficial hydrogeologic unit. The tests involved observing the recovery of the water level toward the static level after a quantity of water had been removed from the well casing of each well. The test results indicated approximate horizontal hydraulic conductivity values of 2.88 feet per day (ft./day) for monitoring well MW-1, 0.57 ft./day for monitoring well MW-2, and 1.8 ft./day for monitoring well MW-5. Using these values the approximate average hydraulic conductivity for the site is estimated to be 1.75 ft./day. Data and calculations for the tests are included in Appendix B.

6.3 Ground Water Seepage Velocity

An approximate average horizontal hydraulic gradient of 0.0062 foot per foot (ft./ft.), an approximate horizontal hydraulic conductivity of 3.357 ft./day, and an estimated effective porosity of 0.25 (based on soil descriptions) have been assigned to the shallow hydrogeologic unit. The approximate rate of ground water flow (seepage velocity) in the surficial hydrogeologic unit has been calculated by modifying Darcy's Law to account for plume movement with respect to time:

$$v = Ki/n$$

Where:

v	=	estimated seepage velocity of ground water
K	=	approximate average horizontal hydraulic conductivity
i	=	approximate horizontal hydraulic gradient
n	=	estimated effective porosity

Based on the above values, the linear seepage velocity for ground water flow in the shallow hydrogeologic unit is approximately 0.1227 ft./day, or about 48 ft./year. Actual velocities are likely to vary throughout the unit due to heterogeneities within the unit.

7 Analytical Results

7.1 Soil

Results of laboratory analysis for the soil samples collected during monitoring well installation indicate the presence of Benzene Toluene, Ethylbenzene, Xylenes and Naphthalene in concentrations in excess of the RBSLs for sandy soil in the soil sample obtained from several locations on the site. In addition, 1-Methylnaphthalene and 2-Methylnaphthalene were detected in the soil sample obtained from MW-1 at concentrations of 2370 and 1200 µg/kg, respectively. Analytical results for soil samples are summarized in Table 4. Copies of the analytical reports for soil samples are contained in Appendix C. Isoconcentration maps for the compounds detected in soil samples are included as Figures 6 through 10.

7.2 Ground Water

Results of analysis of ground water samples are presented in Table 5. As indicated in this table, concentrations of Benzene, Toluene, Ethylbenzene, Xylenes, Naphthalene, and Methyl tert Butyl Ether (MTBE) in excess of the RBSLs for groundwater were detected in groundwater samples obtained from monitoring wells on the site. In addition, 1,3,5 Trimethylbenzene, 1,2,4 Trimethylbenzene, 1-Methylnaphthalene, and 2-Methylnaphthalene were detected in groundwater samples obtained from several monitoring wells at the site. Copies of the analytical reports for groundwater samples obtained on are included in Appendix D. Horizontal distribution of individual COCs detected in excess of the RBSLs are indicated in Figures 11 through 16. Vertical distributions of the COC and site lithology are depicted in cross-sections included as Figures 18 and 19. Cross section locations are indicated in Figure 17.

8 Fate and Transport Modeling

The EPA Bioscreen model was used in order to approximate the fate and transport of the COCs in groundwater. This model simulates solute transport in three ways: transport with no decay, solute transport with first order decay, and solute transport with instantaneous biodegradation. Input data and results for the simulation are included in Appendix E. Due to unknown age of the release, a value of 10 years was used as a default age for calibration purposes and the model was calibrated to site specific values. Subsequent to calibration to site parameters, the simulation was run for a time period of 20 years to determine if there would be significant migration of COCs. Results of this simulation indicate an increase in contaminant concentrations downgradient of the source. This suggests that the contaminant plume has not reached a stable condition and may continue to expand in a downgradient direction. Input parameters and results for fate and transport modeling are included as Appendix E.

9 Risk Evaluation

9.1 Tier I Evaluation

A site conceptual exposure model was completed for current and future potential land use at the site. Based on the results of the model, no significant potential exposure pathways were identified for the site. The only potential receptors identified for the site are the utility lines that parallel US 76/301 on the southern margin of the site. These lines are not located in an area of significant soil contamination and are not in contact with impacted groundwater. The site conceptual model forms for the site are included as Appendix F.

9.2 Tier II Evaluation

The following Site Specific Target Levels (SSTLs) for each COC in groundwater were established using empirical site data:

Benzene:

C(source-MW-1) = 19,900 ppb

C(well-MW-11) = 10.1 ppb

CRF = 1970.3

SSTL = 9851 ppb

Toluene:

C(source-MW-4) = 34,300 ppb
C(well-MW-11) = 1.63 ppb
CRF = 21,042
SSTL = 21,042,000 ppb

Ethylbenzene:

C(source-MW-4) = 4,630 ppb
C(well-MW-11) = 19.9 ppb
CRF = 232.7
SSTL = 162,864 ppb

Xylenes:

C(source-MW-4) = 21,500 ppb
C(well-MW-11) = 11.18 ppb
CRF = 1923
SSTL = 19,230,769 ppb

Naphthalene:

C(source-MW-4) = 800 ppb
C(well-MW-11) = 8.4 ppb
CRF = 95
SSTL = 2,380 ppb

MTBE

C(source-MW-2) = 10,500 ppb
C(well-MW-11) = 8.68 ppb
CRF = 1,209
SSTL = 48,387 ppb

8 Conclusions

Previous investigations at the site indicate that there has been a petroleum release. This release is apparently related to the UST system removed by Duncan Environmental

Associate, Inc. in 1995. The initial Groundwater Assessment conducted by Southeastern Environmental, Inc. revealed the existence of free phase hydrocarbons on groundwater.

Results of soil analysis indicate the presence of benzene, toluene, ethylbenzene, and naphthalene in soil at concentrations in excess of the RBSLs for sandy soils for these compounds. In addition 1-methylnaphthalene and 2-methylnaphthalene were detected in soil samples collected from MW-1. The area of impacted soil appears to be limited to the immediate vicinity of the former UST and dispenser locations.

Results of groundwater analysis indicate the presence of benzene toluene, ethylbenzene, xylenes, naphthalene, and MTBE at concentrations in excess of the RBSLs. With the exception of benzene in samples collected from monitoring wells MW-1, MW-2, and MW-4, all of the detected concentrations are below the SSTLs for these compounds as determined from site data.

Ground water level data and the results of hydraulic conductivity testing indicate that groundwater is flowing across the site from northeast to southwest at a rate of approximately 48 feet per year.

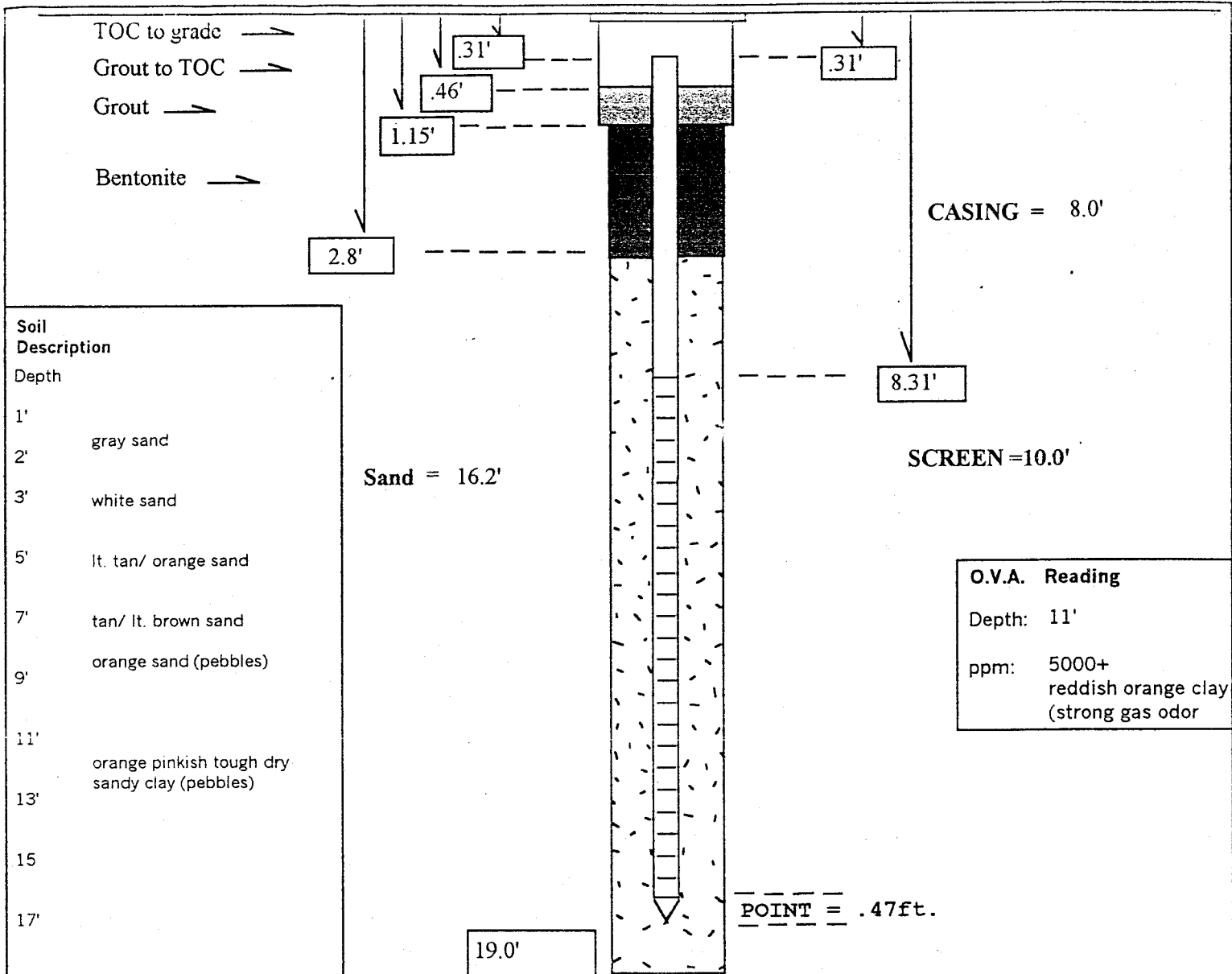
Fate and transport modeling using the EPA Bioscreen model suggests that the contaminant plume is not in a stable state.

7. Recommendations

Based on the results of the soil and groundwater investigation, the vertical and horizontal extent of contaminants in soil and groundwater has been defined at this site. ~~Site Specific~~ Target levels for COCs determined from empirical data for the site are higher than the majority of the concentrations of COCs detected in groundwater at the site. In order to eliminate the source for additional groundwater contaminants, we recommend that free phase hydrocarbons be recovered from the IGWA well and that impacted soil be removed from the vicinity of the former dispenser island location. In addition, we recommend that a compliance monitoring program be initiated at the site.

APPENDIX A

Well Construction Information



SOUTHEASTERN ENVIRONMENTAL		Driller: JMH/JVB/AWB	Driller Lic.#: 1500
Client: Coastal Truck Stop		Location: US Hwy. 76 and N. Koppers Road Florence, SC	
Date: 7/13/99	Site ID #: 03538	Well Depth: (Grade to Point) 18.78'	
Well #: 1	Receptors/comments: front near road/ strong odor		
Disposal Method for soil: barreled on site			



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence System Name: Coastal Truck Stop
ID # 03538

Latitude: _____ Longitude: _____

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description

*Thickness
of
Stratum

Depth to
Bottom of
Stratum

gray sand

1'-2.5'

white sand

3'-4.5'

lt. tan/orange sand

5'-6.5'

tan / lt. brown sand

7'-7.5'

orange sand (pebbles)

8'-11'

orange pinkish tough

11.5'-19'

dry sandy clay

4. OWNER OF WELL: Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29504

Telephone No.: 843-669-0177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-13-99

18.78 ft.

Date Completed: 7-13-99

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

0.31 in. to 8.31 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: 0.010

Length: 10'

Set Between: 8.31 ft. and 18.31 ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

_____ ft. and _____ ft.

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

14.17

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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. direction

_____ Type well disinfected ☐ Yes Type: _____

upon completion ☐ No Amount: _____

16. PUMP: Date installed: _____ Not installed ☒

Mfr. Name: _____ Model No.: _____

HP _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine

☐ Jet (deep) ☐ Recirculating ☐ 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: Southeastern Environmental Inc.

Address: 323 Main St. Conway

Signed: [Signature] Cart. No.: 890



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal
Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES:

☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
<u>lt. tan sand</u>	<u>1'-3.5'</u>	
<u>orange/lt. brown sand</u>	<u>4'-6.5'</u>	
<u>lt. brown sand</u>	<u>7'-8.5'</u>	
<u>damp gray sandy clay</u>	<u>9'-10.5'</u>	
<u>lt. pinkish gray sandy clay</u>	<u>11'-13.5'</u>	
<u>more of a pinkish sandy clay</u>	<u>14'-16'</u>	
<u>tannish white wet sandy clay</u>	<u>16.5'-19.25'</u>	

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-0177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-13-99

18.85 ft.

Date Completed: 7-13-99

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"

Height: Above/Below

Type: ☒ PVC ☐ Galvanized

Surface _____ ft.

☐ Steel ☐ Other

Weight _____ lb./ft.

0.38 in. to 8.38 ft. depth

Drive Shoe? ☐ Yes ☐ No

_____ in. to _____ ft. depth

9. SCREEN

Type: PVC

Diam.: 2"

Slot/Gauge: 0.010

Length: 10'

Set Between: 8.38 ft. and 18.38 ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

_____ ft. and _____ ft.

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

13.58

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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

_____ Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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

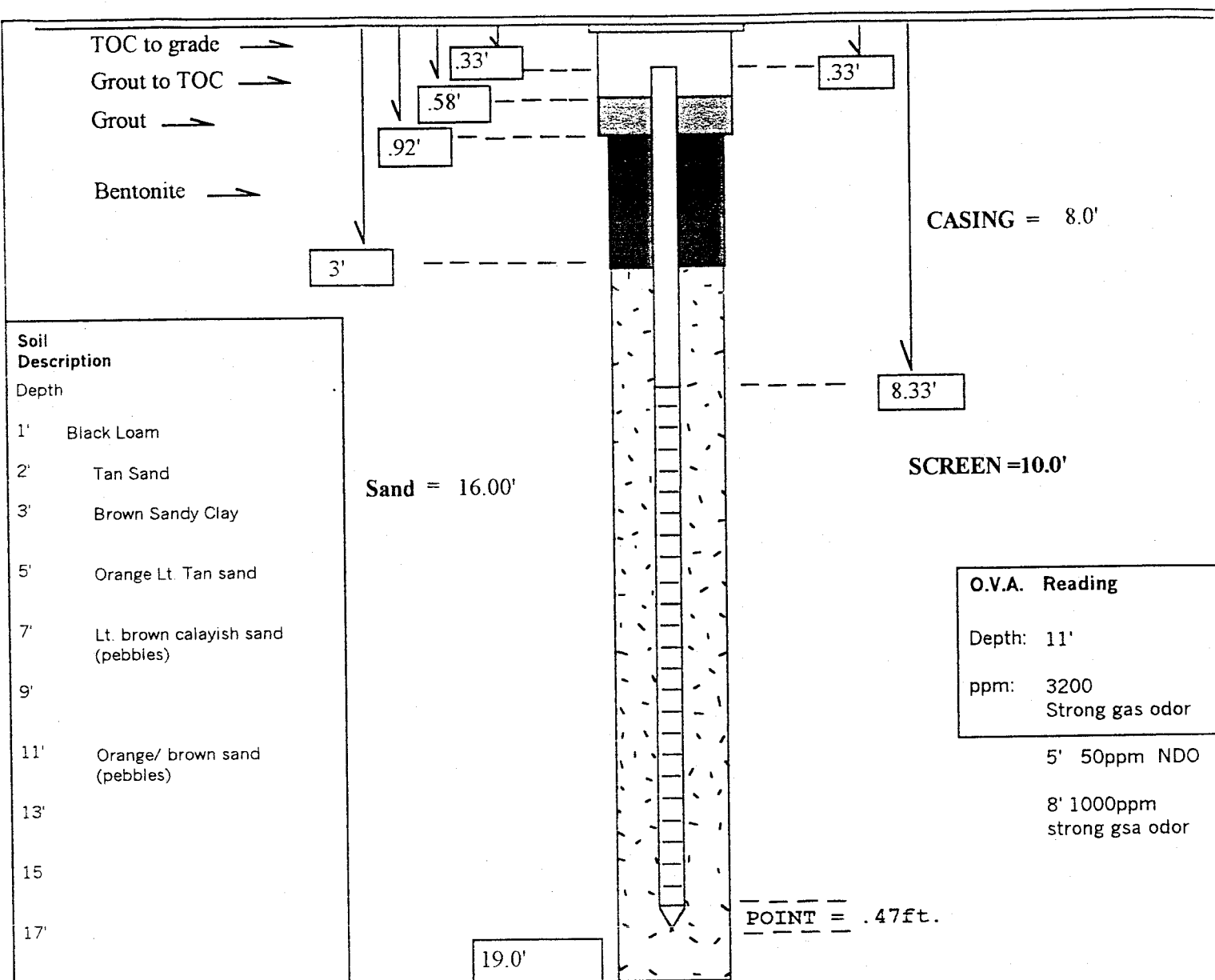
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

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: Southeastern Environmental Inc.

Address: 323 Main St, Conway

Signed: [Signature] Cart. No.: 880



SOUTHEASTERN ENVIRONMENTAL

Driller: JVB/JMH/AWB

Driller Lic. #: 880

Client: Coastal Truck Stop

Location: Hwy. 76/N. Koppers Rd. Florence SC

Date: 7/14/99

Site ID #: 03538

Well Depth: (Grade to Point) 18.8'

Well #: 4

Receptors/comments: Front well near corner of building/ tough layer @ 11'

Disposal Method for soil:



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence System Name: Coastal Truck Stop
ID # 03538

Latitude: _____ Longitude: _____

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
<u>black loam</u>	<u>1'-1.5'</u>	
<u>tan sand</u>	<u>2'-2.5'</u>	
<u>brown sandy clay</u>	<u>3'-4.5'</u>	
<u>orange H. tan sand</u>	<u>5'-6.5'</u>	
<u>lt. brown clayish sand (pebbles)</u>	<u>7'-10.5'</u>	
<u>orange/brown sand (pebbles)</u>	<u>11'-19'</u>	

4. OWNER OF WELL: Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

18.8 ft.

Date Started: 7-14-99

Date Completed: 7-14-99

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

0.33 in. to 8.33 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: 0.010 Length: 10'

Set Between: 8.33 ft. and 18.33 ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

13.87

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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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.

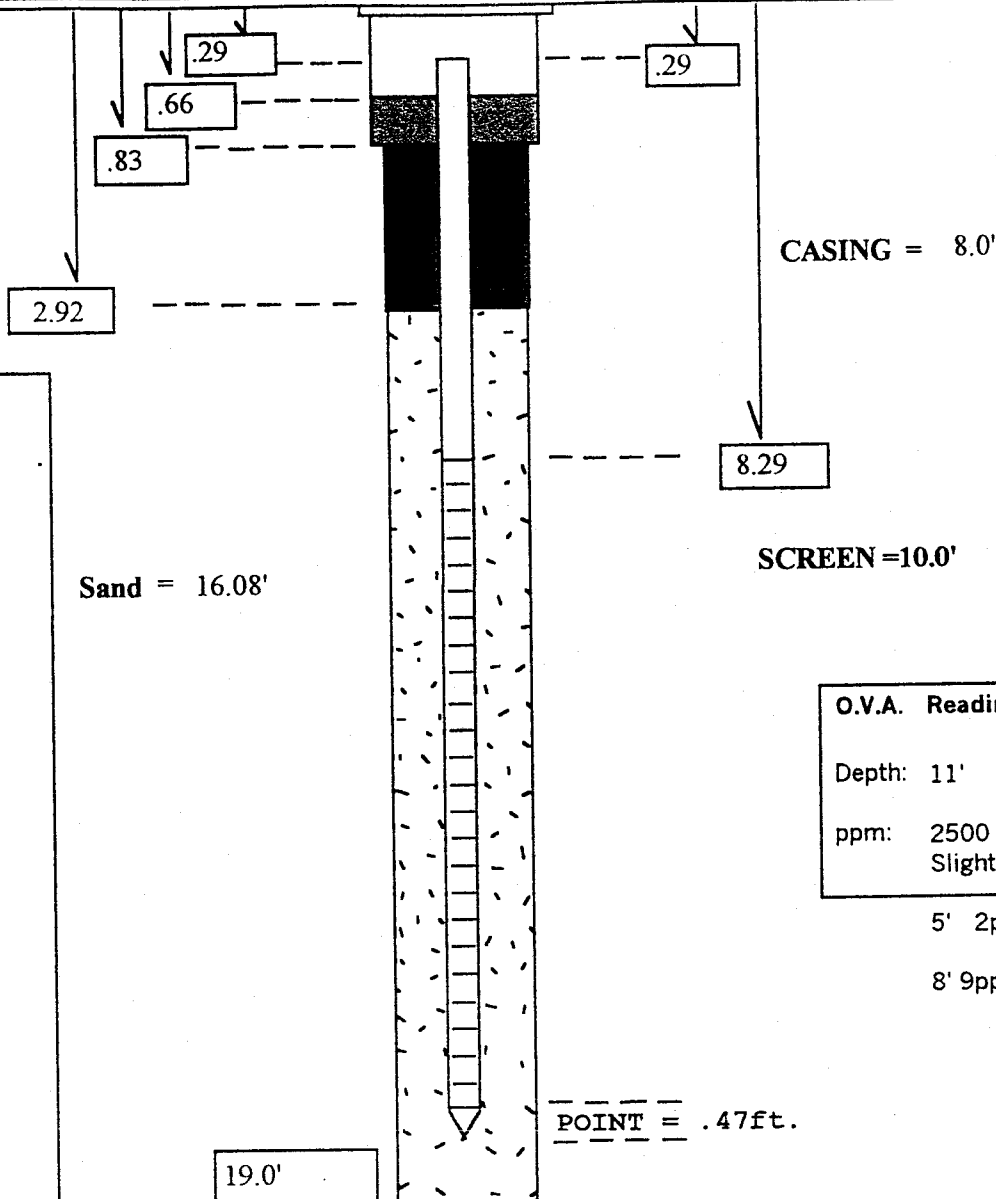
Registered Business Name: Southeastern Environmental Inc.

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 880

Authorized Representative

TOC to grade →
Grout to TOC →
Grout →
Bentonite →



Soil Description

Depth

1' Greyish Sandy Topsoil
2'
3' Lt. Tan sand.
5' Lt. Brown sand
Orange Brown Sand
7'
9' Lt. Brown sand (pebbles)
11' Red clayish sand.
13'
15' Lt. orange moist sandy clay
17'

Sand = 16.08'

SCREEN = 10.0'

O.V.A. Reading

Depth: 11'
ppm: 2500
Slight gas odor
5' 2ppm NDO
8' 9ppm NDO

POINT = .47ft.

SOUTHEASTERN ENVIRONMENTAL

Driller: JVB/JMH/AWB

Driller Lic. #: 880

Client: Coastal Truck Stop

Location: Hwy. 76/N. Koppers Rd. Florence SC

Date: 7/14/99

Site ID #: 03538

Well Depth: (Grade to Point) 18.76

Well #: 5

Receptors/comments: Well in driveway, 25 yds from road. Tough layer (11'-15')

Disposal Method for soil: some scattered, some barreled



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
<u>greyish sandy topsoil</u>	<u>1'-2.5'</u>	
<u>lt. tan sand</u>	<u>3'-3.5'</u>	
<u>lt. brown sand</u>	<u>4'-4.5'</u>	
<u>orange brown sand</u>	<u>5'-8.5'</u>	
<u>lt. brown sand (pebbles)</u>	<u>9'-11'</u>	
<u>red clayish sand</u>	<u>11.5'-15'</u>	
<u>lt. orange moist sandy clay</u>	<u>15.5'-19'</u>	

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

18.76 ft.

Date Started: 7-14-99

Date Completed: 7-14-99

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
0.29 in. to 8.29 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: 0.010 Length: 10'

Set Between: 8.29 ft. and 18.29 ft. NOTE: MULTIPLE SCREENS
ft. and ft. USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

13.28

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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____
upon completion ☐ No 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: Southeastern Environmental Inc. date: _____

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 880

Authorized Representative



Water Well Record
Bureau of Water
2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal
Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
<u>tan sandy topsoil</u>	<u>1'-1.5'</u>	
<u>orange</u>	<u>2'-2.5'</u>	
<u>white tan sand</u>	<u>3'-4.5'</u>	
<u>lt. brown sand</u>	<u>5'-8.5'</u>	
<u>orange red sand (pebble)</u>	<u>9'-15.5'</u>	
<u>lt. tan sand / lt. orange sand damp</u>	<u>16'-19'</u>	

4. OWNER OF WELL: Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-15-99

18.76 ft.

Date Completed: 7-15-99

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
0.29 in. to 8.29 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: 0.010

Length: 10'

Set Between: 8.29 ft. and 18.29 ft.
ft. and ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

14.49

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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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

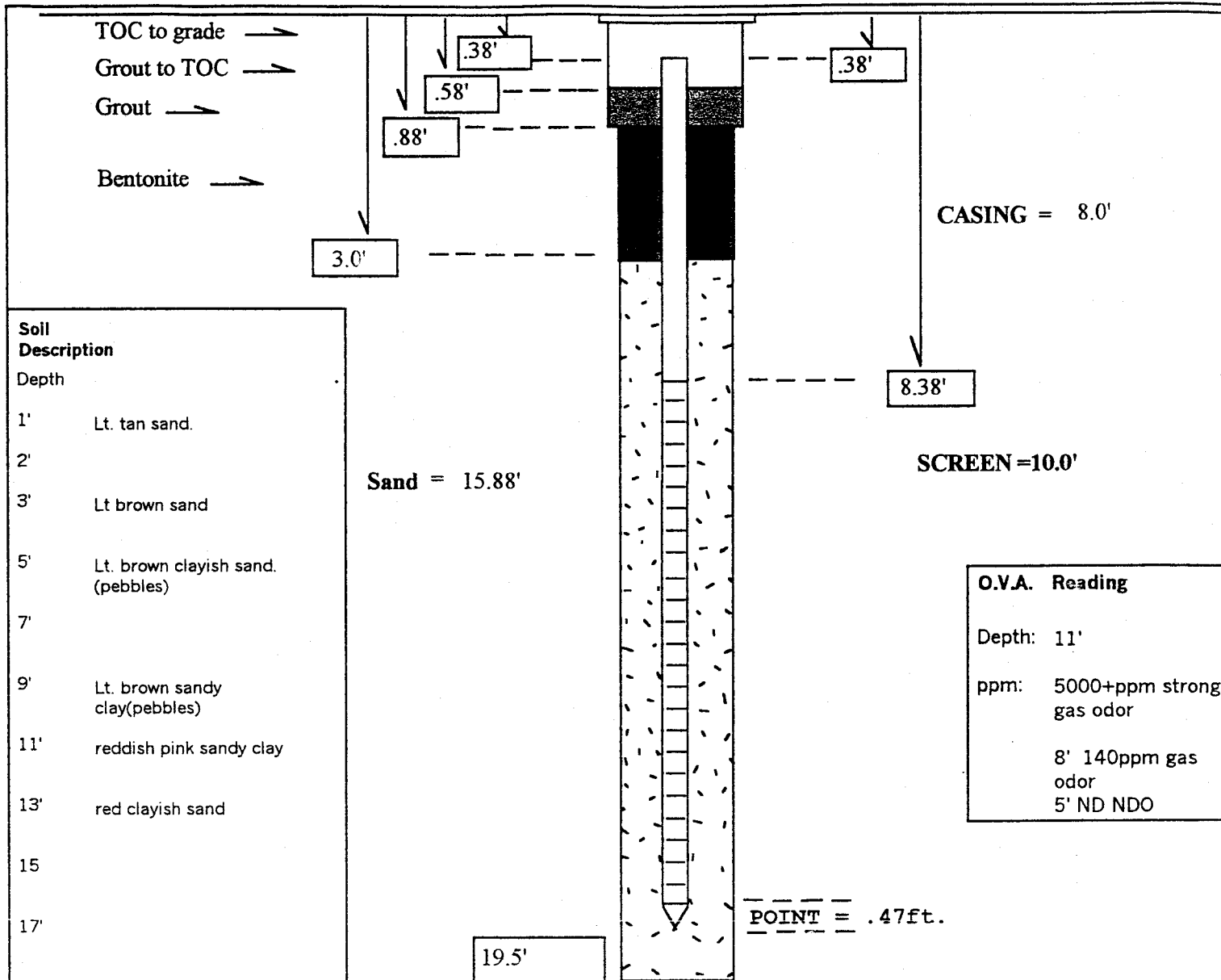
17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Registered Business Name: Southeastern Environmental Inc.

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 880

Authorized Representative



SOUTHEASTERN ENVIRONMENTAL

Driller: JVB/JMH/AWB

Driller Lic. #: 880

Client: Coastal Truck Stop

Location: Hwy. 76/N. Koppers Rd. Florence SC

Date: 7/15/99

Site ID #: 03538

Well Depth: (Grade to Point) 18.85

Well #: 7

Receptors/comments: Beside tank field. Smaller tough layer

Disposal Method for soil: barreled on site



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
1+. tan sand	1'-2.5'	
1+. brown sand	3'-4.5'	
1+. brown clayish sand (pebbles)	5'-8.5'	
1+. brown sandy clay (pebbles)	9'-10.5'	
reddish pink sandy clay	11'-12.5'	
red clayish sand	13'-19.5'	

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-15-99

18.85 ft.

Date Completed: 7-15-99

6. ☐ Mud Rotary ☐ Jetted ☒ Bored ☐ Dig
☐ 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

0.38 in. to 8.38 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: 0.010 Length: 10'

Set Between: 8.38 ft. and 18.38 ft.
_____ ft. and _____ ft. NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

12.93 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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

_____ Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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

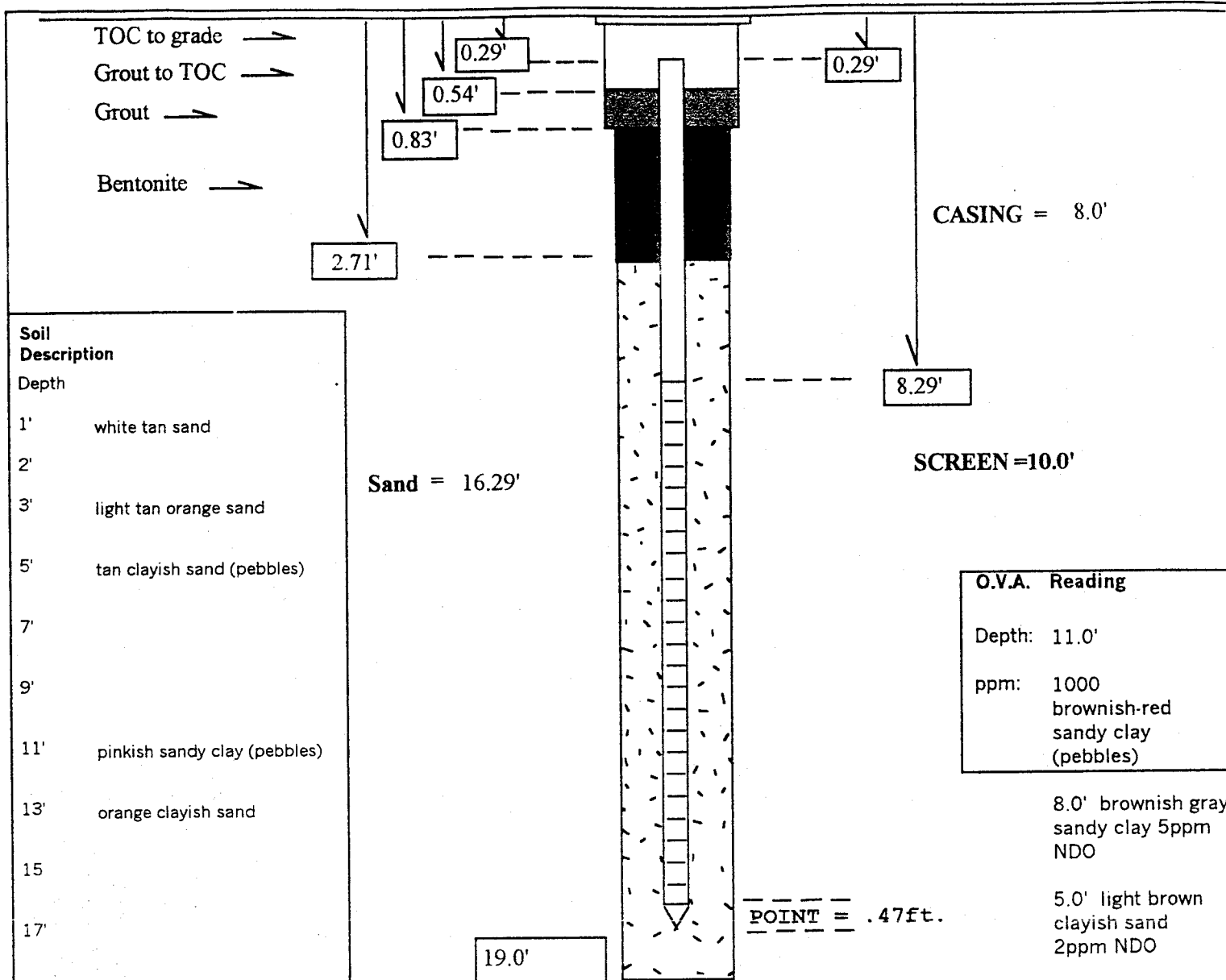
17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Registered Business Name: Southeastern Environmental Inc. Date: _____

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 770

Authorized Representative



SOUTHEASTERN ENVIRONMENTAL		Driller: JMH/JVB/AWB		Driller Lic. #: 1500	
Client: Coastal Truck Stop			Location: US Hwy. 76 and N. Koppers Road Florence, SC		
Date: 7/15/99 2:00pm		Site ID #: 03538		Well Depth: (Grade to Point) 18.76'	
Well #: 8		Receptors/comments: back south corner of property			
Disposal Method for soil: scattered on site					



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

see attached sheets

Street Address & City of Well Location:

Sketch Map:

see attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
<u>white tan sand</u>	<u>1'-2.5'</u>	
<u>light tan orange sand</u>	<u>3'-4.5'</u>	
<u>tan clayish sand (pebble)</u>	<u>5'-10.5'</u>	
<u>pinkish sandy clay (pebbles)</u>	<u>11'-12.5'</u>	
<u>orange clayish sand</u>	<u>13'-19'</u>	

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Dan McEachin
Address: 1007 Wentworth Drive
Florence, SC 29501
Telephone No.: 843-669-6177

Engineer: Bruce G. Newell
Address: 323 Main Street
Conway, SC 29526
Telephone No.: 843-248-3533

5. WELL DEPTH (completed) 18.76 ft. Date Started: 7-15-99

Date Completed: 7-15-99

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

0.29 in. to 8.29 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: 0.010

Length: 10'

Set Between: 8.29 ft. and 18.29 ft.

 ft. and ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

21.19 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 ft. to ft.

Effective size Uniformity Coefficient

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From ft. to ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction

Type well disinfected ☐ Yes Type:

upon completion ☐ No 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: Southeastern Environmental Inc.

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 880

Authorized Representative

ENVIRONMENTAL CONTROL ADDRESS (REV)



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal
Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
1. tan sandy loam	1'-4.5'	
1. brown sandy loam	5'-6.5'	
orange brown sandy loam	7'-7.5'	
orange brown sandy clay	7.5'-13'	
tan/orange wet sandy clay	13.5'-19.5'	

4. OWNER OF WELL: Dan McEachin
Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-13-99

18.8 ft.

Date Completed: 7-13-99

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

0.33 in. to 8.33 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: 0.010

Length: 10'

Set Between: 8.33 ft. and 18.33 ft.

 ft. and ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

13.48

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 ft. to ft.

Effective size Uniformity Coefficient

14. WELL GROUTED: ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From ft. to ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction

Type well disinfected ☐ Yes Type:

upon completion ☐ No 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: Southeastern Environmental Inc. Date:

Address: 323 Main St. Conway

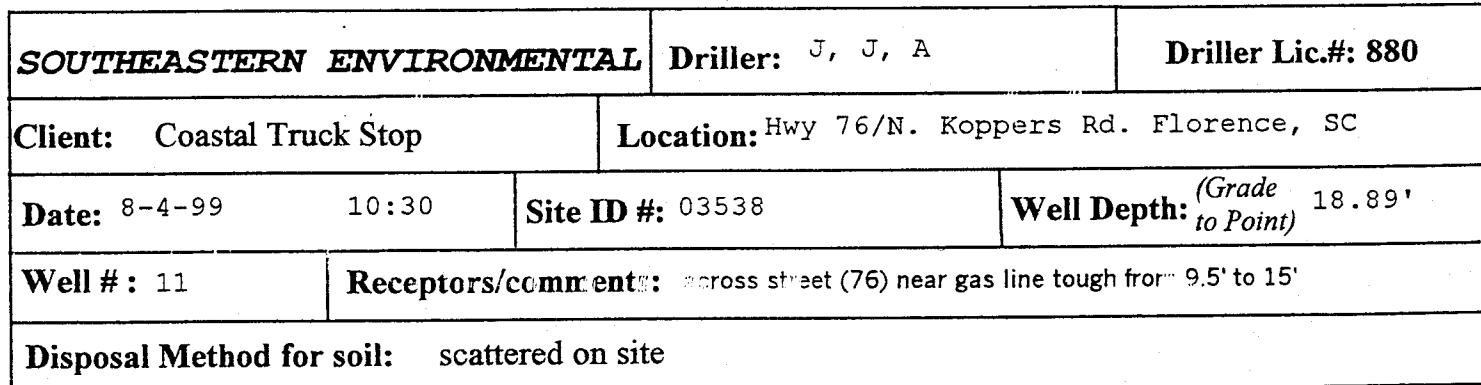
Signed: [Signature] Cert. No. 830

Authorized Representative

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:





Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
gray brown sand	1'-1.5'	
lt tan sand	2'-2.5'	
tan sand some brown	3'-4.5'	
Fine lt. tan/Orange sand	5'-7'	
fine lt. brown sand	7.5'-9.5'	
Sandy clay (marble)	10'-11'	
lt. red sandy clay	11.5'-19'	

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

18.89 ft.

Date Started: 8-4-99

Date Completed: 8-4-99

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

0.42 in. to 8.42 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: 0.010

Length: 10'

Set Between: 8.42 ft. and 18.42 ft.

_____ ft. and _____ ft.

Sieve Analysis ☐ Yes (please enclose) ☐ No

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

10. STATIC WATER LEVEL

15.03

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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

_____ Type well disinfected ☐ Yes Type: _____

_____ upon completion ☐ No 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

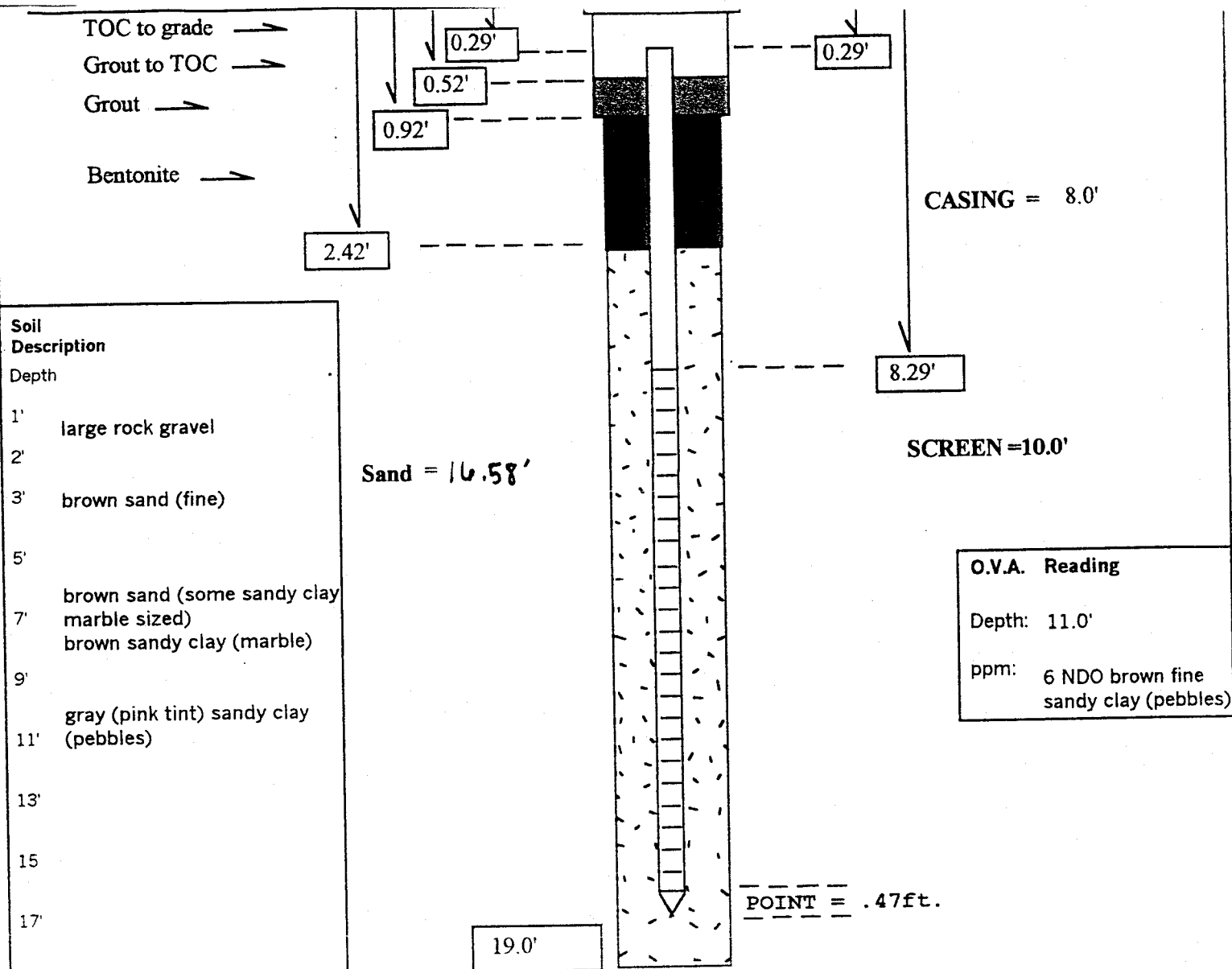
17. WATER WELL CONTRACTOR'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Registered Business Name: Southeastern Environmental Inc. Date: _____

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 880

Authorized Representative



SOUTHEASTERN ENVIRONMENTAL		Driller: J, J, A		Driller Lic. #: 880	
Client: CTS			Location: Hwy 76/N. Koppers Road Florence, SC		
Date: 8-4-99 4:00		Site ID #: 03538		Well Depth: (Grade to Point) 18.76'	
Well #: 14		Receptors/comments: in back tough layer 10.0' to 13.0'			
Disposal Method for soil: barreled and stored on site					



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES: ☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
<u>large rock gravel</u>	<u>1'-2.5'</u>	
<u>fine brown sand</u>	<u>3'-5.5'</u>	
<u>brown sand (some sandy clay) marble sized</u>	<u>6'-7'</u>	
<u>brown sandy clay (marble)</u>	<u>7.5'-9.5'</u>	
<u>gray (pink tint) sandy clay (pebble sized)</u>	<u>10'-19'</u>	

4. OWNER OF WELL: Dan McEachin
Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-1177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 8-4-99

18.76 ft.

Date Completed: 8-4-99

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

0.29 in. to 8.29 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: 0.010

Length: 10'

Set Between: 8.29 ft. and 18.29 ft.
ft. and _____ ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

13.57 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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Pentrite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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: Southeastern Environmental Inc. Date: _____

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 880

Authorized Representative

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

APPENDIX B

Slug Test Data And Calculations

Slug Test Data

Project: Coastal Truck Stop

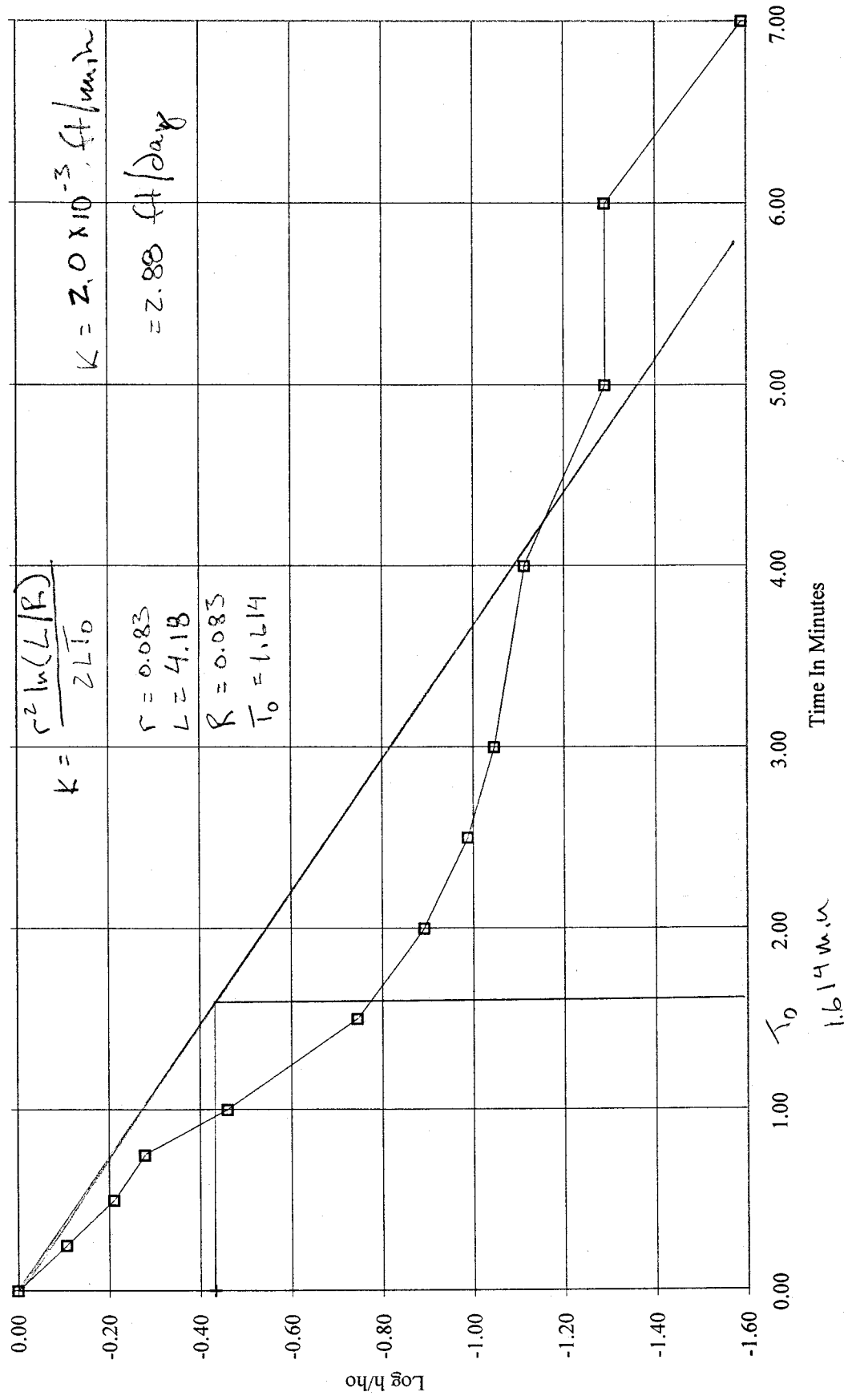
Monitoring Well : MW-1

Static Level: 14.13

T (minutes)	Depth to Groundwater	h	h _o	h/h _o	log(h/h _o)	
0.00	14.91	0.78	0.78	1.00	0.00	-0.43
0.25	14.74	0.61		0.78	-0.11	
0.50	14.61	0.48		0.62	-0.21	
0.75	14.54	0.41		0.53	-0.28	
1.00	14.40	0.27		0.35	-0.46	
1.50	14.27	0.14		0.18	-0.75	
2.00	14.23	0.10		0.13	-0.89	
2.50	14.21	0.08		0.10	-0.99	
3.00	14.20	0.07		0.09	-1.05	
4.00	14.19	0.06		0.08	-1.11	
5.00	14.17	0.04		0.05	-1.29	
6.00	14.17	0.04		0.05	-1.29	
7.00	14.15	0.02		0.03	-1.59	

Current

Slug Test Analysis
MW-4



Slug Test Data

Project: Coastal Truck Stop

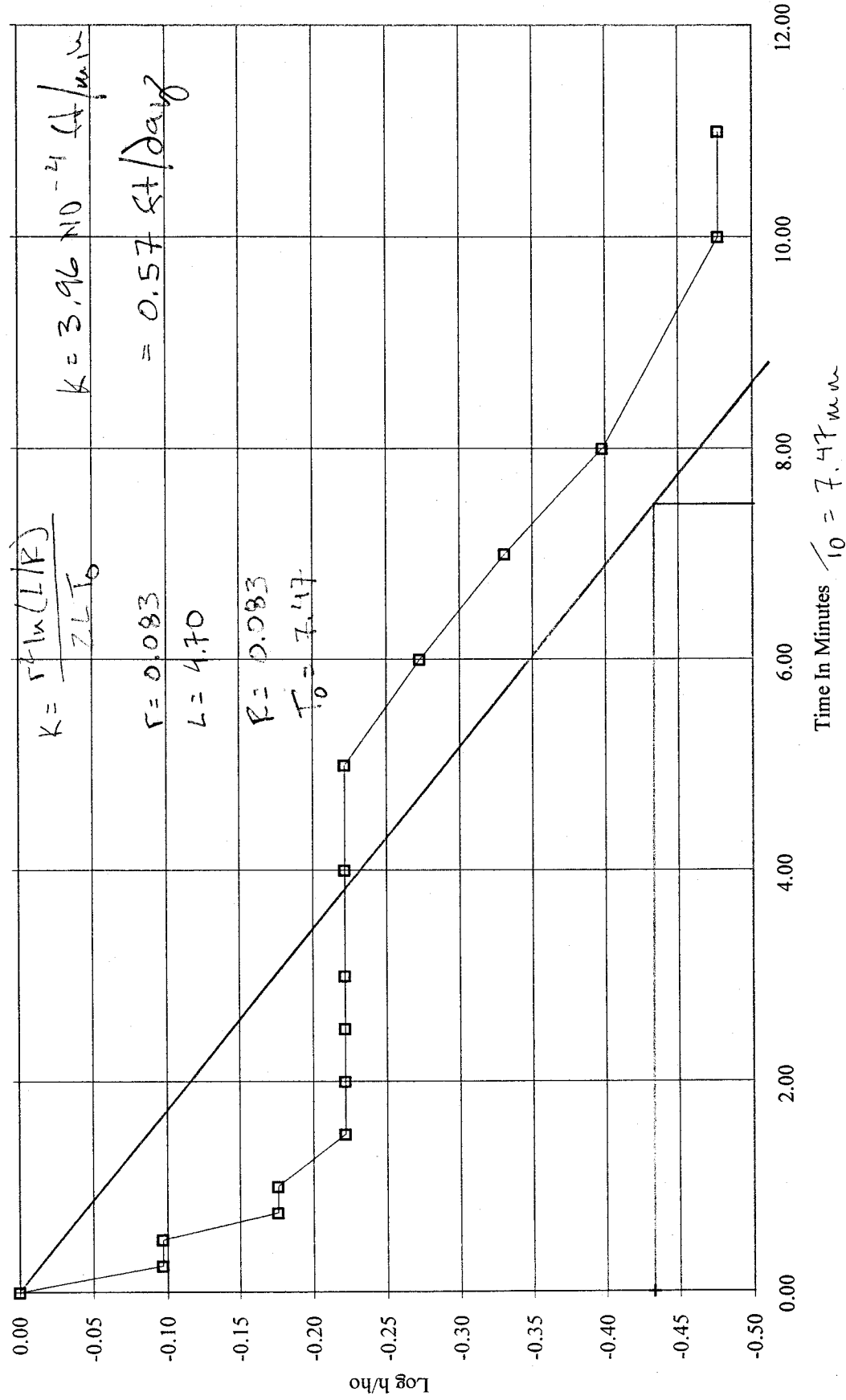
Monitoring Well : MW-2

Static Level: 13.68

T (minutes)	Depth to Groundwater	h	ho	h/ho	log(h/ho)	
0.00	13.83	0.15	0.15	1.00	0.00	-0.43
0.25	13.80	0.12		0.80	-0.10	
0.50	13.80	0.12		0.80	-0.10	
0.75	13.78	0.10		0.67	-0.18	
1.00	13.78	0.10		0.67	-0.18	
1.50	13.77	0.09		0.60	-0.22	
2.00	13.77	0.09		0.60	-0.22	
2.50	13.77	0.09		0.60	-0.22	
3.00	13.77	0.09		0.60	-0.22	
4.00	13.77	0.09		0.60	-0.22	
5.00	13.77	0.09		0.60	-0.22	
6.00	13.76	0.08		0.53	-0.27	
7.00	13.75	0.07		0.47	-0.33	
8.00	13.74	0.06		0.40	-0.40	
10.00	13.73	0.05		0.33	-0.48	
11.00	13.73	0.05		0.33	-0.48	
12.00	13.72	0.04		0.27	-0.57	
13.00	13.71	0.03		0.20	-0.70	
15.00	13.71	0.03		0.20	-0.70	
17.00	13.70	0.02		0.13	-0.88	

Current

Slug Test Analysis
MW-2



Slug Test Data

Project: Coastal Truck Stop

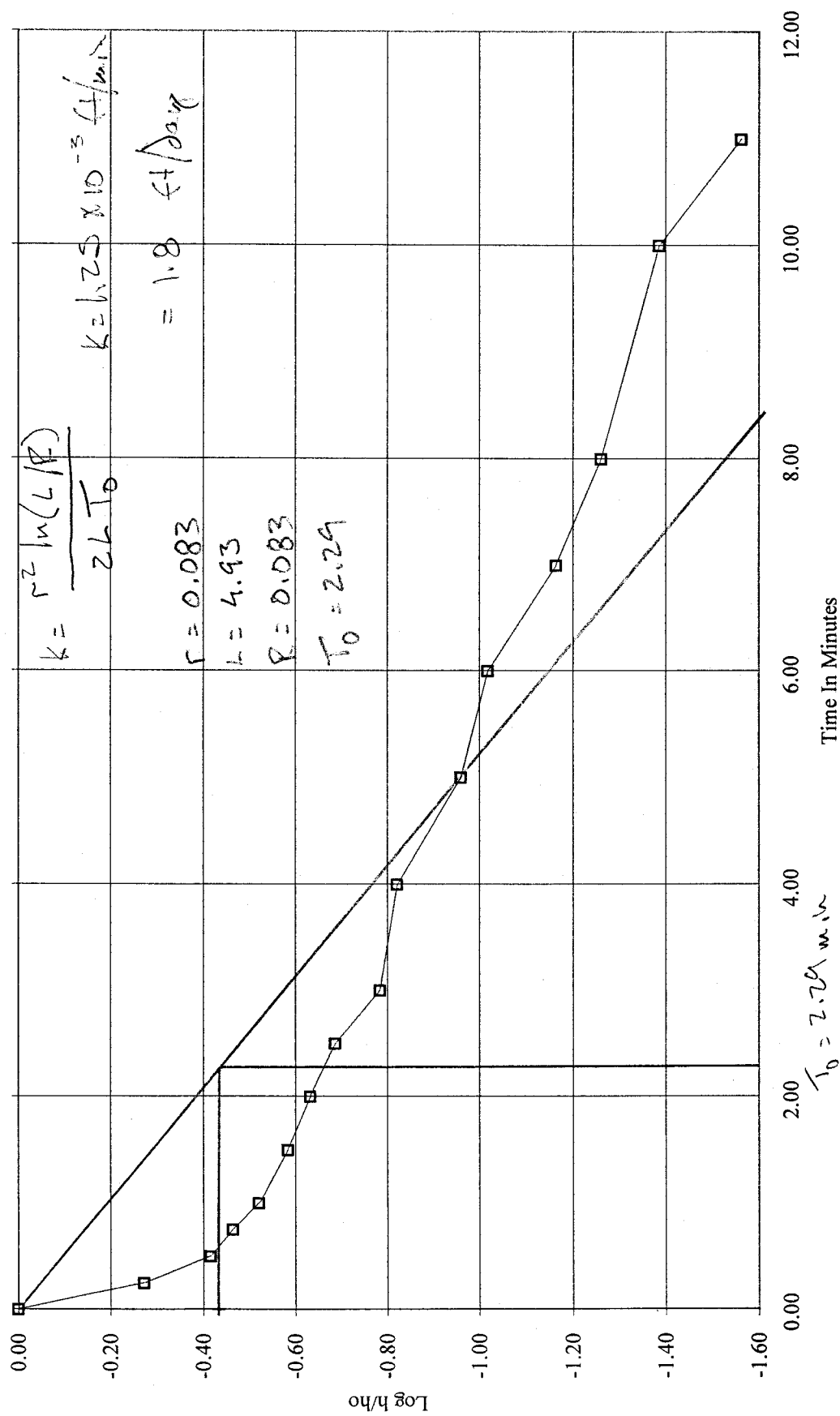
Monitoring Well : MW-5

Static Level: 13.36

T (minutes)	Depth to Groundwater	h	h ₀	h/h ₀	log(h/h ₀)	
0.00	14.09	0.73	0.73	1.00	0.00	-0.43
0.25	13.75	0.39		0.53	-0.27	
0.50	13.64	0.28		0.38	-0.42	
0.75	13.61	0.25		0.34	-0.47	
1.00	13.58	0.22		0.30	-0.52	
1.50	13.55	0.19		0.26	-0.58	
2.00	13.53	0.17		0.23	-0.63	
2.50	13.51	0.15		0.21	-0.69	
3.00	13.48	0.12		0.16	-0.78	
4.00	13.47	0.11		0.15	-0.82	
5.00	13.44	0.08		0.11	-0.96	
6.00	13.43	0.07		0.10	-1.02	
7.00	13.41	0.05		0.07	-1.16	
8.00	13.40	0.04		0.05	-1.26	
10.00	13.39	0.03		0.04	-1.39	
11.00	13.38	0.02		0.03	-1.56	
12.00	13.37	0.01		0.01	-1.86	
13.00	13.37	0.01		0.01	-1.86	
15.00	13.37	0.01		0.01	-1.86	
17.00	13.37	0.01		0.01	-1.86	

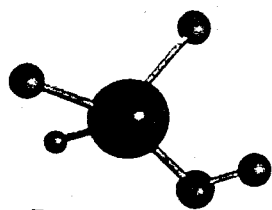
Current

Slug Test Analysis
MW-5



APPENDIX C

Analytical Reports For Soil Samples



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street
Conway, SC 29526

Page 1
October 20, 1999
Report # 9910000765
Order # 90096147
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW9
Collected: 10/14/99 10:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Percent Solids	83	%	160.3(ASTM-D2216	0.01	10/17/1999	10/17/1999	09:39JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
SURROGATE: Toluene-D8	99.50%						
SURROGATE: 1,2-DCB-D4	97.00%						
SURROGATE: Dibromofluoromethane	102.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 2
October 20, 1999
Report # 9910000765
Order # 90096147
South Carolina Cert ID# 96023

Sample I.D.: MW9
Collected: 10/14/99 10:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:20	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:20	MD
SURROGATE: D5-Nitrobenzene	55.60%						
SURROGATE: 2-Fluorobiphenyl	59.90%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 3
August 6, 1999
Report # 9907000772
Order # 90064745
South Carolina Cert ID# 96023

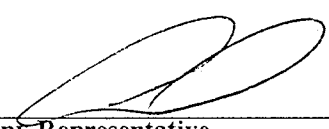
Sample I.D.: MW4
Collected: 07/14/99 12:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	89.00%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 4
August 6, 1999
Report # 9907000772
Order # 90064746
South Carolina Cert ID# 96023

Sample I.D.: MW5
Collected: 07/14/99 13:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	84	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:12JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	10:02 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
Toluene	14.6	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
Ethylbenzene	130	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
m & p-Xylene	589	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
o-Xylene	242	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
Naphthalene	809	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
SURROGATE: Toluene-D8	114.00%						
SURROGATE: 1,-DCB-D4	67.00%						
SURROGATE: Dibromofluoromethane	86.75%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 5
August 6, 1999
Report # 9907000772
Order # 90064746
South Carolina Cert ID# 96023

Sample I.D.: MW5
Collected: 07/14/99 13:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:56	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:56	MD
SURROGATE: D5-Nitrobenzene	82.70%						
SURROGATE: 2-Fluorobiphenyl	64.90%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 6
August 6, 1999
Report # 9907000772
Order # 90064746
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW5
Collected: 07/14/99 13:30
Received: 07/16/99 09:00
Collected by: Client

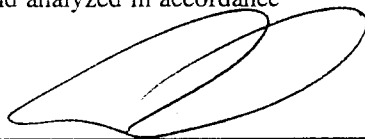
PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	101.00%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Project Submission # 791/027-772 64745-64746

PO #:

Company Name:

Southeastern Environmental, Inc.

Address:

323 Main Street

City:

Conway,

State:

SC

Zip:

29526

Project Name:

Coastal Truck Stop

Report To:

Bruce G. Newell

Sample Label

Date Collected

Time Collected

Matr.

of Cont

mw 4

7/14/99

12:30

5

3

mw 5

7/14/99

1:30

5

3

REQUESTED LAB ANALYSIS

PARAMETER

BTEX

Naph

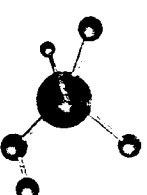
PAH

64745

NOTES / COMMENTS

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243



ACCESS
ANALYTICAL, INC.

Turnaround Time Requested:

☒ Std. (5-7 Bus. days)

☐ RUSH*

*Date Required:

Samples Recd. on Ice?

☒ Yes
☐ No

Project Location:

☒ SC
☐ NC

Other (specify)

Relinquished By:

John G. Gable
File

Date:

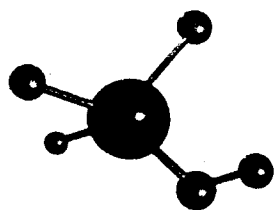
7/15/99

Time:

4:45 pm
9:00

Received By:

SL
8



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 1
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Sample I.D.: MW-6

Collected: 07/15/99 10:00

Received: 07/17/99 09:30

Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Percent Solids	84	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:14JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Toluene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
SURROGATE: Toluene-D8	101.00%						
SURROGATE: 1,-DCB-D4	111.75%						
SURROGATE: Dibromofluoromethane	97.25%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 2
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Sample I.D.: MW-6
Collected: 07/15/99 10:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
SURROGATE: D5-Nitrobenzene	57.10%						
SURROGATE: 2-Fluorobiphenyl	43.60%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 3
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-6
Collected: 07/15/99 10:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	55.60%						

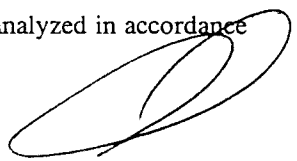
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

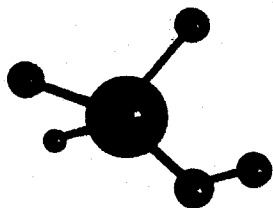
Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
10200 USA Today Way, Miramar Florida 33025. (954) 431-4550 (South Carolina Cert ID# 96023)

Certs: Al. = #41180, Ct. = #PH0217, Ks. = #E270 + E1245, Ky. = #90087, La. = #9601, Md. = #271, Ma. = #M-FL535
NC. = #539, 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



ACCESS
ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Tech. File # 03538

Page 1
July 18, 1999
Report # 9907000720
Order # 90064402
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

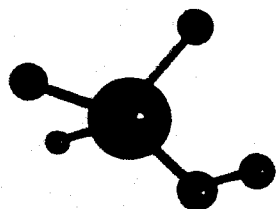
Sample I.D.: MW-1

Collected: 07/13/99 10:00

Received: 07/15/99 09:30

Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	84.8	%	160.3(ASTM-D2216	0.01	07/17/1999	07/17/1999	10:48SMF
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	155	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Toluene	11000	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Ethylbenzene	10600	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
m & p-Xylene	32100	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
o-Xylene	13500	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Naphthalene	2560	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
SURROGATE: Toluene-D8	109.25%						
SURROGATE: 1,-DCB-D4	75.50%						
SURROGATE: Dibromofluoromethane	85.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	1.97	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
2-Methylnaphthalene	2.37	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
1-Methylnaphthalene	1.20	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-6

Collected: 07/15/99 10:00

Received: 07/17/99 09:30

Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	84	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:14JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Toluene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	10:21 MGC
SURROGATE: Toluene-D8	101.00%						
SURROGATE: 1,-DCB-D4	111.75%						
SURROGATE: Dibromofluoromethane	97.25%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 2
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-6
Collected: 07/15/99 10:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
SURROGATE: D5-Nitrobenzene	57.10%						
SURROGATE: 2-Fluorobiphenyl	43.60%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 3
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

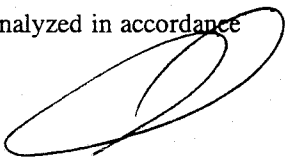
Sample I.D.: MW-6
Collected: 07/15/99 10:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	55.60%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC.=#539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 4
July 21, 1999
Report # 9907000871
Order # 90065409
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-7
Collected: 07/15/99 11:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	84	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:14JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Toluene	266	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Ethylbenzene	2450	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
m & p-Xylene	8770	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
o-Xylene	1960	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Naphthalene	174	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
SURROGATE: Toluene-D8	106.50%						
SURROGATE: 1,-DCB-D4	106.25%						
SURROGATE: Dibromofluoromethane	97.25%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 5
July 21, 1999
Report # 9907000871
Order # 90065409
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-7
Collected: 07/15/99 11:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
SURROGATE: D5-Nitrobenzene	85.00%						
SURROGATE: 2-Fluorobiphenyl	50.20%						

Bruce G. Newell
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323 Main Street

Conway, SC 29526

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July 21, 1999
Report # 9907000871
Order # 90065409
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-7
Collected: 07/15/99 11:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	73.70%						

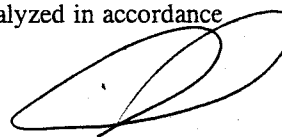
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC.=#539, 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

Bruce G. Newell
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323 Main Street

Conway, SC 29526

Page 7
July 21, 1999
Report # 9907000871
Order # 90065410
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-8
Collected: 07/15/99 01:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	83	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:14JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:24 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:40 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:24 PMD
Ethylbenzene	10.1	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:24 PMD
m & p-Xylene	41.2	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:24 PMD
o-Xylene	13.0	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:24 PMD
Naphthalene	12.8	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:24 PMD
SURROGATE: Toluene-D8	103.00%						
SURROGATE: 1,-DCB-D4	111.50%						
SURROGATE: Dibromofluoromethane	91.75%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	14:20 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

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July 21, 1999
Report # 9907000871
Order # 90065410
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-8
Collected: 07/15/99 01:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 14:20	MEC
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 14:20	MEC
SURROGATE: D5-Nitrobenzene	63.00%						
SURROGATE: 2-Fluorobiphenyl	47.80%						

Bruce G. Newell
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July 21, 1999
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Order # 90065410
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Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-8
Collected: 07/15/99 01:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	68.70%						

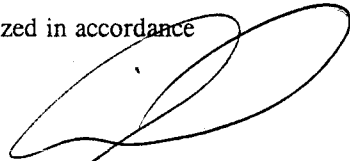
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

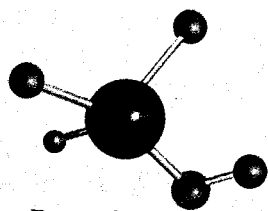
Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
10200 USA Today Way, Miramar Florida 33025. (954) 431-4550 (South Carolina Cert ID# 96023)

Certs: Al. = #41180, Ct. = #PH0217, Ks. = #E270 + E1245, Ky. = #90087, La. = #9601, Md. = #271, Ma. = #M-FL535
NC. = #539, 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



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

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October 20, 1999
Report # 9910000765
Order # 90096147
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW9
Collected: 10/14/99 10:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	83	%	160.3(ASTM-D2216	0.01	10/17/1999	10/17/1999	09:39JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:13 PMD
SURROGATE: Toluene-D8	99.50%						
SURROGATE: 1,-DCB-D4	97.00%						
SURROGATE: Dibromofluoromethane	102.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:20 MD

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Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

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October 20, 1999
Report # 9910000765
Order # 90096147
South Carolina Cert ID# 96023

Sample I.D.: MW9
Collected: 10/14/99 10:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:20	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:20	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:20	MD
SURROGATE: D5-Nitrobenzene	55.60%						
SURROGATE: 2-Fluorobiphenyl	59.90%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

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October 20, 1999
Report # 9910000765
Order # 90096147
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

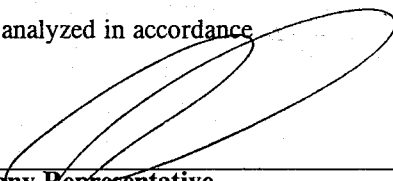
Sample I.D.: MW9
Collected: 10/14/99 10:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	69.20%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

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October 20, 1999
Report # 9910000765
Order # 90096148
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW10
Collected: 10/14/99 11:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	85	%	160.3(ASTM-D2216	0.01	10/17/1999	10/17/1999	09:39JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
SURROGATE: Toluene-D8	99.00%						
SURROGATE: 1,-DCB-D4	98.50%						
SURROGATE: Dibromofluoromethane	90.00%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD

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Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 5
October 20, 1999
Report # 9910000765
Order # 90096148
South Carolina Cert ID# 96023

Sample I.D.: MW10
Collected: 10/14/99 11:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:21	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:21	MD
SURROGATE: D5-Nitrobenzene	56.10%						
SURROGATE: 2-Fluorobiphenyl	63.70%						

Bruce G. Newell
Southeastern Environmental Inc
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Conway, SC 29526

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October 20, 1999
Report # 9910000765
Order # 90096150
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW14
Collected: 10/14/99 10:15
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	89	%	160.3(ASTM-D2216	0.01	10/17/1999	10/17/1999	09:39JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
SURROGATE: Toluene-D8	97.50%						
SURROGATE: 1,-DCB-D4	98.50%						
SURROGATE: Dibromofluoromethane	95.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD

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323 Main Street

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October 20, 1999
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Order # 90096150
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

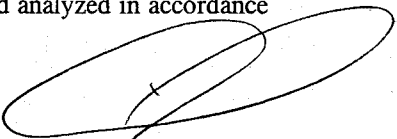
Sample I.D.: MW14
Collected: 10/14/99 10:15
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	84.50%						

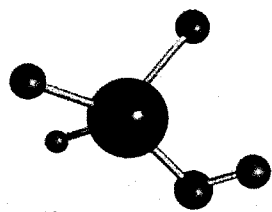
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
September 1, 1999
Report # 9908001386
Order # 90078526
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: CTS Telescoping
Collected: 08/24/99 19:00
Received: 08/27/99 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	89.5	%	160.3(ASTM-D2216	0.01	08/28/1999	08/28/1999	14:06IVR
Carbon, Total Organic	42.7	mg/Kg	9060 {N&S}	1.0	08/31/1999	09/01/1999	09:25SN
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	78.5	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Benzene	104	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Toluene	1640	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Ethylbenzene	1380	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
m & p-Xylene	6380	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
o-Xylene	2340	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Naphthalene	5810	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
SURROGATE: Toluene-D8	101.50%						
SURROGATE: 1,-DCB-D4	104.50%						
SURROGATE: Dibromofluoromethane	104.00%						
SC-DRO (Petroleum Hydrocarbons)-{SOILS}			MEDF	1			

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 2
September 1, 1999
Report # 9908001386
Order # 90078526
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: CTS Telescoping
Collected: 08/24/99 19:00
Received: 08/27/99 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Diesel Range Org (C10-C28)	14.8	mg/Kg	3550/8015(mod)	5.000	08/31/1999	09/01/1999 08:26	FEB

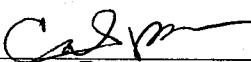
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effectuated Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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NC. = #539, ND. = #R163, OK. = #9523, SC. = #96023, Tn. = #TN02826

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with all methodology requirements.



Company Representative

Project Submission #: 99107-871 9-65408 65410

PO #:



**ACCESS
ANALYTICAL, INC.**

Phone: (803) 781-4243
Fax: 781-4303

1248 Lake Murray Blvd.
Irmo, SC 29063

Toll Free (888) 315-4243

Bruce G. Newell
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323 Main Street

Conway, SC 29526

Page 2
July 18, 1999
Report # 9907000720
Order # 90064402
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-1
Collected: 07/13/99 10:00
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:06	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:06	MD
SURROGATE: D5-Nitrobenzene	53.50%						
SURROGATE: 2-Fluorobiphenyl	49.80%						

Bruce G. Newell
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Conway, SC 29526

Page 3
July 18, 1999
Report # 9907000720
Order # 90064402
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-1
Collected: 07/13/99 10:00
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	70.50%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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10200 USA Today Way, Miramar Florida 33025. (954) 431-4550 (South Carolina Cert ID# 96023)
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NC.=#539, ND.=#R163, OK.=#9523, SC.=#96023, Tn.=#TN02826
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Company Representative

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 4
July 18, 1999
Report # 9907000720
Order # 90064403
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-2
Collected: 07/13/99 11:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	85.1	%	160.3(ASTM-D2216	0.01	07/17/1999	07/17/1999	10:48SMF
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	10			
Methyl-Tert-Butyl-Ether	58.2	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Benzene	181	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Toluene	11900000	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Ethylbenzene	4790	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
m & p-Xylene	16000	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
o-Xylene	4850	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Naphthalene	255	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
SURROGATE: Toluene-D8	111.00%						
SURROGATE: 1,-DCB-D4	68.25%						
SURROGATE: Dibromofluoromethane	98.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD

Bruce G. Newell
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323 Main Street

Conway, SC 29526

Page 5
July 18, 1999
Report # 9907000720
Order # 90064403
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-2
Collected: 07/13/99 11:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:08	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:08	MD
SURROGATE: D5-Nitrobenzene	63.60%						
SURROGATE: 2-Fluorobiphenyl	70.50%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 6
July 18, 1999
Report # 9907000720
Order # 90064403
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-2
Collected: 07/13/99 11:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	85.70%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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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
NC.=#539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 7
July 18, 1999
Report # 9907000720
Order # 90064404
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-3
Collected: 07/13/99 01:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	83.7	%	160.3(ASTM-D2216	0.01	07/17/1999	07/17/1999	10:48SMF
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	8.3	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Toluene	1400	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Ethylbenzene	1240	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
m & p-Xylene	4660	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
o-Xylene	1720	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Naphthalene	209	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
SURROGATE: Toluene-D8	113.75%						
SURROGATE: 1,-DCB-D4	65.00%						
SURROGATE: Dibromofluoromethane	95.00%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 8
July 18, 1999
Report # 9907000720
Order # 90064404
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-3
Collected: 07/13/99 01:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:09	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:09	MD
SURROGATE: D5-Nitrobenzene	64.80%						
SURROGATE: 2-Fluorobiphenyl	70.70%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 9
July 18, 1999
Report # 9907000720
Order # 90064404
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

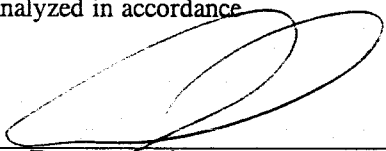
Sample I.D.: MW-3
Collected: 07/13/99 01:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	73.70%						

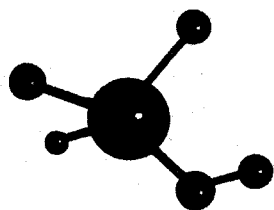
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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certs: Al. = #41180, Ct. = #PH0217, Ks. = #E270 + E1245, Ky. = #90087, La. = #9601, Md. = #271, Ma. = #M-FL535
NC. = #539, 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



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
August 6, 1999
Report # 9907000772
Order # 90064745
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW4
Collected: 07/14/99 12:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	85	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:12JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	10:01 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
Toluene	43.5	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
Ethylbenzene	449	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
m & p-Xylene	1660	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
o-Xylene	672	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
Naphthalene	428	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
SURROGATE: Toluene-D8	113.00%						
SURROGATE: 1,2-DCB-D4	59.25%						
SURROGATE: Dibromofluoromethane	89.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Benzo(h)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 2
August 6, 1999
Report # 9907000772
Order # 90064745
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW4
Collected: 07/14/99 12:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:54	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:54	MD
SURROGATE: D5-Nitrobenzene	57.90%						
SURROGATE: 2-Fluorobiphenyl	40.00%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 3
August 6, 1999
Report # 9907000772
Order # 90064745
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW4
Collected: 07/14/99 12:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	89.00%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 4
August 6, 1999
Report # 9907000772
Order # 90064746
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW5
Collected: 07/14/99 13:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	84	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:12JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	10:02 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
Toluene	14.6	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
Ethylbenzene	130	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
m & p-Xylene	589	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
o-Xylene	242	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
Naphthalene	809	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:42 PMD
SURROGATE: Toluene-D8	114.00%						
SURROGATE: 1,-DCB-D4	67.00%						
SURROGATE: Dibromofluoromethane	86.75%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:56 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 5
August 6, 1999
Report # 9907000772
Order # 90064746
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW5
Collected: 07/14/99 13:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:56	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:56	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:56	MD
SURROGATE: D5-Nitrobenzene	82.70%						
SURROGATE: 2-Fluorobiphenyl	64.90%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 6
August 6, 1999
Report # 9907000772
Order # 90064746
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

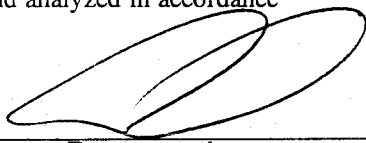
Sample I.D.: MW5
Collected: 07/14/99 13:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	101.00%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Access Analytical - Chain of Custody Record

Project Submission #:

99107-720

9-64402 64404

PO #:

Company Name:

Southeastern Environmental, Inc.

Address:

323 Main Street

City:

Conway SC 29526

State:

Zip:

Project Name:

Coastal Truck Stop

Report To:

Bruce G. Newell

Sample Label

Date Collected

Time Collected

Mat. Cont.

Mat. Cont.

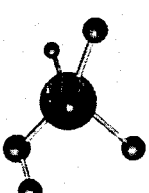
REQUSTED LAB ANALYSIS

BTEX

NAPTH

PAH

NOTES / COMMENTS



ACCESS ANALYTICAL, INC.

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243

MW 1

7/13/99

10:00

S

3

64402

11' - 5000 ppm

MW 2

7/13/99

11:30

S

3

64403

11' - 3200 ppm

MW 3

7/13/99

1:30

S

3

64404

11' - 5000 ppm

Nothing follows

Turnaround Time Requested:

Std. (5-7 Bus days)

RUSH*

Date Required:

Samples Recd. on Ice?

Yes

No

Project Location:

SC

NC

Other (specify)

Relinquished By:

Jim Garrett

Date:

7/14/99

Time:

500 PM

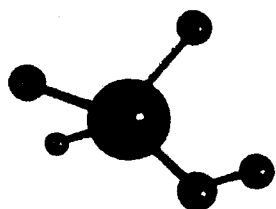
Received By:

SCA Re

Project Submission #: 99/027-772 64745-64746

•

Original Copy - Returned w/Report
Yellow Copy - Access Analytical Copy
Pink Copy - Client Copy



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-6
Collected: 07/15/99 10:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANAL
Percent Solids	84	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999 15:14JP	
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 10:21	MGC
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 10:21	MGC
Toluene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 10:21	MGC
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 10:21	MGC
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 10:21	MGC
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 10:21	MGC
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 10:21	MGC
SURROGATE: Toluene-D8	101.00%						
SURROGATE: 1,1-DCB-D4	111.75%						
SURROGATE: Dibromofluoromethane	97.25%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MGC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 2
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Sample I.D.: MW-6
Collected: 07/15/99 10:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
SURROGATE: D5-Nitrobenzene	57.10%						
SURROGATE: 2-Fluorobiphenyl	43.60%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 3
July 21, 1999
Report # 9907000871
Order # 90065408
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-6
Collected: 07/15/99 10:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	55.60%						

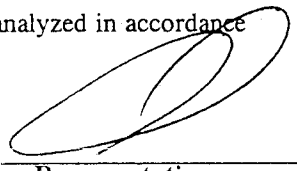
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 4
July 21, 1999
Report # 9907000871
Order # 90065409
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-7
Collected: 07/15/99 11:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Percent Solids	84	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:14JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Toluene	266	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Ethylbenzene	2450	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
m & p-Xylene	8770	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
o-Xylene	1960	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
Naphthalene	174	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999	14:02 PMD
SURROGATE: Toluene-D8	106.50%						
SURROGATE: 1,-DCB-D4	106.25%						
SURROGATE: Dibromofluoromethane	97.25%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999	08:38 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 5
July 21, 1999
Report # 9907000871
Order # 90065409
South Carolina Cert ID# 96023

Sample I.D.: MW-7
Collected: 07/15/99 11:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 08:38	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 08:38	MEC
SURROGATE: D5-Nitrobenzene	85.00%						
SURROGATE: 2-Fluorobiphenyl	50.20%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 6
July 21, 1999
Report # 9907000871
Order # 90065409
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-7
Collected: 07/15/99 11:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS.
SURROGATE: 4-Terphenyl-D14	73.70%						

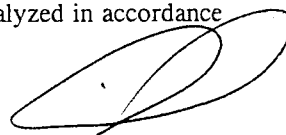
REPORT COMMENTS:

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 Precision Environmental Laboratory, Inc.
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
NC.=#539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 7
July 21, 1999
Report # 9907000871
Order # 90065410
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-8
Collected: 07/15/99 01:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Percent Solids	83	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999 15:14	JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 14:24	PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 14:40	PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 14:24	PMD
Ethylbenzene	10.1	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 14:24	PMD
m & p-Xylene	41.2	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 14:24	PMD
o-Xylene	13.0	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 14:24	PMD
Naphthalene	12.8	ug/Kg	5035/8260B	5.000	07/19/1999	07/19/1999 14:24	PMD
SURROGATE: Toluene-D8	103.00%						
SURROGATE: 1,-DCB-D4	111.50%						
SURROGATE: Dibromofluoromethane	91.75%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 8
July 21, 1999
Report # 9907000871
Order # 90065410
South Carolina Cert ID# 96023

Sample I.D.: MW-8
Collected: 07/15/99 01:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 14:20	MEC
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/19/1999	07/20/1999 14:20	MEC
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/19/1999	07/20/1999 14:20	MEC
SURROGATE: D5-Nitrobenzene	63.00%						
SURROGATE: 2-Fluorobiphenyl	47.80%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 9
July 21, 1999
Report # 9907000871
Order # 90065410
South Carolina Cert ID# 96023

Sample I.D.: MW-8
Collected: 07/15/99 01:00
Received: 07/17/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	68.70%						

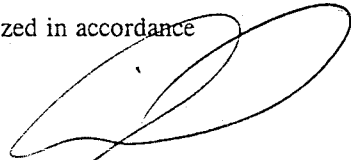
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Project Submission #: 99107-871

9-65408/65410

PO #:

Company Name:

Southeastern Environmental, Inc.

Address:

323 Main Street

City:

Conway,

State:

SC

Zip:

29526

Project Name:

Coastal Truck Stop

Report To:

Bruce

G. Newell

Sample Label

mw 6

mw 7

mw 8

Date Collected

7/15/99

7/15/99

7/15/99

Time Collected

10:00

11:00

1:00

Matr

S

S

S

of Cont

3

3

3

Nothing

Follows

REQUESTED LAB ANALYSIS

PARAMETER

BTEX

NAPHTH

PAH

65408

65409

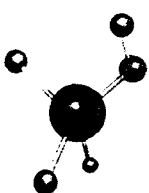
65410

NOTES / COMMENTS

11' - 5 ppm

11' - 5000 ppm

11' - 1000 ppm



ACCESS
ANALYTICAL, INC.

1248 Lake Murray Blvd.
Irmo, SC 29063

Phone: (803) 781-4243

Fax: 781-4303

Toll Free (888) 315-4243

Turnaround Time Requested:

☒ Std. (5-7 Bus days)

☐ RUSH*

*Date Required:

Project Location:

☒ SC

☐ NC

Other (specify)

Samples Recd. on Ice?

☒ Yes

☐ No

Relinquished By:

Kim Garrett

FLEDET

Date:

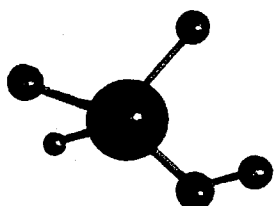
7/16/99

Time:

5:00 pm

Received By:

(Signature)



ACCESS
ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
August 10, 1999
Report # 9908000214
Order # 90071169
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-#9
Collected: 08/03/99 01:10
Received: 08/05/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALY
Percent Solids	75.1	%	160.3(ASTM-D2216	0.01	08/07/1999	08/07/1999	09:441VR/1
Carbon, Total Organic	140	mg/Kg	9060 {N&S}	1.0	08/09/1999	08/09/1999	15:03SN

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Access Analytical - Chain of Custody Record

Project Submission #:

99608-214

PO #:

9-71169

Company Name:

Southeastern Environmental, Inc.

Address:

323 Main Street

City: Conway

State: SC

Zip: 29526

Project Name:

Coastal Truck Stop

Report To:

Bruce G. Newell

Sample Label

MW # 9

Date Collected

8/3/99

Time Collected

1:10

Matr

5

of Cont

1

Nothing follows

REQUESTED LAB ANALYSIS:

P A R A M E T E R

TOC

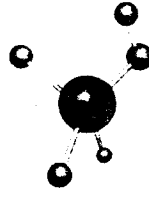
✓

NOTES / COMMENTS

11' - 1 ppm

ACCESS

ANALYTICAL, INC.



Phone: (803) 781-4243

Fax: 781-4303

1248 Lake Murray Blvd.

Irimo, SC 29063

Toll Free (888) 315-4243

Turnaround Time

Requested:

✓ Std. (5-7 Bus. days)

RUSH*

*Date Required:

Samples Recd.

Yes

No

Project Location:

✓ SC

NC

Other (specify)

Relinquished By:

Kim G. Newell

8/4/99

5:00 pm

Date:

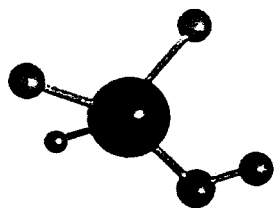
Received By:

CSK

Original Copy - Returned w/ Report
Yellow Copy - Access Analytical Copy
Pink Copy - Client Copy

Access Analytical, Inc.

Pg 1 of 1



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 1
September 1, 1999
Report # 9908001386
Order # 90078526
South Carolina Cert ID# 96023

Sample I.D.: CTS Telescoping
Collected: 08/24/99 19:00
Received: 08/27/99 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Percent Solids	89.5	%	160.3(ASTM-D2216	0.01	08/28/1999	08/28/1999	14:06IVR
Carbon, Total Organic	42.7	mg/Kg	9060 {N&S}	1.0	08/31/1999	09/01/1999	09:25SN
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	78.5	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Benzene	104	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Toluene	1640	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Ethylbenzene	1380	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
m & p-Xylene	6380	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
o-Xylene	2340	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
Naphthalene	5810	ug/Kg	5035/8260B	5.000	08/30/1999	08/30/1999	08:18 PMD
SURROGATE: Toluene-D8	101.50%						
SURROGATE: 1,-DCB-D4	104.50%						
SURROGATE: Dibromofluoromethane	104.00%						
SC-DRO (Petroleum Hydrocarbons)-{SOILS}			MEDF	1			

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 2
September 1, 1999
Report # 9908001386
Order # 90078526
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: CTS Telescoping
Collected: 08/24/99 19:00
Received: 08/27/99 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Diesel Range Org (C10-C28)	14.8	mg/Kg	3550/8015(mod)	5.000	08/31/1999	09/01/1999 08:26	FEB

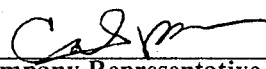
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, ND. = #R163, OK. = #9523, SC. = #96023, Tn. = #TN02826

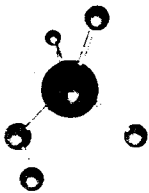
Unless otherwise noted, samples submitted for EPA 5035 were collected, preserved and analyzed in accordance
with all methodology requirements.



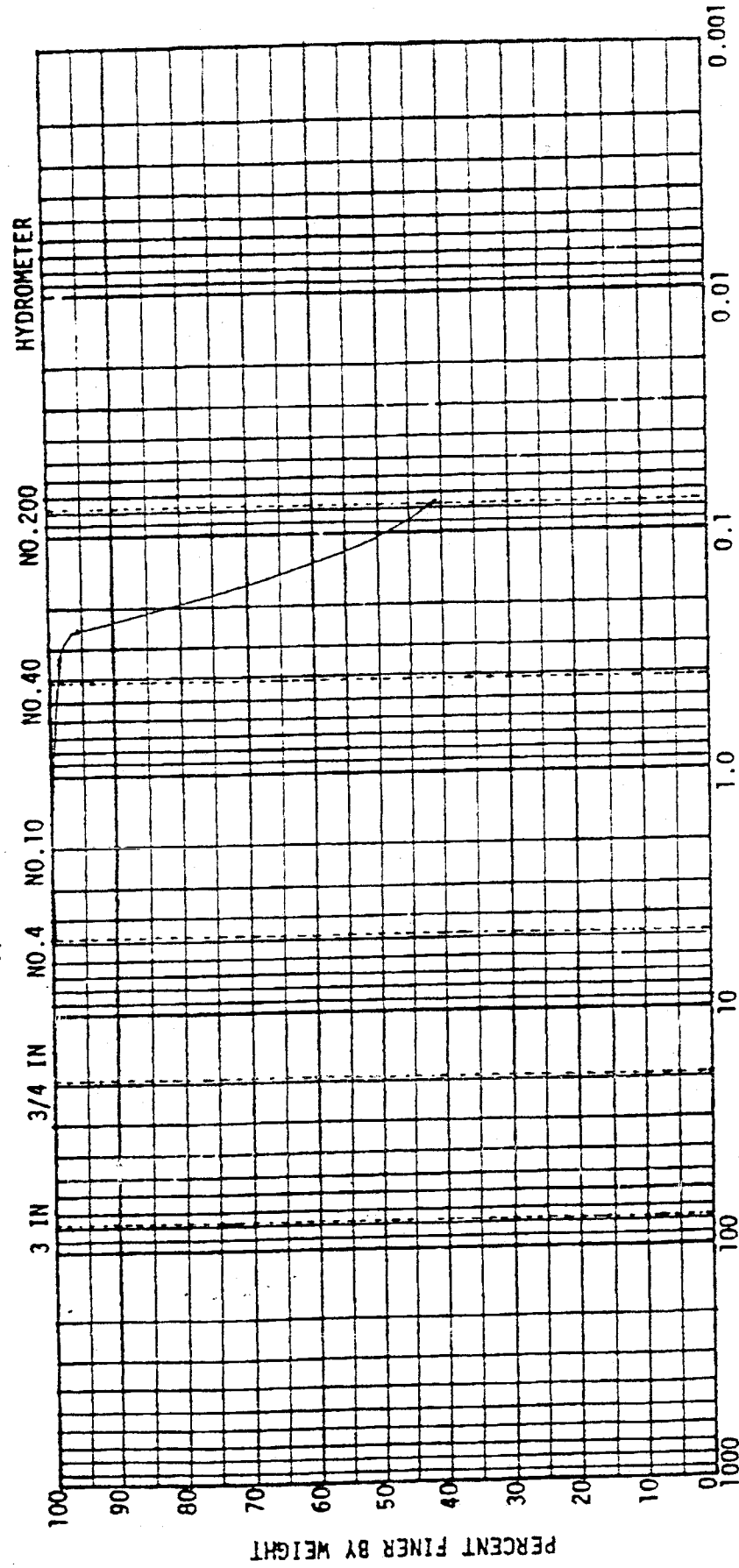
Company Representative

99/08-1386 Access Analytical - Chain of Custody Record
 Project Submission #: 9-78526

PO #:

Company Name: Southeastern Environmental, Inc				REQUESTED LAB ANALYSIS:				 ACCESS ANALYTICAL, INC.	
Address: 303 Main Street				City: Conway		State: SC		Zip: 29524	
Project Name: Coastal Truck Stop				Report To: Bruce E. Newell					
Sample Label	Date Collected	Time Collected	Matr	# of Cont	PARAMETER				
CTS telescoping	8-24-99	1900	S	3	☒ BTEX	☒ Naph	☒ TPH (3550)	☒ Grain size/hydrometer	☒ Total organic carbon
					sample depth = 8'				
					NOTES / COMMENTS				
					CONFIRMED WITH CHERYL WE ARE TO DISREGARD GRAIN SIZE ANALYSIS. - JAL 8/30/99				
Turnaround Time Requested: ☒ Std. (5-7 Bus. days) ☐ RUSH* *Date Required:				Samples need on ice? ☒ Yes ☐ No		Project Location: ☒ SC ☐ NC Other (specify):		Relinquished By:	
				Date:		Time:		Received By:	
				8-26-99		4:30pm		FED-EX	
				8/27/99		1000		1561345 T.L.R.	

U. S. STANDARD SIEVE SIZE



COBBLES GRAVEL SAND SILT OR CLAY

Coarse Fine Medium Fine

GRAIN SIZE DISTRIBUTION

Coastal Truck Stop

Southeastern Environmental

SAMPLE DEPTH	CLASSIFICATION	NAT WC	LL	PL	PI
MT-4	Tan Clayey Silty SAND				

Access Analytical - Chain of Custody Record

Project Submission #: _____

9908/1386

PO #: _____

Company Name: Southeastern Environmental, Inc. Address: 323 Main Street Conway, SC 29524 City: Conway, SC State: SC Zip: 29524 Project Name: Coastal Truck Stop Report To: Bruce G. Newell				PARAMETER BTEX Naph TPH (3550) Grain size/hydrocarbons Total organic carbon				REQUESTED ANALYSIS BTEX Naph TPH (3550) Grain size/hydrocarbons Total organic carbon				ACCESS ANALYTICAL, INC. Phone: (803) 781-4243 Fax: 781-4303 Toll Free (888) 315-4243 1248 Lake Murray Blvd. Irmo, SC 29063															
Sample Label CT3 telescoping				Date Collected 8-24-99		Time Collected 1900		Matr S		# of Cont 3		NOTES / COMMENTS Sample depth = 8'															
Turnaround Time Requested: ☒ Std. (3-7 Bus. days) ☐ RUSH Date Required: _____				Samples Recd. on Ice: ☐ Yes ☐ No				Project Location: ☒ SC ☐ NC ☐ Other _____ (specify)				Relinquished By: Stephen J. Jones				Date: 8-26-99				Time: 4:30pm				Received By:			

Original Copy - Returned w/ Report
 Yellow Copy - Access Analytical Copy
 Pink Copy - Client Copy

Access Analytical, Inc.

of _____

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 3
October 20, 1999
Report # 9910000765
Order # 90096147
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW9
Collected: 10/14/99 10:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	69.20%						

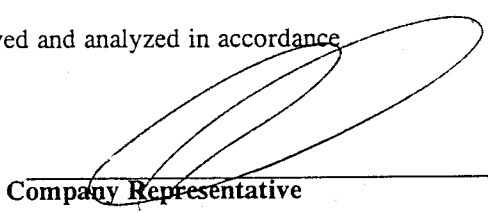
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 4
October 20, 1999
Report # 9910000765
Order # 90096148
South Carolina Cert ID# 96023

Sample I.D.: MW10
Collected: 10/14/99 11:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	85	%	160.3(ASTM-D2216	0.01	10/17/1999	10/17/1999	09:39JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:14 PMD
SURROGATE: Toluene-D8	99.00%						
SURROGATE: 1,-DCB-D4	98.50%						
SURROGATE: Dibromofluoromethane	90.00%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:21 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 5
October 20, 1999
Report # 9910000765
Order # 90096148
South Carolina Cert ID# 96023

Sample I.D.: MW10
Collected: 10/14/99 11:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:21	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:21	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:21	MD
SURROGATE: D5-Nitrobenzene	56.10%						
SURROGATE: 2-Fluorobiphenyl	63.70%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street
Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 6
October 20, 1999
Report # 9910000765
Order # 90096148
South Carolina Cert ID# 96023

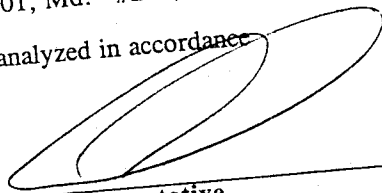
Sample I.D.: MW10
Collected: 10/14/99 11:30
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.
SURROGATE: 4-Terphenyl-D14	74.70%					

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, ND. = #R163, OK. = #9523, SC. = #96023, Tn. = #TN02826
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Company Representative

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 7
October 20, 1999
Report # 9910000765
Order # 90096149
South Carolina Cert ID# 96023

Sample I.D.: MW11
Collected: 10/14/99 11:45
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	88	%	160.3(ASTM-D2216	0.01	10/17/1999	10/17/1999	09:39JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
SURROGATE: Toluene-D8	99.50%						
SURROGATE: 1,-DCB-D4	100.00%						
SURROGATE: Dibromofluoromethane	96.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD

Bruce G. Newell
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Conway, SC 29526

Site Location/Project
South Carolina
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Page 8
October 20, 1999
Report # 9910000765
Order # 90096149
South Carolina Cert ID# 96023

Sample I.D.: MW11
Collected: 10/14/99 11:45
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:22	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:22	MD
SURROGATE: D5-Nitrobenzene	58.30%						
SURROGATE: 2-Fluorobiphenyl	78.30%						

Bruce G. Newell
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Site Location/Project
South Carolina
Coastal Truck Stop

Page 9
October 20, 1999
Report # 9910000765
Order # 90096149
South Carolina Cert ID# 96023

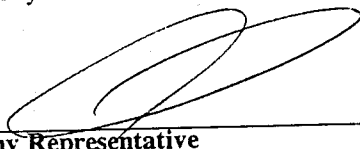
Sample I.D.: MW11
Collected: 10/14/99 11:45
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	80.40%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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NC. = #539, ND. = #R163, OK. = #9523, SC. = #96023, Tn. = #TN02826
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Company Representative

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Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 10
October 20, 1999
Report # 9910000765
Order # 90096150
South Carolina Cert ID# 96023

Sample I.D.: MW14
Collected: 10/14/99 10:15
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	89	%	160.3(ASTM-D2216	0.01	10/17/1999	10/17/1999	09:39JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Toluene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Ethylbenzene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
m & p-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
o-Xylene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
Naphthalene	BDL	ug/Kg	5035/8260B	5.000	10/19/1999	10/19/1999	09:15 PMD
SURROGATE: Toluene-D8	97.50%						
SURROGATE: 1,-DCB-D4	98.50%						
SURROGATE: Dibromofluoromethane	95.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999	13:22 MD

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Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

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October 20, 1999
Report # 9910000765
Order # 90096150
South Carolina Cert ID# 96023

Sample I.D.: MW14
Collected: 10/14/99 10:15
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:22	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	10/18/1999	10/19/1999 13:22	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	10/18/1999	10/19/1999 13:22	MD
SURROGATE: D5-Nitrobenzene	136.00%						
SURROGATE: 2-Fluorobiphenyl	89.10%						

Bruce G. Newell
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Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

Page 12
October 20, 1999
Report # 9910000765
Order # 90096150
South Carolina Cert ID# 96023

Sample I.D.: MW14
Collected: 10/14/99 10:15
Received: 10/15/99 09:40
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	84.50%						

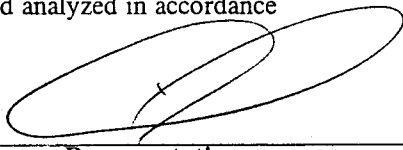
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effected Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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Company Representative

Project Submission #: 99/10-765 96147-96150

PO #:

ACCESS
ANALYTICAL, INC.

Phone: (803) 781-4243
Fax: 781-4303
1248 Lake Murray Blvd.
Irmo, SC 29063
Toll Free (888) 315-4243

NOTES / COMMENTS

P A R A M E T E

BTEX

NAPT14.

PAH

96147

4 pm 8:5

96148

11 pm 8.5

96149

5 p.m. 8.5

096150

10pm 9.5'

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1

Figure 1

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Received

10/	10/
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92.1

7

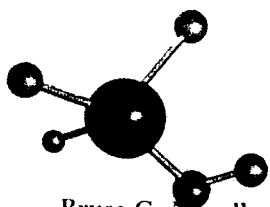
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Age Group	Percentage of Respondents
18-29	85%
30-49	80%
50-69	75%
70+	70%

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ACCESS ANALYTICAL, INC.

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Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
August 13, 1999
Report # 9908000497
Order # 90072918
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

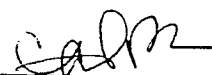
Sample I.D.: MW4
Collected: 08/09/99 13:00
Received: 08/11/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALY
Percent Solids	83.4	%	160.3(ASTM-D2216	0.01	08/12/1999	08/12/1999	08:581VR
SC-DRO (Petroleum Hydrocarbons)-{SOILS}			MEDF	1			
Diesel Range Org (C10-C28)	69.0	mg/Kg	3550/8015(mod)	5.000	08/11/1999	08/13/1999 11:55	FEB

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effected Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

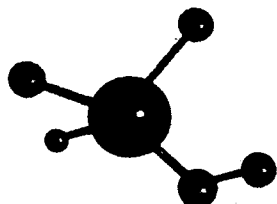
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NC. =#539, ND. =#R163, OK. =#9523, SC. =#96023, Tn. =#TN02826
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Company Representative

PO

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ACCESS
ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
July 18, 1999
Report # 9907000720
Order # 90064402
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-1
Collected: 07/13/99 10:00
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALY
Percent Solids	84.8	%	160.3(ASTM-D2216	0.01	07/17/1999	07/17/1999	10:48SMF
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	155	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Toluene	11000	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Ethylbenzene	10600	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
m & p-Xylene	32100	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
o-Xylene	13500	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
Naphthalene	2560	ug/Kg	5035/8260B	5.000	07/17/1999	07/17/1999	11:26 PMD
SURROGATE: Toluene-D8	109.25%						
SURROGATE: 1,-DCB-D4	75.50%						
SURROGATE: Dibromofluoromethane	85.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	1.97	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
2-Methylnaphthalene	2.27	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
1-Methylnaphthalene	1.20	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:06 MD

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Site Location/Project
Coastal Truck Stop

Page 2
July 18, 1999
Report # 9907000720
Order # 90064402
South Carolina Cert ID# 96023

Sample I.D.: MW-1
Collected: 07/13/99 10:00
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:06	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:06	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:06	MD
SURROGATE: D5-Nitrobenzene	53.50%						
SURROGATE: 2-Fluorobiphenyl	49.80%						

Bruce G. Newell
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323 Main Street

Conway, SC 29526

Page 3
July 18, 1999
Report # 9907000720
Order # 90064402
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-1
Collected: 07/13/99 10:00
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	70.50%						

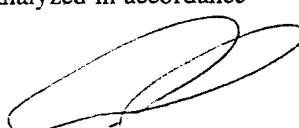
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
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NC. = #539, ND. = #R163, OK. = #9523, SC. = #96023, Tn. = #TN02826

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with all methodology requirements.



Company Representative

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Site Location/Project
Coastal Truck Stop

Page 4
July 18, 1999
Report # 9907000720
Order # 90064403
South Carolina Cert ID# 96023

Sample I.D.: MW-2
Collected: 07/13/99 11:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	85.1	%	160.3(ASTM-D2216	0.01	07/17/1999	07/17/1999	10:48SMF
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	10			
Methyl-Tert-Butyl-Ether	58.2	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Benzene	181	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Toluene	11900000	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Ethylbenzene	4790	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
m & p-Xylene	16000	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
o-Xylene	4850	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
Naphthalene	255	ug/Kg	5035/8260B	50.000	07/17/1999	07/17/1999	11:28 PMD
SURROGATE: Toluene-D8	111.00%						
SURROGATE: 1,-DCB-D4	68.25%						
SURROGATE: Dibromofluoromethane	98.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:08 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 5
July 18, 1999
Report # 9907000720
Order # 90064403
South Carolina Cert ID# 96023

Sample I.D.: MW-2
Collected: 07/13/99 11:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:08	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:08	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:08	MD
SURROGATE: D5-Nitrobenzene	63.60%						
SURROGATE: 2-Fluorobiphenyl	70.50%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 6
July 18, 1999
Report # 9907000720
Order # 90064403
South Carolina Cert ID# 96023

Sample I.D.: MW-2
Collected: 07/13/99 11:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	85.70%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC.=#539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 7
July 18, 1999
Report # 9907000720
Order # 90064404
South Carolina Cert ID# 96023

Sample I.D.: MW-3
Collected: 07/13/99 01:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Percent Solids	83.7	%	160.3(ASTM-D2216	0.01	07/17/1999	07/17/1999	10:48SMF
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	8.3	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Toluene	1400	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Ethylbenzene	1240	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
m & p-Xylene	4660	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
o-Xylene	1720	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
Naphthalene	209	ug/Kg	5035/8260B	5.000	07/16/1999	07/16/1999	10:23 PMD
SURROGATE: Toluene-D8	113.75%						
SURROGATE: 1,-DCB-D4	65.00%						
SURROGATE: Dibromofluoromethane	95.00%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	12:09 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 8
July 18, 1999
Report # 9907000720
Order # 90064404
South Carolina Cert ID# 96023

Sample I.D.: MW-3
Collected: 07/13/99 01:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:09	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 12:09	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 12:09	MD
SURROGATE: D5-Nitrobenzene	64.80%						
SURROGATE: 2-Fluorobiphenyl	70.70%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 9
July 18, 1999
Report # 9907000720
Order # 90064404
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-3
Collected: 07/13/99 01:30
Received: 07/15/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	73.70%						

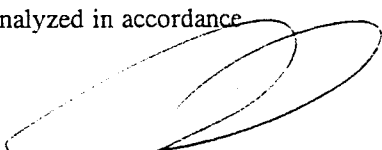
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Project Submission #:

99107-720

9-64402 64404

PO #:

Company Name:

Southeastern Environmental, Inc.

Address:

323 Main Street

City:

Conway SC 29526

State:

Zip:

Project Name:

Coastal Truck Stop

Report To:

Bruce G. Newell

Sample Label

Date Collected

Time Collected

Matr.

of Cont

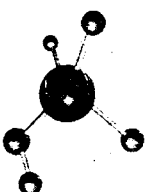
P A H M E T E R

BTEX

NAPTH

PAH

NOTES / COMMENTS

ACCESS
ANALYTICAL, INC.1248 Lake Murray Blvd.
Irmo, SC 29063Phone: (803) 781-4243
Fax: 781-4303
Toll Free (888) 315-4243

MW 1

7/13/99

10:00

S

3

✓

✓

✓

64402

11' - 5000 ppm

MW 2

7/13/99

11:30

S

3

✓

✓

✓

64403

11' - 3200 ppm

MW 3

7/13/99

11:30

S

3

✓

✓

✓

64404

11' - 5000 ppm

Nothing follows

Turnaround Time
Requested:

✓

Std. (5-7 Bus. days)

RUSH*

*Date Required:

Samples Recd.
on ice?

Yes

No

Project Location:

✓ SC

NC

Other (specify)

Relinquished By:

Jim Garrett

Date:

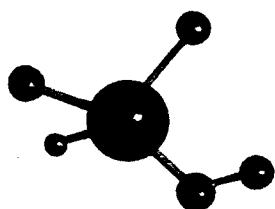
7/14/99

Time:

500 pm

Received By:

STC Per



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
August 6, 1999
Report # 9907000772
Order # 90064745
South Carolina Cert ID# 96023

Site Location/Project
South Carolina
Coastal Truck Stop

Sample I.D.: MW4
Collected: 07/14/99 12:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALY
Percent Solids	85	%	160.3(ASTM-D2216	0.01	07/19/1999	07/19/1999	15:12JP
8260B BTEX w/Naph+MTBE in Soils by GC-MS(S.C.)LL			MEDF	1			
Methyl-Tert-Butyl-Ether	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	10:01 PMD
Benzene	BDL	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
Toluene	43.5	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
Ethylbenzene	449	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
m & p-Xylene	1660	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
o-Xylene	672	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
Naphthalene	428	ug/Kg	5035/8260B	5.000	07/18/1999	07/18/1999	11:41 PMD
SURROGATE: Toluene-D8	113.00%						
SURROGATE: 1,2-DCB-D4	59.25%						
SURROGATE: Dibromofluoromethane	89.50%						
8270C PAHs (610) in SOILS and Wastes by GC-MS			MEDF	1			
Naphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
2-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
1-Methylnaphthalene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Acenaphthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Phenanthrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Benzo(a)anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD
Benzo(b)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999	14:54 MD

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
South Carolina
Coastal Truck Stop

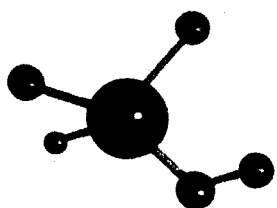
Page 2
August 6, 1999
Report # 9907000772
Order # 90064745
South Carolina Cert ID# 96023

Sample I.D.: MW4
Collected: 07/14/99 12:30
Received: 07/16/99 09:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Benzo(a)pyrene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:54	MD
Benzo(ghi)perylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Acenaphthylene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Fluorene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Anthracene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Chrysene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Benzo(k)fluoranthene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Indeno(1,2,3-cd)pyrene	BDL	mg/Kg	3550/8270C	0.330	07/16/1999	07/17/1999 14:54	MD
Dibenzo(a,h)anthracene	BDL	mg/Kg	3550/8270C	0.100	07/16/1999	07/17/1999 14:54	MD
SURROGATE: D5-Nitrobenzene	57.90%						
SURROGATE: 2-Fluorobiphenyl	40.00%						

APPENDIX D

Analytical Reports For Groundwater Samples



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc.
323 Main Street

Conway, SC 29526

Page 1
July 29, 1999
Report # 9907001004
Order # 90066258
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-1
Collected: 07/20/99 11:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALY
Nitrate (as N)	6.73	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:00MC
Sulfate	3.21	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:01MC
Ferrous, Iron (Fe2+)	4.5	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:02KOD
Lead	0.609	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:00MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	100			
Methyl-Tert-Butyl Ether	7400	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
Benzene	19900	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
Toluene	26000	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
1,2-Dibromoethane (EDB)	111	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
Ethylbenzene	2040	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
m & p-Xylene	8570	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
o-Xylene	3510	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
1,3,5-Trimethylbenzene	411	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
1,2,4-Trimethylbenzene	1620	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
Naphthalene	592	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:15 PMD
SURROGATE: Toluene-D8	103.75%						
SURROGATE: 1,4-DCB-D4	115.50%						
SURROGATE: Dibromofluoromethane	83.00%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	371	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999	13:34 MEI
2-Methylnaphthalene	91.8	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999	13:35 ME

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 2
July 29, 1999
Report # 9907001004
Order # 90066258
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-1
Collected: 07/20/99 11:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
1-Methylnaphthalene	52.7	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 13:35	MEC
Acenaphthene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/22/1999 13:35	MEC
Phenanthrene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 13:35	MEC
Fluoranthene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 13:35	MEC
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:35	MEC
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:35	MEC
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:35	MEC
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:35	MEC
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/22/1999 13:35	MEC
Fluorene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 13:35	MEC
Anthracene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 13:35	MEC
Pyrene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 13:35	MEC
Chrysene	BDL	ug/L	3510/8270C	1.000	07/21/1999	07/22/1999 13:35	MEC
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	07/21/1999	07/22/1999 13:35	MEC
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:35	MEC
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:35	MEC
SURROGATE: D5-Nitrobenzene	80.30%						
SURROGATE: 2-Fluorobiphenyl	70.40%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 3
July 29, 1999
Report # 9907001004
Order # 90066258
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

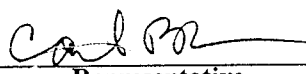
Sample I.D.: MW-1
Collected: 07/20/99 11:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	53.40%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC.=#539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

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July 29, 1999
Report # 9907001004
Order # 90066259
South Carolina Cert ID# 96023

Sample I.D.: MW-2
Collected: 07/19/99 1:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Nitrate (as N)	0.26	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:01MC
Sulfate	2.92	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:01MC
Ferrous, Iron (Fe2+)	4.9	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:02KOD
Lead	0.403	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:00MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	100			
Methyl-Tert-Butyl Ether	10500	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
Benzene	18500	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
Toluene	28300	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
Ethylbenzene	3360	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
m & p-Xylene	10500	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
o-Xylene	4770	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
1,3,5-Trimethylbenzene	596	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
1,2,4-Trimethylbenzene	2560	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
Naphthalene	670	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:17 PMD
SURROGATE: Toluene-D8	99.50%						
SURROGATE: 1,4-DCB-D4	116.00%						
SURROGATE: Dibromofluoromethane	83.25%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	443	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999	13:35 MEC
2-Methylnaphthalene	125	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999	13:38 MEC

Bruce G. Newell
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July 29, 1999
Report # 9907001004
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South Carolina Cert ID# 96023

Sample I.D.: MW-2
Collected: 07/19/99 1:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
1-Methylnaphthalene	89.0	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 13:38	MEC
Acenaphthene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/22/1999 13:38	MEC
Phenanthrene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 13:38	MEC
Fluoranthene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 13:38	MEC
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:38	MEC
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:38	MEC
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:38	MEC
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:38	MEC
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/22/1999 13:38	MEC
Fluorene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 13:38	MEC
Anthracene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 13:38	MEC
Pyrene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 13:38	MEC
Chrysene	BDL	ug/L	3510/8270C	1.000	07/21/1999	07/22/1999 13:38	MEC
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	07/21/1999	07/22/1999 13:38	MEC
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:38	MEC
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 13:38	MEC
SURROGATE: D5-Nitrobenzene	82.10%						
SURROGATE: 2-Fluorotiphenyl	72.30%						

Bruce G. Newell
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323 Main Street

Conway, SC 29526

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Report # 9907001004
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Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-2
Collected: 07/19/99 1:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	64.60%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC.=#539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

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July 29, 1999
Report # 9907001004
Order # 90066260
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-3
Collected: 07/19/99 3:18
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Nitrate (as N)	0.36	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:01MC
Sulfate	3.51	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:01MC
Ferrous, Iron (Fe2+)	9.5	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:02KOD
Lead	0.116	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:00MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	31.5	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
Benzene	6800	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
Toluene	16900	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
1,2-Dibromoethane (EDB)	81.1	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
Ethylbenzene	2380	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
m & p-Xylene	10000	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
o-Xylene	4020	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
1,3,5-Trimethylbenzene	568	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
1,2,4-Trimethylbenzene	2220	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
Naphthalene	570	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	09:22 PMD
SURROGATE: Toluene-D8	98.25%						
SURROGATE: 1,4-DCB-D4	113.75%						
SURROGATE: Dibromofluoromethane	86.00%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	384	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999	10:24 JAY
2-Methylnaphthalene	102	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999	10:24 JAY

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Conway, SC 29526

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South Carolina Cert ID# 96023

Sample I.D.: MW-3
Collected: 07/19/99 3:18
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
1-Methylnaphthalene	60.5	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 10:24	JAY
Acenaphthene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/22/1999 10:24	JAY
Phenanthrene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 10:24	JAY
Fluoranthene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 10:24	JAY
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 10:24	JAY
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 10:24	JAY
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 10:24	JAY
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 10:24	JAY
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/22/1999 10:24	JAY
Fluorene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/22/1999 10:24	JAY
Anthracene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 10:24	JAY
Pyrene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/22/1999 10:24	JAY
Chrysene	BDL	ug/L	3510/8270C	1.000	07/21/1999	07/22/1999 10:24	JAY
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	07/21/1999	07/22/1999 10:24	JAY
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 10:24	JAY
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/22/1999 10:24	JAY
SURROGATE: D5-Nitrobenzene	68.10%						
SURROGATE: 2-Fluorobiphenyl	65.80%						

Bruce G. Newell
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Conway, SC 29526

Site Location/Project
Coastal Truck Stop

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July 29, 1999
Report # 9907001004
Order # 90066260
South Carolina Cert ID# 96023

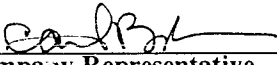
Sample I.D.: MW-3
Collected: 07/19/99 3:18
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	28.40%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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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
NC.=#539, ND.=#R163, OK.=#9523, SC.=#96023, Tn.=#TN02826
Unless otherwise noted, samples submitted for EPA 5035 were collected, preserved and analyzed in accordance
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Company Representative

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323 Main Street

Conway, SC 29526

Site Location/Project
Coastal Truck Stop

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July 29, 1999
Report # 9907001004
Order # 90066261
South Carolina Cert ID# 96023

Sample I.D.: MW-4
Collected: 07/20/99 11:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Nitrate (as N)	0.32	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:02MC
Sulfate	2.65	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:02MC
Ferrous, Iron (Fe2+)	2.4	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:02KOD
Lead	0.113	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:00MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	100			
Methyl-Tert-Butyl Ether	4530	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
Benzene	19300	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
Toluene	34300	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
Ethylbenzene	4630	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
m & p-Xylene	15300	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
o-Xylene	6200	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
1,3,5-Trimethylbenzene	1390	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
1,2,4-Trimethylbenzene	5660	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
Naphthalene	800	ug/L	5030/8260B	100.000	07/22/1999	07/22/1999	08:18 PMD
SURROGATE: Toluene-D8	100.75%						
SURROGATE: 1,4-DCB-D4	112.75%						
SURROGATE: Dibromofluoromethane	84.75%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	535	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:25 JAY
2-Methylnaphthalene	231	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:25 JAY

Bruce G. Newell
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Conway, SC 29526

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July 29, 1999
Report # 9907001004
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South Carolina Cert ID# 96023

Sample I.D.: MW-4
Collected: 07/20/99 11:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
1-Methylnaphthalene	118	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:25	JAY
Acenaphthene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 10:25	JAY
Phenanthrene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:25	JAY
Fluoranthene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:25	JAY
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:25	JAY
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:25	JAY
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:25	JAY
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:25	JAY
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 10:25	JAY
Fluorene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:25	JAY
Anthracene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:25	JAY
Pyrene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:25	JAY
Chrysene	BDL	ug/L	3510/8270C	1.000	07/21/1999	07/23/1999 10:25	JAY
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	07/21/1999	07/23/1999 10:25	JAY
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:25	JAY
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:25	JAY
SURROGATE: D5-Nitrobenzene	116.00%						
SURROGATE: 2-Fluorobiphenyl	86.70%						

Bruce G. Newell
Southeastern Environmental Inc
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Conway, SC 29526

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Report # 9907001004
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Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-4
Collected: 07/20/99 11:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	85.10%						

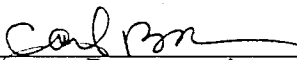
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

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Conway, SC 29526

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Coastal Truck Stop

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July 29, 1999
Report # 9907001004
Order # 90066262
South Carolina Cert ID# 96023

Sample I.D.: MW-5
Collected: 07/19/99 2:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Nitrate (as N)	0.65	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:02MC
Sulfate	4.36	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:02MC
Ferrous, Iron (Fe2+)	6.5	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:03KOD
Lead	0.043	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:00MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	13.1	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
Benzene	1590	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
Toluene	7410	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
1,2-Dibromoethane (EDB)	11.9	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
Ethylbenzene	1850	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
m & p-Xylene	7570	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PHD
o-Xylene	2750	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
1,3,5-Trimethylbenzene	559	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
1,2,4-Trimethylbenzene	2440	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
Naphthalene	560	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:25 PMD
SURROGATE: Toluene-D8	101.25%						
SURROGATE: 1,4-DCB-D4	110.75%						
SURROGATE: Dibromofluoromethane	85.75%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	332	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:27 JAY
2-Methylnaphthalene	106	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:27 JAY

Bruce G. Newell
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Conway, SC 29526

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Report # 9907001004
Order # 90066262
South Carolina Cert ID# 96023

Sample I.D.: MW-5
Collected: 07/19/99 2:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
1-Methylnaphthalene	61.9	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:27	JAY
Acenaphthene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 10:27	JAY
Phenanthrene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:27	JAY
Fluoranthene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:27	JAY
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:27	JAY
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:27	JAY
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:27	JAY
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:27	JAY
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 10:27	JAY
Fluorene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:27	JAY
Anthracene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:27	JAY
Pyrene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:27	JAY
Chrysene	BDL	ug/L	3510/8270C	1.000	07/21/1999	07/23/1999 10:27	JAY
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	07/21/1999	07/23/1999 10:27	JAY
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:27	JAY
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:27	JAY
SURROGATE: D5-Nitrobenzene	71.60%						
SURROGATE: 2-Fluorobiphenyl	70.40%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

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Report # 9907001004
Order # 90066262
South Carolina Cert ID# 96023

Sample I.D.: MW-5
Collected: 07/19/99 2:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	69.20%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC.=#539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 16
July 29, 1999
Report # 9907001004
Order # 90066263
South Carolina Cert ID# 96023

Sample I.D.: MW-6
Collected: 07/19/99 11:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Nitrate (as N)	0.60	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:03MC
Sulfate	5.55	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:03MC
Ferrous, Iron (Fe2+)	BDL	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:03KOD
Lead	0.023	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:00MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	BDL	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
Benzene	BDL	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
Toluene	4.61	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
Ethylbenzene	5.72	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
m & p-Xylene	20.8	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
o-Xylene	5.13	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
1,3,5-Trimethylbenzene	3.41	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
1,2,4-Trimethylbenzene	17.8	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
Naphthalene	7.8	ug/L	5030/8260B	1.000	07/22/1999	07/22/1999	08:20 PMD
SURROGATE: Toluene-D8	105.25%						
SURROGATE: 1,4-DCB-D4	121.50%						
SURROGATE: Dibromofluoromethane	83.25%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	09:34 MEC
2-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	09:34 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

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July 29, 1999
Report # 9907001004
Order # 90066263
South Carolina Cert ID# 96023

Sample I.D.: MW-6
Collected: 07/19/99 11:00
Received: 07/21/99 09:30
Collected by: Client

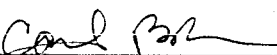
PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
SURROGATE: 4-Terphenyl-D14	55.40%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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certs: Al. = #41180, Ct. = #PH0217, Ks. = #E270 + E1245, Ky. = #90087, La. = #9601, Md. = #271, Ma. = #M-FL535
NC. = #539, ND. = #R163, OK. = #9523, SC. = #96023, Tn. = #TN02826

Unless otherwise noted, samples submitted for EPA 5035 were collected, preserved and analyzed in accordance
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Company Representative

Bruce G. Newell
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323 Main Street

Conway, SC 29526

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July 29, 1999
Report # 9907001004
Order # 90066264
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW-7
Collected: 07/19/99 2:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Nitrate (as N)	0.32	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:03MC
Sulfate	2.50	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:03MC
Ferrous, Iron (Fe2+)	8.6	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:03KOD
Lead	0.048	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:01MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	979	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	10:10 PMD
Benzene	BDL	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	10:11 PMD
Toluene	5440	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:26 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	10:11 PMD
Ethylbenzene	1750	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:27 PMD
m & p-Xylene	5550	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:27 PMD
o-Xylene	1800	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:27 PMD
1,3,5-Trimethylbenzene	573	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:27 PMD
1,2,4-Trimethylbenzene	2190	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:27 PMD
Naphthalene	530	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:27 PMD
SURROGATE: Toluene-D8	102.50%						
SURROGATE: 1,4-DCB-D4	113.25%						
SURROGATE: Dibromofluoromethane	75.00%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	303	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:29 JAY
2-Methylnaphthalene	115	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:29 JAY

Bruce G. Newell
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Conway, SC 29526

Site Location/Project
Coastal Truck Stop

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July 29, 1999
Report # 9907001004
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South Carolina Cert ID# 96023

Sample I.D.: MW-7
Collected: 07/19/99 2:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS.
1-Methylnaphthalene	63.8	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:29	JAY
Acenaphthene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 10:29	JAY
Phenanthrene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:29	JAY
Fluoranthene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:29	JAY
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:29	JAY
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:29	JAY
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:29	JAY
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:29	JAY
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 10:29	JAY
Fluorene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:29	JAY
Anthracene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:29	JAY
Pyrene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 10:29	JAY
Chrysene	BDL	ug/L	3510/8270C	1.000	07/21/1999	07/23/1999 10:29	JAY
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	07/21/1999	07/23/1999 10:29	JAY
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:29	JAY
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 10:29	JAY
SURROGATE: D5-Nitrobenzene	68.60%						
SURROGATE: 2-Fluorobiphenyl	67.70%						

Bruce G. Newell
Southeastern Environmental Inc
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Conway, SC 29526

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July 29, 1999
Report # 9907001004
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South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

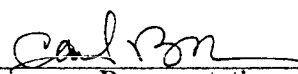
Sample I.D.: MW-7
Collected: 07/19/99 2:30
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	30.90%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

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NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

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July 29, 1999
Report # 9907001004
Order # 90066265
South Carolina Cert ID# 96023

Sample I.D.: MW-8
Collected: 07/19/99 12:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Nitrate (as N)	0.27	mg/L	300.0	0.05	07/21/1999	07/21/1999	06:03MC
Sulfate	5.20	mg/L	300.0	1.0	07/21/1999	07/21/1999	06:04MC
Ferrous, Iron (Fe2+)	2.6	mg/L	SM3500-Fe D.	0.03	07/21/1999	07/21/1999	16:03KOD
Lead	0.016	mg/L	SM3113B (239.2)	0.005	07/22/1999	07/22/1999	18:01MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	BDL	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
Benzene	BDL	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
Toluene	65.1	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
Ethylbenzene	1110	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
m & p-Xylene	4470	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
o-Xylene	1220	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
1,3,5-Trimethylbenzene	653	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
1,2,4-Trimethylbenzene	2510	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
Naphthalene	410	ug/L	5030/8260B	1.000	07/23/1999	07/23/1999	09:28 PMD
SURROGATE: Toluene-D8	101.50%						
SURROGATE: 1,4-DCB-D4	111.25%						
SURROGATE: Dibromofluoromethane	78.75%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	223	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:31 JAY
2-Methylnaphthalene	107	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999	10:55 JAY

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Conway, SC 29526

Site Location/Project
Coastal Truck Stop

Page 23
July 29, 1999
Report # 9907001004
Order # 90066265
South Carolina Cert ID# 96023

Sample I.D.: MW-8
Collected: 07/19/99 12:00
Received: 07/21/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
1-Methylnaphthalene	59.3	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 10:55	JAY
Acenaphthene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 12:50	JAY
Phenanthrene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 12:50	JAY
Fluoranthene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 12:50	JAY
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 12:50	JAY
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 12:50	JAY
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 12:50	JAY
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 12:50	JAY
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	07/21/1999	07/23/1999 12:50	JAY
Fluorene	BDL	ug/L	3510/8270C	5.000	07/21/1999	07/23/1999 12:50	JAY
Anthracene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 12:50	JAY
Pyrene	BDL	ug/L	3510/8270C	0.300	07/21/1999	07/23/1999 12:50	JAY
Chrysene	BDL	ug/L	3510/8270C	1.000	07/21/1999	07/23/1999 12:50	JAY
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	07/21/1999	07/23/1999 12:50	JAY
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 12:50	JAY
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	07/21/1999	07/23/1999 12:50	JAY
SURROGATE: D5-Nitrobenzene	67.00%						
SURROGATE: 2-Fluorobiphenyl	59.30%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

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Report # 9907001004
Order # 90066265
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW-8
Collected: 07/19/99 12:00
Received: 07/21/99 09:30
Collected by: Client

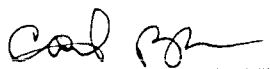
PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	47.80%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

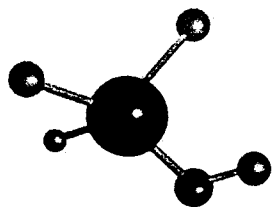
Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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certs: Al.=#41180, Ct.=#PH0217, Ks.=#E270 + E1245, Ky.=#90087, La.=#9601, Md.=#271, Ma.=#M-FL535
NC.=#539, ND.=#R163, OK.=#9523, SC.=#96023, Tn.=#TN02826

Unless otherwise noted, samples submitted for EPA 5035 were collected, preserved and analyzed in accordance with all methodology requirements.



Company Representative

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Yellow Copy · Access Analytical Copy
Pink Copy · Client Copy



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
S.C.
Coastal Truck Stop

Page 1
August 31, 1999
Report # 9908001387
Order # 90078527
South Carolina Cert ID# 96023

Sample I.D.: Coastal Truck Stop Teles.
Collected: 08/26/99 11:20
Received: 08/27/99 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Nitrate (as N)	1.35	mg/L	300.0	0.05	08/28/1999	08/28/1999	06:48JP
Sulfate	21	mg/L	300.0	1.0	08/28/1999	08/28/1999	06:48JP
Ferrous, Iron (Fe2+)	BDL	mg/L	SM3500-Fe D.	0.03	08/27/1999	08/27/1999	10:29KOD
Lead	0.007	mg/L	SM3113B (239.2)	0.005	08/28/1999	08/28/1999	09:53RAP
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	15.0	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
Benzene	89.6	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
Toluene	289	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
Ethylbenzene	91.5	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
m & p-Xylene	265	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
o-Xylene	112	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
1,3,5-Trimethylbenzene	42.9	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
1,2,4-Trimethylbenzene	142	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:39 PMD
Naphthalene	5.0	ug/L	5030/8260B	1.000	08/28/1999	08/28/1999	10:29 PMD
SURROGATE: Toluene-D8	100.75%						
SURROGATE: 1,4-DCB-D4	112.75%						
SURROGATE: Dibromofluoromethane	104.50%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	BDL	ug/L	3510/8270C	5.000	08/30/1999	08/30/1999	08:52 MEC
2-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	08/30/1999	08/30/1999	08:52 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street
Conway, SC 29526

Page 2
August 31, 1999
Report # 9908001387
Order # 90078527
South Carolina Cert ID# 96023

Site Location/Project
S.C.
Coastal Truck Stop

Sample I.D.: Coastal Truck Stop Teles.
Collected: 08/26/99 11:20
Received: 08/27/99 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
1-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	08/30/1999	08/30/1999 08:52	MEC
Acenaphthene	BDL	ug/L	3510/8270C	3.000	08/30/1999	08/30/1999 08:52	MEC
Phenanthrene	BDL	ug/L	3510/8270C	5.000	08/30/1999	08/30/1999 08:52	MEC
Fluoranthene	BDL	ug/L	3510/8270C	0.300	08/30/1999	08/30/1999 08:52	MEC
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	08/30/1999	08/30/1999 08:52	MEC
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	08/30/1999	08/30/1999 08:52	MEC
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	08/30/1999	08/30/1999 08:52	MEC
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	08/30/1999	08/30/1999 08:52	MEC
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	08/30/1999	08/30/1999 08:52	MEC
Fluorene	BDL	ug/L	3510/8270C	5.000	08/30/1999	08/30/1999 08:52	MEC
Anthracene	BDL	ug/L	3510/8270C	0.300	08/30/1999	08/30/1999 08:52	MEC
Pyrene	BDL	ug/L	3510/8270C	0.300	08/30/1999	08/30/1999 08:52	MEC
Chrysene	BDL	ug/L	3510/8270C	1.000	08/30/1999	08/30/1999 08:52	MEC
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	08/30/1999	08/30/1999 08:52	MEC
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	08/30/1999	08/30/1999 08:52	MEC
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	08/30/1999	08/30/1999 08:52	MEC
SURROGATE: D5-Nitrobenzene	83.80%						
SURROGATE: 2-Fluorobiphenyl	87.70%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project
S.C.
Coastal Truck Stop

Page 3
August 31, 1999
Report # 9908001387
Order # 90078527
South Carolina Cert ID# 96023

Sample I.D.: Coastal Truck Stop Teles.
Collected: 08/26/99 11:20
Received: 08/27/99 10:00
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	40.20%						

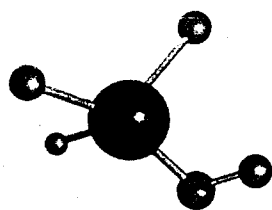
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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



ACCESS ANALYTICAL, INC.

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 1
August 12, 1999
Report # 9908000392
Order # 90072492
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW 9
Collected: 08/05/99 11:00
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYS
Nitrate (as N)	4.08	mg/L	300.0	0.05	08/10/1999	08/10/1999	13:45MC
Sulfate	2.48	mg/L	300.0	1.0	08/10/1999	08/10/1999	13:45MC
Ferrous Iron (Fe2+)	BDL	mg/L	SM3500-Fe D.	0.03	08/10/1999	08/10/1999	10:37IVR/M
Lead	0.012	mg/L	SM3113B (239.2)	0.005	08/10/1999	08/10/1999	11:01MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
Benzene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
Toluene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
Ethylbenzene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
m & p-Xylene	1.46	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
o-Xylene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
1,3,5-Trimethylbenzene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
1,2,4-Trimethylbenzene	1.29	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
Naphthalene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	10:07 PMD
SURROGATE: Toluene-D8	95.75%						
SURROGATE: 1,4-DCB-D4	103.25%						
SURROGATE: Dibromofluoromethane	102.50%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999	10:20 MEC
2-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999	10:20 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 2
August 12, 1999
Report # 9908000392
Order # 90072492
South Carolina Cert ID# 96023

Sample I.D.: MW 9
Collected: 08/05/99 11:00
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
1-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:20	MEC
Acenaphthene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:20	MEC
Phenanthrene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:20	MEC
Fluoranthene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:20	MEC
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:20	MEC
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:20	MEC
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:20	MEC
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:20	MEC
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:20	MEC
Fluorene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:20	MEC
Anthracene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:20	MEC
Pyrene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:20	MEC
Chrysene	BDL	ug/L	3510/8270C	1.000	08/10/1999	08/11/1999 10:20	MEC
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	08/10/1999	08/11/1999 10:20	MEC
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:20	MEC
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:20	MEC
SURROGATE: D5-Nitrobenzene	56.60%						
SURROGATE: 2-Fluorobiphenyl	76.30%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 3
August 12, 1999
Report # 9908000392
Order # 90072492
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW 9
Collected: 08/05/99 11:00
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	43.80%						

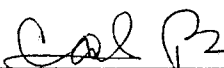
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 4
August 12, 1999
Report # 9908000392
Order # 90072493
South Carolina Cert ID# 96023

Sample I.D.: MW 10
Collected: 08/05/99 13:15
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Nitrate (as N)	3.93	mg/L	300.0	0.05	08/10/1999	08/10/199913:45MC	
Sulfate	2.69	mg/L	300.0	1.0	08/10/1999	08/10/199913:45MC	
Ferrous, Iron (Fe2+)	BDL	mg/L	SM3500-Fe D.	0.03	08/10/1999	08/10/199910:37IVR/M	
Lead	0.013	mg/L	SM3113B (239.2)	0.005	08/10/1999	08/10/199911:01MAH	
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
Benzene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
Toluene	4.09	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
Ethylbenzene	2.63	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
m & p-Xylene	5.02	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
o-Xylene	2.41	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
1,3,5-Trimethylbenzene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
1,2,4-Trimethylbenzene	2.74	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
Naphthalene	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:37	PMD
SURROGATE: Toluene-D8	101.25%						
SURROGATE: 1,4-DCB-D4	92.00%						
SURROGATE: Dibromofluoromethane	106.00%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC
2-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 5
August 12, 1999
Report # 9908000392
Order # 90072493
South Carolina Cert ID# 96023

Sample I.D.: MW 10
Collected: 08/05/99 13:15
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
1-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC
Acenaphthene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:21	MEC
Phenanthrene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC
Fluoranthene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:21	MEC
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:21	MEC
Fluorene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC
Anthracene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:21	MEC
Pyrene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:21	MEC
Chrysene	BDL	ug/L	3510/8270C	1.000	08/10/1999	08/11/1999 10:21	MEC
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	08/10/1999	08/11/1999 10:21	MEC
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
SURROGATE: D5-Nitrobenzene	55.60%						
SURROGATE: 2-Fluorobiphenyl	81.20%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 6
August 12, 1999
Report # 9908000392
Order # 90072493
South Carolina Cert ID# 96023

Site Location/Project

Coastal Truck Stop

Sample I.D.: MW 10
Collected: 08/05/99 13:15
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	57.50%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor

Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 7
August 12, 1999
Report # 9908000392
Order # 90072494
South Carolina Cert ID# 96023

Sample I.D.: MW 11
Collected: 08/05/99 12:00
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Nitrate (as N)	.34	mg/L	300.0	0.05	08/10/1999	08/10/1999	13:45MC
Sulfate	3.44	mg/L	300.0	1.0	08/10/1999	08/10/1999	13:45MC
Ferrous, Iron (Fe2+)	3.20	mg/L	SM3500-Fe D.	0.03	08/10/1999	08/10/1999	10:37IVR/M
Lead	0.12	mg/L	SM3113B (239.2)	0.005	08/10/1999	08/10/1999	11:01MAH
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
Benzene	10.1	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
Toluene	1.63	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
Ethylbenzene	19.9	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
m & p-Xylene	9.10	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
o-Xylene	2.08	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
1,3,5-Trimethylbenzene	67.8	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
1,2,4-Trimethylbenzene	33.3	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
Naphthalene	15.2	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999	09:38 PMD
SURROGATE: Toluene-D8	99.25%						
SURROGATE: 1,4-DCB-D4	98.50%						
SURROGATE: Dibromofluoromethane	108.50%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	10.8	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999	10:21 MEC
2-Methylnaphthalene	15.0	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999	10:21 MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 8
August 12, 1999
Report # 9908000392
Order # 90072494
South Carolina Cert ID# 96023

Sample I.D.: MW 11
Collected: 08/05/99 12:00
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
1-Methylnaphthalene	10.1	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC
Acenaphthene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:21	MEC
Phenanthrene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC
Fluoranthene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:21	MEC
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:21	MEC
Fluorene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:21	MEC
Anthracene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:21	MEC
Pyrene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:21	MEC
Chrysene	BDL	ug/L	3510/8270C	1.000	08/10/1999	08/11/1999 10:21	MEC
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	08/10/1999	08/11/1999 10:21	MEC
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:21	MEC
SURROGATE: D5-Nitrobenzene	50.10%						
SURROGATE: 2-Fluorobiphenyl	54.50%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Page 9
August 12, 1999
Report # 9908000392
Order # 90072494
South Carolina Cert ID# 96023

Site Location/Project
Coastal Truck Stop

Sample I.D.: MW 11
Collected: 08/05/99 12:00
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	41.80%						

REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 10
August 12, 1999
Report # 9908000392
Order # 90072495
South Carolina Cert ID# 96023

Sample I.D.: MW 14
Collected: 08/05/99 12:45
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
Nitrate (as N)	.20	mg/L	300.0	0.05	08/10/1999	08/10/199913:45MC	
Sulfate	47	mg/L	300.0	1.0	08/10/1999	08/10/199913:45MC	
Ferrous, Iron (Fe2+)	BDL	mg/L	SM3500-Fe D.	0.03	08/10/1999	08/10/199910:371VR/M	
Lead	0.016	mg/L	SM3113B (239.2)	0.005	08/10/1999	08/10/199911:01MAH	
8260B BTEX(Ext. List)in Water by GC-MS (S.C.)			MEDF	1			
Methyl-Tert-Butyl Ether	8.68	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
Benzene	591	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
Toluene	1350	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
1,2-Dibromoethane (EDB)	BDL	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 09:39	PMD
Ethylbenzene	640	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
m & p-Xylene	1490	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
o-Xylene	633	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
1,3,5-Trimethylbenzene	357	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
1,2,4-Trimethylbenzene	1290	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:09	PMD
Naphthalene	8.4	ug/L	5030/8260B	1.000	08/12/1999	08/12/1999 17:10	PMD
SURROGATE: Toluene-D8	106.50%						
SURROGATE: 1,4-DCB-D4	100.50%						
SURROGATE: Dibromofluoromethane	97.75%						
8270C PAHs (610) in WATER by GC/MC (Ion Trap)			MEDF	1			
Naphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:22	MEC
2-Methylnaphthalene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:22	MEC

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 11
August 12, 1999
Report # 9908000392
Order # 90072495
South Carolina Cert ID# 96023

Sample I.D.: MW 14
Collected: 08/05/99 12:45
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
1-Methylnaphthalene	10.2	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:22	MEC
Acenaphthene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:22	MEC
Phenanthrene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:22	MEC
Fluoranthene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:22	MEC
Benzo(a)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:22	MEC
Benzo(b)fluoranthene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:22	MEC
Benzo(a)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:22	MEC
Benzo(ghi)perylene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:22	MEC
Acenaphthylene	BDL	ug/L	3510/8270C	3.000	08/10/1999	08/11/1999 10:22	MEC
Fluorene	BDL	ug/L	3510/8270C	5.000	08/10/1999	08/11/1999 10:22	MEC
Anthracene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:22	MEC
Pyrene	BDL	ug/L	3510/8270C	0.300	08/10/1999	08/11/1999 10:22	MEC
Chrysene	BDL	ug/L	3510/8270C	1.000	08/10/1999	08/11/1999 10:22	MEC
Benzo(k)fluoranthene	BDL	ug/L	3510/8270C	0.500	08/10/1999	08/11/1999 10:22	MEC
Indeno(1,2,3-cd)pyrene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:22	MEC
Dibenzo(a,h)anthracene	BDL	ug/L	3510/8270C	0.200	08/10/1999	08/11/1999 10:22	MEC
SURROGATE: D5-Nitrobenzene	91.30%						
SURROGATE: 2-Fluorobiphenyl	98.30%						

Bruce G. Newell
Southeastern Environmental Inc
323 Main Street

Conway, SC 29526

Site Location/Project

Coastal Truck Stop

Page 12
August 12, 1999
Report # 9908000392
Order # 90072495
South Carolina Cert ID# 96023

Sample I.D.: MW 14
Collected: 08/05/99 12:45
Received: 08/09/99 09:30
Collected by: Client

PARAMETER	RESULT	UNITS	METHOD	DETECTION LIMIT	DATE EXT.	DATE ANALY.	ANALYST
SURROGATE: 4-Terphenyl-D14	66.10%						

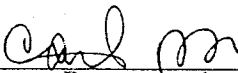
REPORT COMMENTS:

BDL: Indicates Analyte is Below Detection Limit MEDF: Matrix Effect Dilution Factor
Unless otherwise noted, mg/Kg denotes wet weight

Unless otherwise noted in analyst section, all work performed by Precision Environmental Laboratory, Inc.
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
NC. = #539, 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

APPENDIX E

Fate and Transport Model Input and Results

Air Force Center for Environmental Excellence

Seepage Velocity*	$\uparrow$ or	44.8	(ft/yr)
Hydraulic Conductivity	K	1.1E-02	(cm/sec)
Hydraulic Gradient	i	0.003	(ft/ft)
Porosity	n	0.3	(-)

Longitudinal Dispersion*	alpha x	(ft)	8.0
Transverse Dispersion*	alpha y	(ft)	0.8
Vertical Dispersion*	alpha z	(ft)	0.0
or			↑ or
Estimated Plume Length	Lp	(ft)	200

Retardation Factor*	<i>R</i>	
or		
Soil Bulk Density	<i>rho</i>	2.5 ↑ or 1.7
Partition Coefficient	<i>Koc</i>	38 (kg/l) (L/kg)
Fraction Organic Carbon	<i>foc</i>	5.7E-5 (-)

1st Order Decay Coeff* or Solute Half-Life	lambda t-half	(per yr) (year)
	2.5E-1	
	↑ or	
	1.00	

or <i>Instantaneous Reaction Model</i>	DO NO3 Fe2+ SO4 CH4	(mg/L) (mg/L) (mg/L) (mg/L) (mg/L)
Delta Oxygen*		2.6
Delta Nitrate*		2.3
Observed Ferrous Iron*		5
Delta Sulfate*		17.5
Observed Methane*		6.6

Version 1.4

Modeled Area Length*	300	(ft)
Modeled Area Width*	200	(ft)
Simulation Time*	10	(yr)

Source Thickness in Sat.Zone* 10 (ft)

Source Zones:

10	20
5	40
5	80
5	40
10	20

30	50	(yr)
Inst. React.	1st Order	
Soluble Mass	300	(Kg)

Concentration (mg/L)	80.0	40.0										
Dist. from Source (ft)	0	30	60	90	120	150	180	210	240	270	300	

RUN CENTERLINE

View Output

RUN ARRAY

Help **Recalculate This Sheet**

Paste Example Dataset

Restore Formulas for Vs,
Dispersivities: R. lambda, other

Coastal 10

115

Run Name

300	(ft)
200	(ft)
10	(yr)

A diagram of a vertical, elongated, teardrop-shaped object. A vertical double-headed arrow to the left of the object is labeled 'L', indicating its length. A horizontal double-headed arrow below the object is labeled 'W', indicating its width.

1. Enter value directly.... or
2. Calculate by filling in grey cells below. (To restore

[illegible]

20	Value calculated by model
----	---------------------------

(Don't enter any data).

**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"

Soil

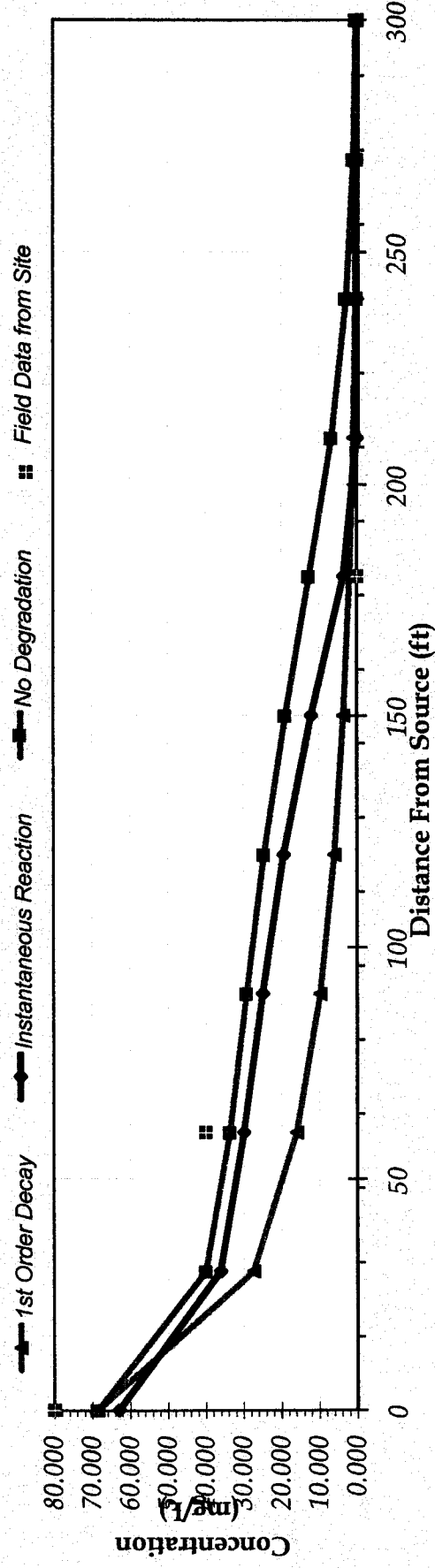
Concentration (mg/L)
Dist. from Source (ft)

Concentration (mg/L)
Dist. from Source (ft)

Concentration (mg/L)
Dist. from Source (ft)

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

TYPE OF MODEL	Distance from Source (ft)										
	0	30	60	90	120	150	180	210	240	270	300
No Degradation	68.709	39.945	33.623	29.188	24.552	18.896	12.581	6.753	2.893	0.965	0.247
1st Order Decay	68.709	27.382	15.902	9.710	5.973	3.554	1.944	0.904	0.350	0.108	0.026
Inst. Reaction	63.037	36.207	29.847	24.894	19.263	11.993	3.594	0.000	0.000	0.000	0.000
Field Data from Site	80.000		40.000				0.014				



Time:

10 Years

Calculate Animation

Return to Input

Recalculate This Sheet

BIOSCREEN Natural Attenuation Decision Support System

Air Force Center for Environmental Excellence

Version 1.4

1. HYDROGEOLOGY

Seepage Velocity*	44.8 (ft/yr)
or	1.1E-02 (cm/sec)
Hydraulic Conductivity	0.003 (ft/ft)
Hydraulic Gradient	0.3 (-)
Porosity	

2. DISPERSION

Longitudinal Dispersivity*	8.0 (ft)
Transverse Dispersivity*	0.8 (ft)
Vertical Dispersivity*	0.0 (ft)
or	200 (ft)
Estimated Plume Length	Lp

3. ADSORPTION

Retardation Factor*	2.5 (-)
or	1.7 (kg/l)
Soil Bulk Density	38 (L/kg)
Partition Coefficient	5.7E-5 (-)
Fraction Organic Carbon	

4. BIODEGRADATION

1st Order Decay Coeff*	2.5E-1 (per yr)
or	1.00 (year)
Solute Half-Life	
or Instantaneous Reaction Model	
Delta Oxygen*	2.6 (mg/L)
Delta Nitrate*	2.3 (mg/L)
Observed Ferrous Iron*	5 (mg/L)
Delta Sulfate*	17.5 (mg/L)
Observed Methane*	6.6 (mg/L)

5. GENERAL

Version 1.4

6. SOURCE DATA

Modeled Area Length*	300 (ft)
Modeled Area Width*	200 (ft)
Simulation Time*	20 (yr)

7. FIELD DATA FOR COMPARISON

Source Thickness in Sat. Zone* 10 (ft)

Source Zones:

Width* (ft)	Conc. (mg/L)*
10	20
5	40
5	80
5	40
10	20

8. CHOOSE TYPE OF OUTPUT TO SEE:

Source Half-life (see Help):

30	50
Inst. React. N	1st Order
Soluble Mass	300
In Source NAPL, Soil	

Concentration (mg/L)

Dist. from Source (ft)

80.0	40.0	0	30	60	90	120	150	180	210	240	270	300
------	------	---	----	----	----	-----	-----	-----	-----	-----	-----	-----

Observed Centerline Concentrations at Monitoring Wells

If No Data Leave Blank or Enter "0"

RUN
CENTERLINE

View Output

RUN ARRAY

View Output

Help

Paste Example Dataset

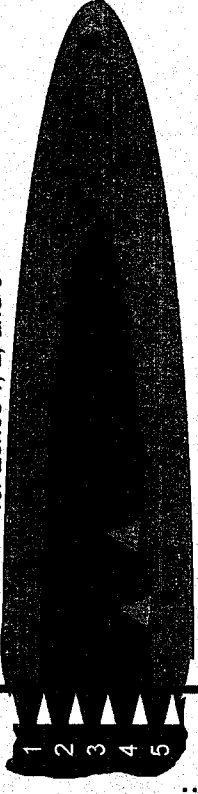
Restore Formulas for Vs,
Dispersivities, R, lambda, other

Recalculate This
Sheet

Data Input Instructions:

115	1. Enter value directly....or
or	2. Calculate by filling in grey
0.02	cells below. (To restore
	formulas, hit button below).
Variable*	Data used directly in model.
20	Value calculated by model.
	(Don't enter any data).

Vertical Plane Source: Look at Plume Cross-Section
and Input Concentrations & Widths
for Zones 1, 2, and 3



View of Plume Looking Down

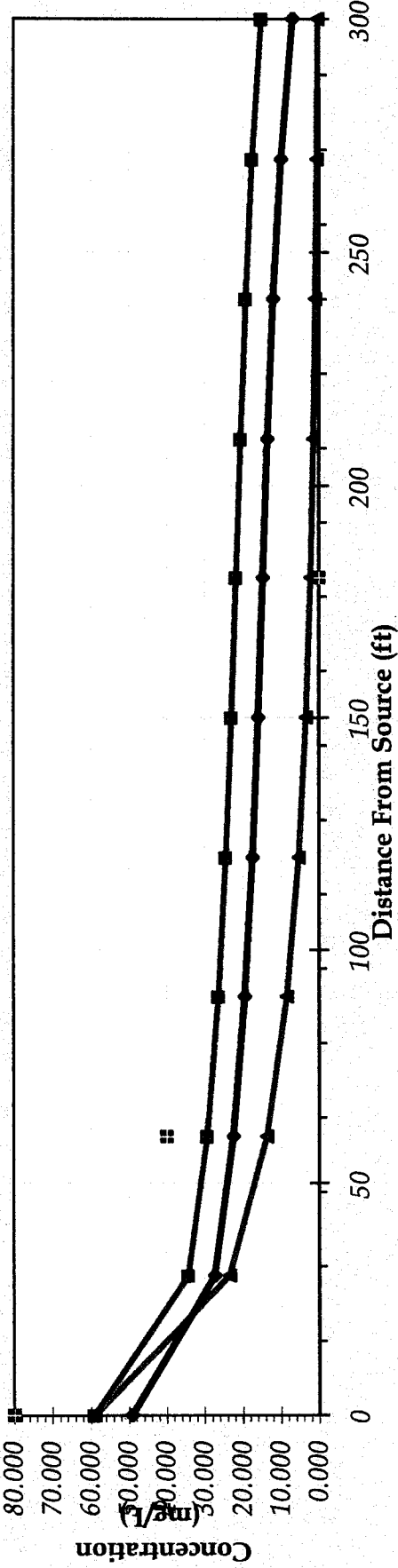
Observed Centerline Concentrations at Monitoring Wells
If No Data Leave Blank or Enter "0"

DISSOLVED HYDROCARBON CONCENTRATION ALONG PLUME CENTERLINE (mg/L at Z=0)

Distance from Source (ft)

TYPE OF MODEL	0	30	60	90	120	150	180	210	240	270	300
No Degradation	59.012	34.399	29.257	26.324	24.343	22.880	21.684	20.541	19.221	17.496	15.213
1st Order Decay	59.012	23.524	13.683	8.420	5.328	3.432	2.237	1.471	0.971	0.641	0.418
Inst. Reaction	49.185	27.382	22.463	19.490	17.449	15.941	14.705	13.487	11.993	9.912	7.022
Field Data from Site	80.000		40.000				0.014				

—■— 1st Order Decay
 —●— Instantaneous Reaction
 —■— No Degradation
 ■ Field Data from Site



Time:

20 Years

Calculate Animation

Return to Input

Recalculate This Sheet

Tier I Evaluation

APPENDIX F

III. Tier I Evaluation
A. CURRENT LAND USE - Identify any potential receptors or human exposure pathways (e.g. basements, contaminated soils from UST closures, etc.) within a 1000-foot radius for current land use. Complete the table below. Additional sheets may be attached if necessary.

Media (for exposure)	Exposure Route	Pathway Selected for Evaluation? (Yes or No)	Exposure point or Reason for Non-Selection	Data Requirements (if pathway selected)
Air	Inhalation Explosion Hazard	Yes No		
Ground-Water	Ingestion Dermal Contact Volatilization	Yes No Yes	Public water supply	
Surface Water	Ingestion Dermal contact Volatilization Inhalation	Yes No Yes No	No surface water impacted	
Surficial Soil	Ingestion Dermal contact Volatilization Inhalation Leaching to Ground-Water	Yes No Yes Yes No	No surficial soil impacted	
Subsurface Soil	Ingestion Dermal contact Volatilization Inhalation Leaching to Ground-Water	Yes No Yes Yes No	In contact w/ ground water	

B. FUTURE LAND USE - Identify any potential receptors or human exposure pathways (e.g. basements, contaminated soils from UST closures, etc.) within a 1000-foot radius for projected future land use. Complete the table below. Additional sheets may be attached if necessary

Media (for exposure)	Exposure Route	Pathway Selected for Evaluation? (Yes or No)	Exposure point or Reason for Non-Selection	Data Requirements (If pathway selected)
Air	Inhalation Explosion Hazard	Yes No		
Ground-Water	Ingestion Dermal Contact Volatile Inhalation	Yes No Yes No	Public water supply	
Surface Water	Ingestion Dermal contact Volatile Inhalation	Yes No Yes No	No surface water impacted	
Surficial Soil	Ingestion Dermal contact Volatile Inhalation Leaching to Ground-Water	Yes No Yes No Yes No	No surficial soil impacted	
Subsurface Soil	Ingestion Dermal contact Volatile Inhalation Leaching to Ground-Water	Yes No Yes No Yes No	If exposed In Contact w/ Groundwater	

TABLES

Southeastern Environmental, INC.
HAND AUGER / SOIL BORING LOG

Job Location: Coastal Truck Stop

Date: 3/4/99 - 3/

Water Table: ~10'

Samples Taken By: JMH/JVB/AWB/SY

Job Type: RA

Bore Hole	Sample Depth (ft.)	OVA (ppm)	Soil Description	Muncell Type	Comments	Time
1	7	5000	Brown sandy clay	7.5YR 6/3	STRONG ODOR	11:26
1	10	5000	Orange Brown sandy clay	7.5YR 6/3	STRONG ODOR	
2	8	1200	Brown sandy clay	7.5YR 6/3	ODOR	11:40
2	10	5000	Mottled gray orange sandy clay	2.5Y 6/3	STRONG ODOR	12:00
3	6	400	Brown sandy clay	7.5YR 6/3		12:15
3	10	5000	Brown clay	7.5YR 6/3	STRONG ODOR	12:30
4	8	200	Orange clay	5YR 6/4	NO ODOR	
4	10	1000	Orange brown clay	5YR 6/4	SOME ODOR	
5	8	2200	Brown sandy clay	7.5YR 6/3	SOME ODOR	
5	10	5000	Brown sandy clay	7.5YR 6/3	STRONG ODOR	
6	7	1000	Brown sandy clay	7.5YR 6/3		13:44
6	11	5000	Orange sandy clay	5YR 6/4	STRONG ODOR	
7	8	300	Brown sandy clay	7.5YR 6/3		
7	11	5000	Mottled orange gray sandy clay	5YR 6/4	STRONG ODOR	
8	11	8	Brown sandy clay	7.5YR 6/3		
9	7	5000	Brown sandy clay	7.5YR 6/3	STRONG ODOR	14:00
9	11	5000	Orange brown hard clay	5YR 6/4	STRONG ODOR	14:30
10	8	300	Brown sandy clay	7.5YR 6/3		1410
10	11	5000	Orange brown clay	5YR 6/4	STRONG ODOR	1245
11	5	120	Brown sandy clay	7.5YR 6/3		
11	8	5000	Brown sandy clay	7.5YR 6/3	STRONG ODOR	
11	11	5000	Brown Sandy clay	7.5YR 6/3	STRONG ODOR	1506
12	8	20	Brown sandy clay	7.5YR 6/3	NDO	
13	3	5000	Brown sandy	7.5YR 6/3	STRONG ODOR	1445
13	5	5000	Tan sand	2.5Y 6/3	STRONG ODOR	
13	8	5000	Brown sandy clay	7.5YR 6/5	SOME ODOR	1516
14	11	3100	Brown sandy clay	7.5YR 6/5	GAS ODOR	
15	3	25	Brown sandy clay	7.5YR 6/3	NDO	1505
15	8	3	Tan orange sand	5YR 6/4	NDO	1524
15	11	5000	Tan orange sand	5YR 6/4	STRONG ODOR	1530
16	11	5000	Orange sandy clay	5YR 6/4	STRONG ODOR	
17	5	200	Lt. Brown sand	7.5YR 6/3	ODOR	

17	8	5000	Gray sand	2.5Y 6/3	STRONG ODOR	
17	11	5000	Brown sandy clay	7.5YR 6/3	STRONG ODOR	
18	8	4	Brown sand	7.5YR 6/3	NDO	
18	11	5000	Brown sand	7.5YR 6/3	STRONG ODOR	
19	8	2200	Brown sand	7.5YR 6/3		
19	11	5000	Brown sand	7.5YR 6/3	STRONG ODOR	
20	8	2100	Brown sand	7.5YR 6/3		
20	11	4900	Brown sand	5YR 6/4	STRONG ODOR	
21	3	180	Tan/Brown sand	7.5YR 7/2		
21	5	30	Tan/Brown sand	7.5YR 6/3	NDO	
21	8	3500	Brown sand	7.5YR 6/2	STRONG ODOR	
21	11	5000	Brown sand	7.5YR 6/4	STRONG ODOR	
22	2.5	5000	Brown tan sand	7.5YR 6/3	STRONG ODOR	
22	5	5000	Lt. Brown sand	7.5YR 6/3	STRONG ODOR	
22	8	5000	Brown sand	7.5YR 6/4	STRONG ODOR	
22	11	5000	Brown sand	7.5YR 5/6	STRONG ODOR	
23	5	250	Damp orange clay	7.5YR 3/6	NDO	
23	8	3	Brown sandy clay	7.5YR 5/4	NDO	
23	11	450	Damp orange clay	5YR 6/4	? ODOR	
24	5	26	Brown sand	7.5YR 6/4	NDO	
24	8	5	Orange clay	7.5YR 3/6	NDO	
24	11	110	Orange tan clay	5YR 6/4	NDO	
25	8	3	Orange clay	5YR 6/4	NDO	
25	11	190	Tan/Orange clay	5YR 6/4	NDO	
26	5	ND	Brown sand	7.5YR 3/4	NDO	
26	8	ND	Orange tan clay	7.5YR 6/4	NDO	
26	11	2700	Orange tan clay	5YR 6/4	SOME ODOR	
27	8	15	Orange tan clay	5YR 5/8	NDO	
27	11	3100	Orange tan clay	5YR 5/6	SOME GAS ODOR	
28	8	ND	Orange tan clay	5YR 5/2	NDO	1115
28	11	2600	Orange tan clay	5YR 7/1, 6/8	SOME GAS ODOR	
29	8	ND	tan sandy clay	5YR 5/2	NDO	
29	11	300	Orange clay	5YR 6/4		
31	8	ND	Tan clay	5YR 6/1	NDO	
31	11	60	Tan clay	5YR 7/1	OLD ROTTEN ODOR	
32	8	ND	Tan clay	5YR 5/1	NDO	
32	11	40	Tan clay	5YR 6/1	NDO	
33	11	1500	Brown sandy clay	5YR 4/1	STRONG ? ODOR	
34	11	100	Brown sandy clay	5YR 4/1	NDO	
35	11.5	ND	Red dry clay	5YR 6/5	NDO	
36	11.5	70	Red/drk orange dry clay	7.5YR 5/6, 5YR 5/8, 5YR 8/1	NDO	1435
37	11	50	Red/drk orange dry clay	7.5YR 5/6, 5YR 8/1, 2.5YR 4/8	NDO	
38	11	240	Red dry sandy clay	5YR 6/5	NOT MUCH ODOR	1419
39	11	5000	orange dry clay	5YR 8/1, 5YR 6/4, 2.5YR 4/8	GAS ODOR	

40	11	300	Red gray dry clay	5YR 6/5	ODOR ?	1100
41	11	5000	Gray clay	5YR 3/1	GAS ODOR	
42	11	150	Moist gray clay	5YR 8/1, 7/1	NOT MUCH ODOR	
43	11	17	Lt. Brown sandy clay	5YR 4/1	NDO	
44	11.5	5000	Dry Brown sandy clay	5YR 8/1, 7/1	GAS ODOR	1427
45	11	30	Gray / Lt. Brown clay	2.5Y 6/3	NDO	1430
46	11	5000	Brown Grey clay	7.5YR 6/8, 8/0 2.5Y 7/0	STRONG ODOR	
47	11	ND	Red dry clay	5YR 6/5	NDO	1000
48	11	ND	Red dry clay	5YR 6/5	NDO	1000
49	11	ND	Red dry clay	5YR 6/5	NDO	1015
50	11	ND	Red dry clay	5YR 6/5	NDO	1030
51	11	ND	Red dry clay	5YR 6/5	NDO	1130
52	11	4	Red /gray dry clay	5YR 6/5	NDO	1130
53	11	24	Red /gray dry clay	5YR 6/5	NDO	1145
54	11	60	Red /gray dry clay	5YR 6/5	NDO	
55	11	1	Reddish brown sand	5YR 6/5	NDO	
56	11	12	Red/gray/brown sand	5YR 6/5	NDO	
57	11	11	Red/gray/brown sand	5YR 6/5	NDO	
58	11	500	Red/gray/brown sand	5YR 6/5	ODOR	
59	11	2000	Red/gray/brown sand	5YR 6/5	NDO	
60	11	35	Red/gray/lt. brown sand	5YR 6/5	NDO	
61	11	ND	Gray brown sandy clay	2.5Y 6/3	NDO	
62	11	14	Dry Gray Brown sandy clay	2.5Y 6/3	NDO	1459
63	11	ND	Lt. Gray Brown sandy clay (dry)	2.5Y 6/3	NDO	1035
64	11	ND	Brown sandy clay	7.5YR 6/3	NDO	1042
65	11	ND	Brown sandy clay	7.5YR 6/3	NDO	1057
66	11	ND	Red dry sandy clay	5YR 6/5	NDO	1122
67	11	ND	Orange (some gray) dry sandy clay	7.5 YR 6/8	NDO	1130
68	11	ND	Orange (some gray) dry sandy clay	7.5 YR 6/8	NDO	1148
69	11	ND	Orange dry sandy clay	7.5 YR 6/8	NDO	1200
70	11	ND	Red/gray/brown sand	5YR 6/5	NDO	1210
71	11	ND	Red/gray/brown sand	5YR 6/5	NDO	1223
72	11	ND	Red/gray/brown sand	5YR 6/5	NDO	1235
73	11	ND	Red/drk orange dry clay	7.5YR 5/6, 5YR 8/1, 2.5YR 4/8	NDO	1248
74	11	7	Red /gray dry clay	5YR 6/5	NDO	1259
75	11	ND	Red /gray dry clay	5YR 6/5	NDO	1312
76	11	ND	Tan clay	5YR 6/1	NDO	1327
77	11	ND	Tan + Black Sandy Clay	10YR 6/1	NDO	1339
78	11	ND	Red /gray dry clay	5YR 6/5	NDO	1350
79	8	ND	Tan Sandy Clay	7.5YR 6/2	NDO	11:00
	11	200	Tan Brown Clay	7.5YR 6/3	NDO	11:10
80	5	ND	Lt. Tan Sand	7.5YR 7/2	NDO	11:08
	8	450	Dk. Tan Sandy Clay	7.5YR 6/2	Some odor	11:10

	11	30	Dk. Tan Sandy Clay	7.5YR 5/2	NDO	11:20
81	5	35	Tan Sand	2.5YR 7/3	NDO	11:20
	8	8	Orange Brown Sandy Clay	7.5YR 5/3	NDO	11:25
	11	5000+	Tan clayish sand	7.5YR 7/2	Strong odor	11:30
82	5	2	Tan Sand	2.5YR 7/3	NDO	11:10
	8	5000+	Brown Clayish Sand	2.5YR 6/2	Strong Odor	11:13
	11	5000+	Orange + Tan Clay	7.5YR 6/2 5/6	Strong Odor	11:20
83	8	5	Tan Sand Wet	7.5YR 6/2	NDO	11:45
	11	ND	Tan + Black Sandy Clay	10YR 6/1	NDO	11:50
84	8	4	Brown/orange Clay	10YR 6/2	NDO	12:00
	11	130	Tan Clayish sand	10YR 6/2	NDO	12:18
85	8	2	Tan Sandy Clay Wet	2.5Y 6/3	NDO	12:05
	11	ND	Brown + Orange Clay	7.5YR 5/6 2.5Y 7/2	NDO	12:10
86	8	ND	Brown Clay	2.5Y 5/4	NDO	12:08
	11	ND	Lt. Gray Clayish Sand	2.5Y 6/2	NDO	12:10
87	8	ND	Tannish Orange Clay	2.5Y 6/3	NDO	12:15
	11	10	Dk. Gray Clay	2.5Y 6/2	NDO	12:20
88	8	2	Tan Clay	2.5Y 6/3	NDO	12:25
	11	3	Gray Clay	2.5Y 6/2	NDO	12:30
89	8	3	Gray Brown Clay	2.5Y 6/2	NDO	12:30
	11	4	Gray Brown Clay	2.5Y 6/3	NDO	12:35
90	8	35	Gray Brown Clay	2.5Y 6/2	NDO	12:35
	11	2	Gray Brown Clay	2.5Y 6/3	NDO	12:40

Disposal method : barreled on site

* IGWA - gen. soil descrip. * SLA - soil type, Muncell, conditions, rocks or minerals * RA - (Same as SLA)

Table 2

Field Parameters
Coastal Truck Stop Site
Florence, South Carolina
Site ID# 03538

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-14	TW
Temperature (C)	22.8	22.9	23	23.3	22.4	23.1	21.3	20.7	20.9	22.3	23.5	22.1	21.9
Conductivity (S)	55	111	99	64	48	*	68	30	38	37	40	23	*
pH	4.8	5.1	5.4	4.6	5.1	4.5	5.6	4.9	4.2	4.1	5.3	5	10.4
Dissolved Oxygen (mg/l)	2.8	1.5	1.4	2.3	1.5	4	2.3	1.5	5.9	4.6	2.3	3.3	3.8

Table 3

Potentiometric Data Summary
Coastal Truck Stop
Florence, South Carolina
Site ID# 03538

Well #	Casing	Depth to Groundwater	Groundwater
	Elevation	09/29/1999	Elevation
1	149.83	13.31	136.52
2	149.23	13.63	135.60
3	149.45	13.13	136.32
4	149.71	12.91	136.80
5	149.1	12.54	136.56
6	147.61	13.04	134.57
7	148.6	NM	NM
8	148.01	11.54	136.47
9	148.01	12.08	135.93
10	147.73	NM	NM
11	147.05	12.75	134.30
14	148.37	11.87	136.50
TW	149.71	12.79	136.92

Ta
Gr
Co
Fl
Site
Rept

Table 4
Soil Analytical Data Summary
Coastal Truck Stop Site
Florence, South Carolina
Site ID# 03538
Reported in µg/kg (parts per billion)

COC	RBSL	IGWA	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	M1-11	MW-14	TW
Depth of Sample		11	11	11	11	11	11	11	11	11	8.5	8.5	8.5	9.5	8'
Benzene	5	6.2	BDL	181	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	104
Toluene	1622	78.6	11000	(11900)	1400	43.5	14.6	BDL	266	BDL	BDL	BDL	BDL	BDL	1640
Ethylbenzene	1260	622	10600	4790	1240	449	130	BDL	2450	10.1	BDL	BDL	BDL	BDL	1380
Xylenes	42471	403	45600	20850	6380	1332	831	BDL	10730	44.2	BDL	BDL	BDL	BDL	8720
Total BTEX	NA	1109.8	67200	37721	9020	1824.5	975.6	BDL	13446	54.3	BDL	BDL	BDL	BDL	11844
MTBE		NA	155	58.2	8.3	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	78.5
2-Methylnaphthalene		BDL	2370	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA
1-Methylnaphthalene		BDL	1200	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA
Naphthalene (8260)	210	BDL	2560	255	209	428	809	BDL	174	12.8	BDL	BDL	BDL	BDL	5810
Naphthalene (8270)		BDL	1970	BDL	189	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA
Benzo(a)anthracene	73084	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA
Benzo(b)fluoranthene	29097	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA
Benzo(k)fluoranthene	231109	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA
Chrysene	12998	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA
Dibenz(a,h)anthracene	87866	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	BDL	NA

BDL: Below analytical detection limit
NA: Analysis not Conducted

COC
Free
Benz
Tolu
Ethyl
Xylen
Total
Naphth
Naphth
1,3,5 Tri
1,2,4 Tri
2-Methy
1-Methy
Benzo(a
Benzo(b
Benzo(k
Chrysen
Dibenz(a
Lead (mg
EDB
MTBE

BDL: Below
NA: Analys

Inorganic Parameters
Reported in mg/l

	MW-1	MW-2	MW-3	MW-4	MW-5	MW-6	MW-7	MW-8	MW-9	MW-10	MW-11	MW-14	TW
Nitrate	6.73	0.26	0.36	0.32	0.65	0.6	0.32	0.27	4.08	3.93	0.34	0.2	1.35
Sulfate	3.21	2.92	3.51	2.65	4.36	5.55	2.5	5.2	2.48	2.69	3.44	47	21
Ferrous Iron (Fe 2+)	4.5	4.9	9.5	2.4	6.5	BDL	8.6	2.6	BDL	BDL	3.2	BDL	BDL

Southeastern Environmental, INC.**WATER TESTING LOG**

Job Location: Coastal Truck Stop

Date: 7/19/99-8/5/99

Samples Taken By: AWB/SB

Job Type: R.A.

** Note: all GWT measured on 9/29/99*

WELL #	G.W.T. Depth	TEMP. (C)	Conduct (S)	pH	DO ₂	Comments	Time
1	13.31'	22.2	73	4.8	2.8		
		22.8	29	4.8			
		22.9	46	4.9			
		22.8	43	4.9			
		22.8	70	4.8			
		22.8	50	4.8			
		22.8	59	4.8			
		22.8	53	4.8			
		22.8	38	4.8			
		22.9	59	4.8			
		22.8	55	4.8			
		22.8	55	4.8			
2	12.63'	24.7	110	5.0	1.5		
		23.3	111	5.1			
		23.1	107	5.1			
		23.1	106	5.1			
		23.1	112	5.1			
		23.0	90	5.1			
		22.9	111	5.1			
		22.9	116	5.1			
		22.9	89	5.1			
		22.9	38	5.1			
		22.9	114	5.1			
		22.9	94	5.1			
		22.9	115	5.1			
		22.9	111	5.1			
3	13.13'	23.5	101	5.4	1.4		

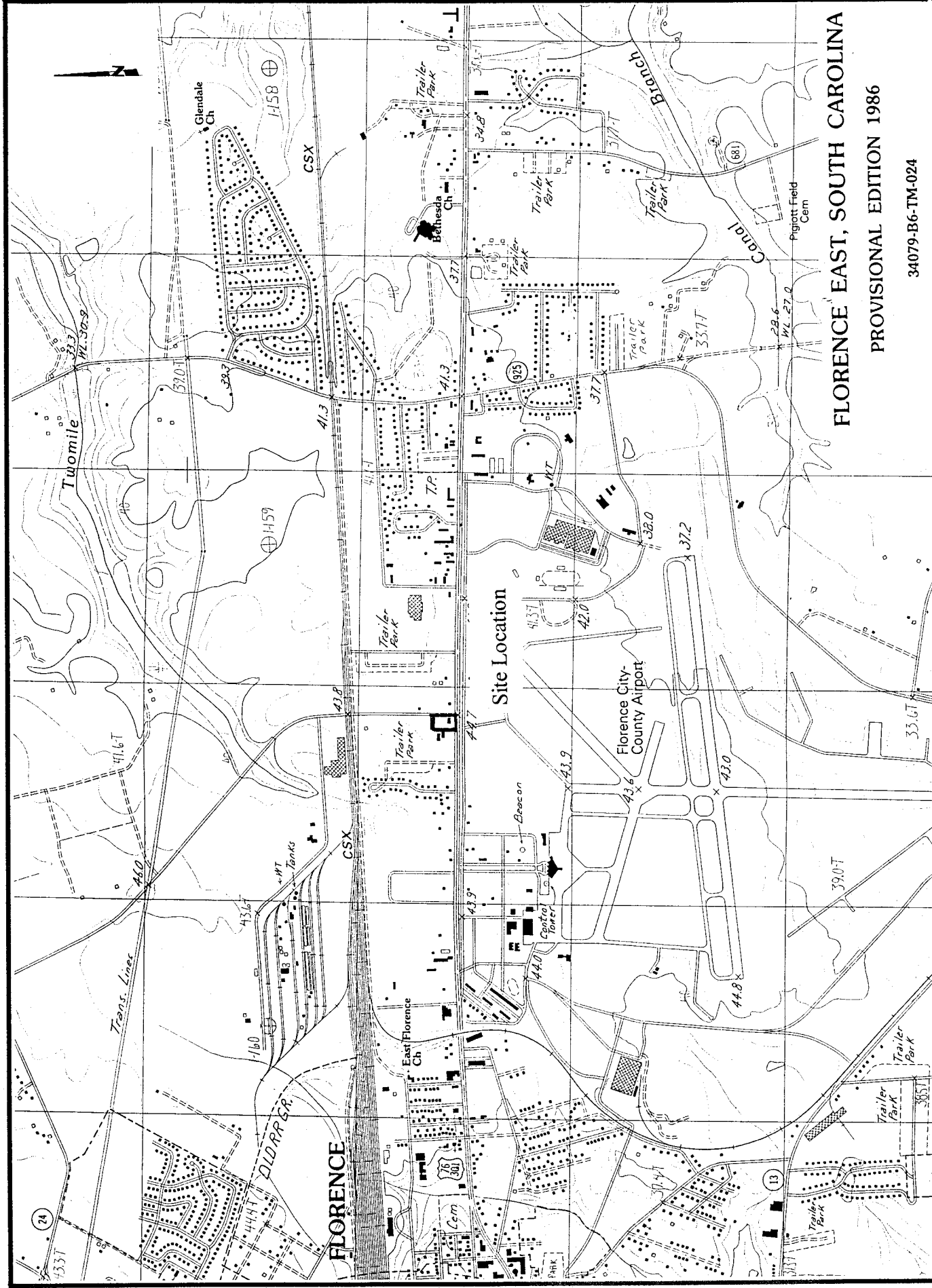
		23.2	79	5.4		
		23.1	100	5.4		
		23.1	98	5.4		
		23.1	102	5.4		
		23.0	68	5.4		
		23.1	98	5.4		
		23.0	102	5.4		
		23.0	66	5.4		
		22.9	36	5.4		
		22.8	99	5.4		
		23.1	52	5.4		
		23.0	99	5.4		
		23.0	104	5.4		
		23.0	99	5.4		
4	12.91'	23.9	58	4.6	2.3	
		23.6	12	4.6		
		23.4	13	4.6		
		23.2	45	4.6		
		23.3	20	4.6		
		23.3	40	4.6		
		23.3	65	4.6		
		23.3	62	4.6		
		23.3	64	4.6		
		23.3	63	4.6		
		23.3	64	4.6		
5	12.54'	23.8	69	5.1	1.5	
		23.4	68	5.0		
		23.0	51	5.1		
		22.8	47	5.1		
		22.6	15	5.1		
		22.5	16	5.1		
		22.3	09	5.1		
		22.4	48	5.1		
		22.3	63	5.1		
		22.6	44	5.1		
		22.4	54	5.1		
		22.4	48	5.1		

6	13.04'	24.2	280	3.0	4.0		
		23.4	80	4.2			
		23.3	27	4.4			
		23.2	16	4.5			
		23.3	22	4.5			
		23.1	48	4.5			
		23.1	15	4.5			
		23.1	4	4.5			
		23.1	15	4.5			
		23.1	24	4.5			
		23.1	--	4.5			
7		22.1	72	5.4	2.3	Well under storage building	
		21.3	905	5.5			
		21.2	83	5.6			
		21.5	58	5.6			
		21.3	53	5.6			
		21.3	71	5.6			
		21.3	68	5.6			
		21.3	98	5.6			
		21.3	61	5.6			
		21.3	68	5.6			
8	11.54'	21.8	22	4.8	1.5		
		20.9	26	4.8			
		20.8	27	4.9			
		20.8	30	4.9			
		20.7	30	4.9			
		20.7	30	4.9			
		20.7	25	4.9			
		20.8	26	4.9			
		20.7	30	4.9			
		20.7	30	4.9			
		20.7	30	4.9			
		20.7	30	4.9			
9	12.08'	21.7	41	7.1	5.9		
		21.1	9	6.0			
		21.0	49	5.4			

		20.9	46	5.1			
		20.9	13	4.7			
		20.9	43	4.6			
		20.9	43	4.4			
		20.9	41	4.3			
		20.9	22	4.2			
		20.8	39	4.2			
		20.9	38	4.2			
		20.9	39	4.2			
		20.9	38	4.2			
10		23.0	38	4.7	4.6	Unable to obtain GWT due to buried well	
		22.6	37	4.4			
		22.6	35	4.2			
		22.5	17	4.2			
		22.4	37	4.1			
		22.3	37	4.1			
		22.3	37	4.1			
		22.3	37	4.1			
		22.3	37	4.1			
		22.3	37	4.1			
		22.3	37	4.1			
11	12.75'	24.2	26	5.1	2.3		
		23.7	15	5.2			
		23.5	31	5.3			
		23.5	24	5.3			
		23.5	29	5.3			
		23.5	40	5.3			
		23.5	36	5.3			
		23.5	36	5.3			
		23.5	45	5.3			
		23.5	35	5.3			
		23.5	40	5.3			
12	Well not constructed						
13	Well not constructed						

14	11.87'	23.2	32	5.9	3.3		
		22.4	17	5.4			
		22.3	13	4.8			
		22.2	18	5.2			
		22.1	13	5.0			
		22.2	77	5.0			
		22.2	23	4.8			
		22.2	23	5.0			
		22.2	11	4.9			
		22.1	13	5.0			
		22.1	70	5.0			
		22.1	15	5.0			
		22.1	23	5.0			
Tele	12.79'	22.5	131	11.3	3.8		
		22.2	190	10.7			
		22.2	225	11.5			
		22.2	200	10.1			
		22.0	170	9.9			
		21.8	82	9.5			
		21.7	138	9.4			
		21.8	159	10.7			
		21.9	86	9.6			
		21.8	430	11.5			
		22.0	368	10.6			
		21.9	142	10.8			
		21.9	45	9.7			
		22.1	184	9.9			
		21.9	128	9.6			
		22.3	439	11.3			
		21.9	204	10.3			
		21.9	--	10.4			

FIGURES

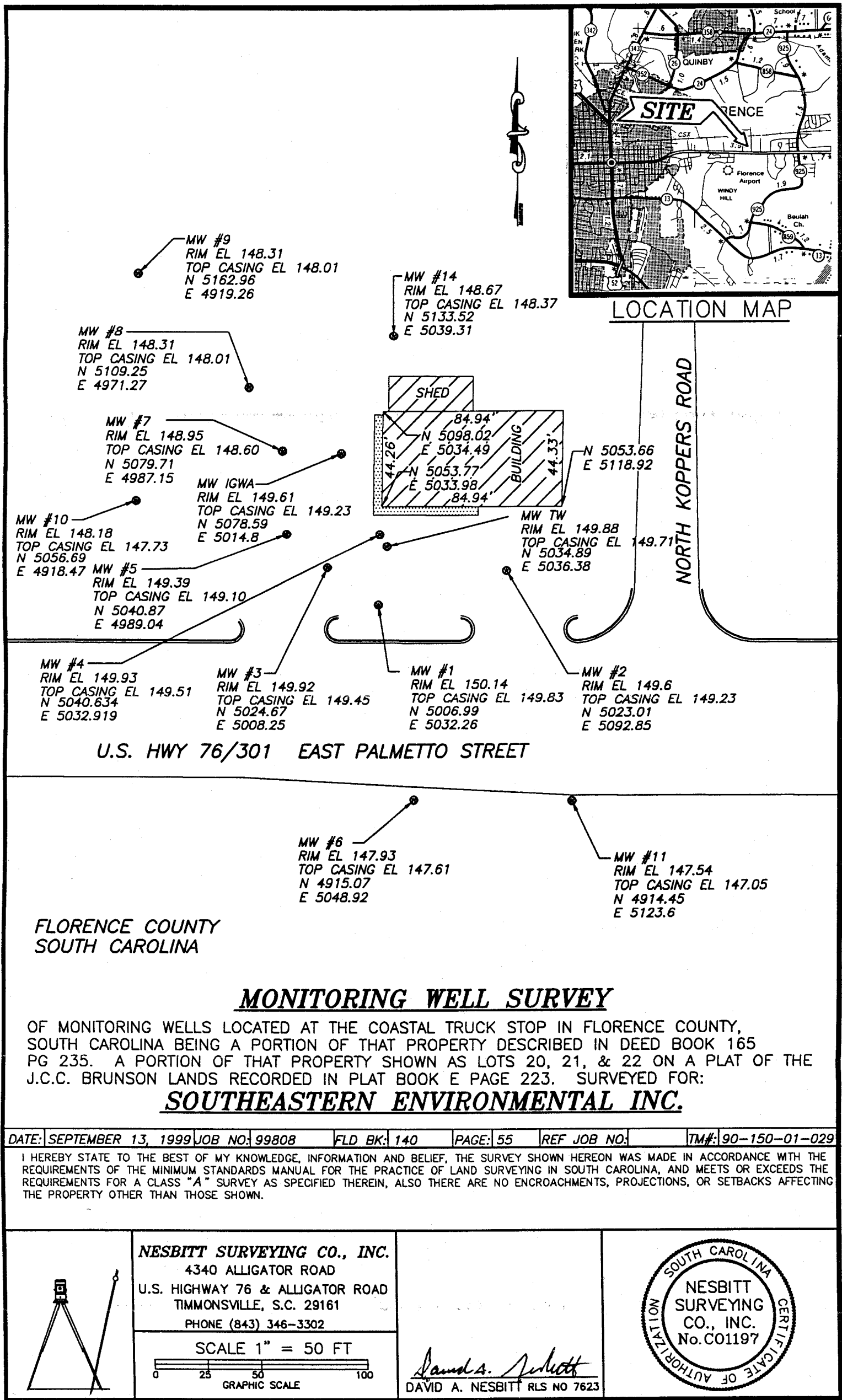


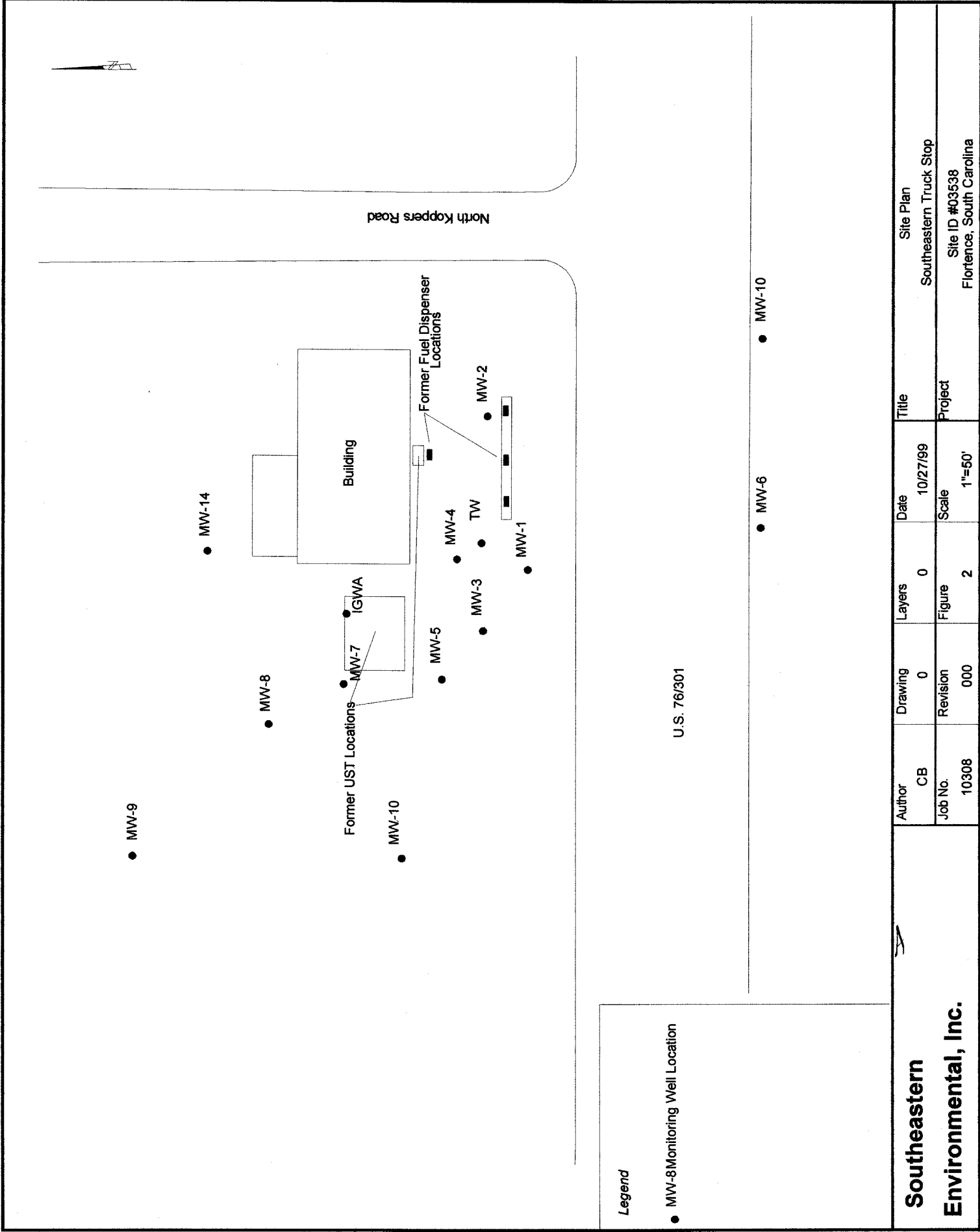
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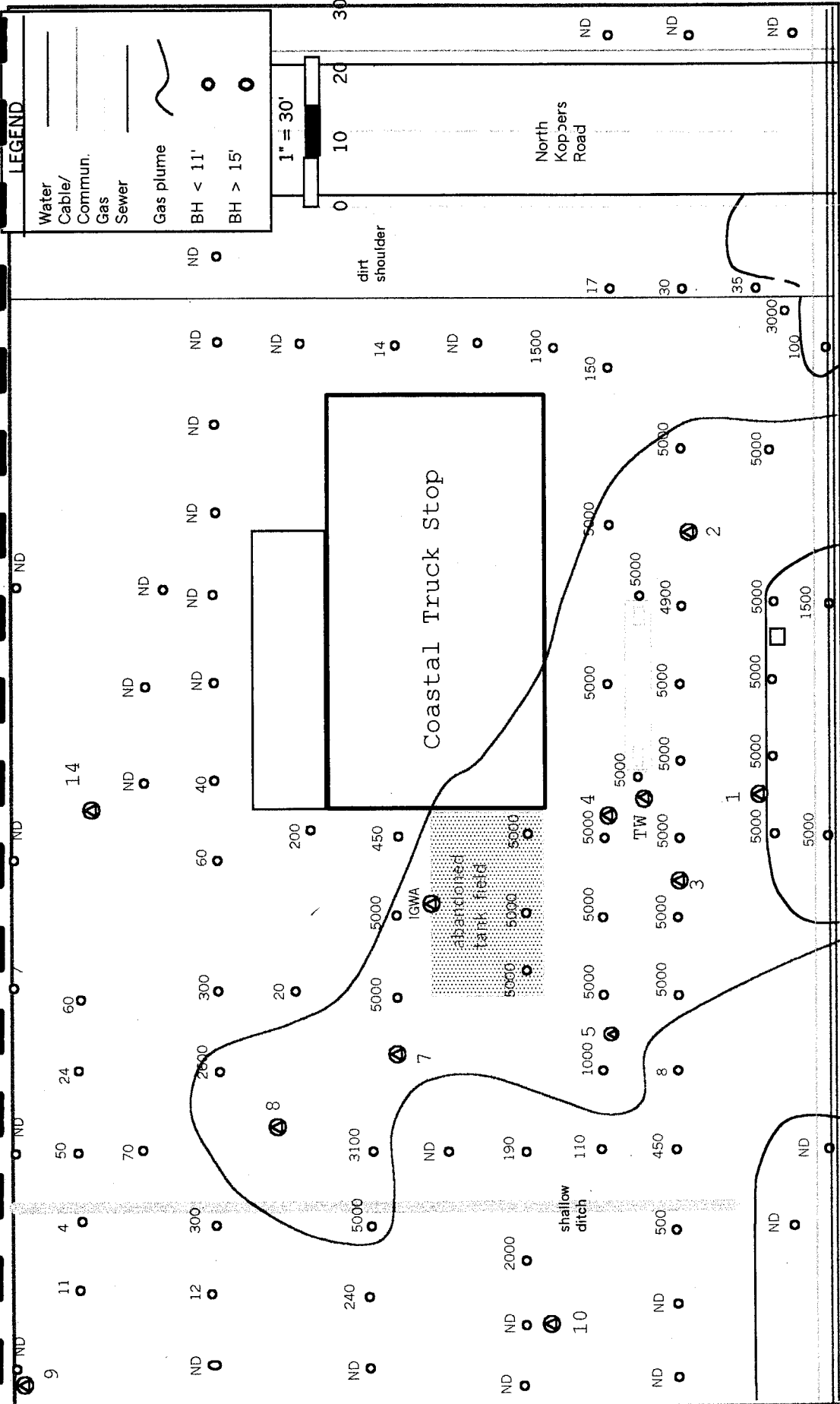
34079-B6-TM-024

**Southeastern
Environmental, Inc.**

Author	Drawing	Layers	Date	Title
CB	0	0	9/20/99	Site Location Map
Job No.	Revision	Figure	Scale	Project
10308	000	1	1:24,000	Coastal 76 Truck Stop
Florence, South Carolina				







LEGEND

- Water
- Cable/Commun.
- Gas
- Sewer
- Gas plume
- BH < 11'
- BH > 15'

1" = 30'

dirt shoulder

North Koppers Road

Coastal Truck Stop

shaded tank field

IGWA

shallow ditch

1" = 30'

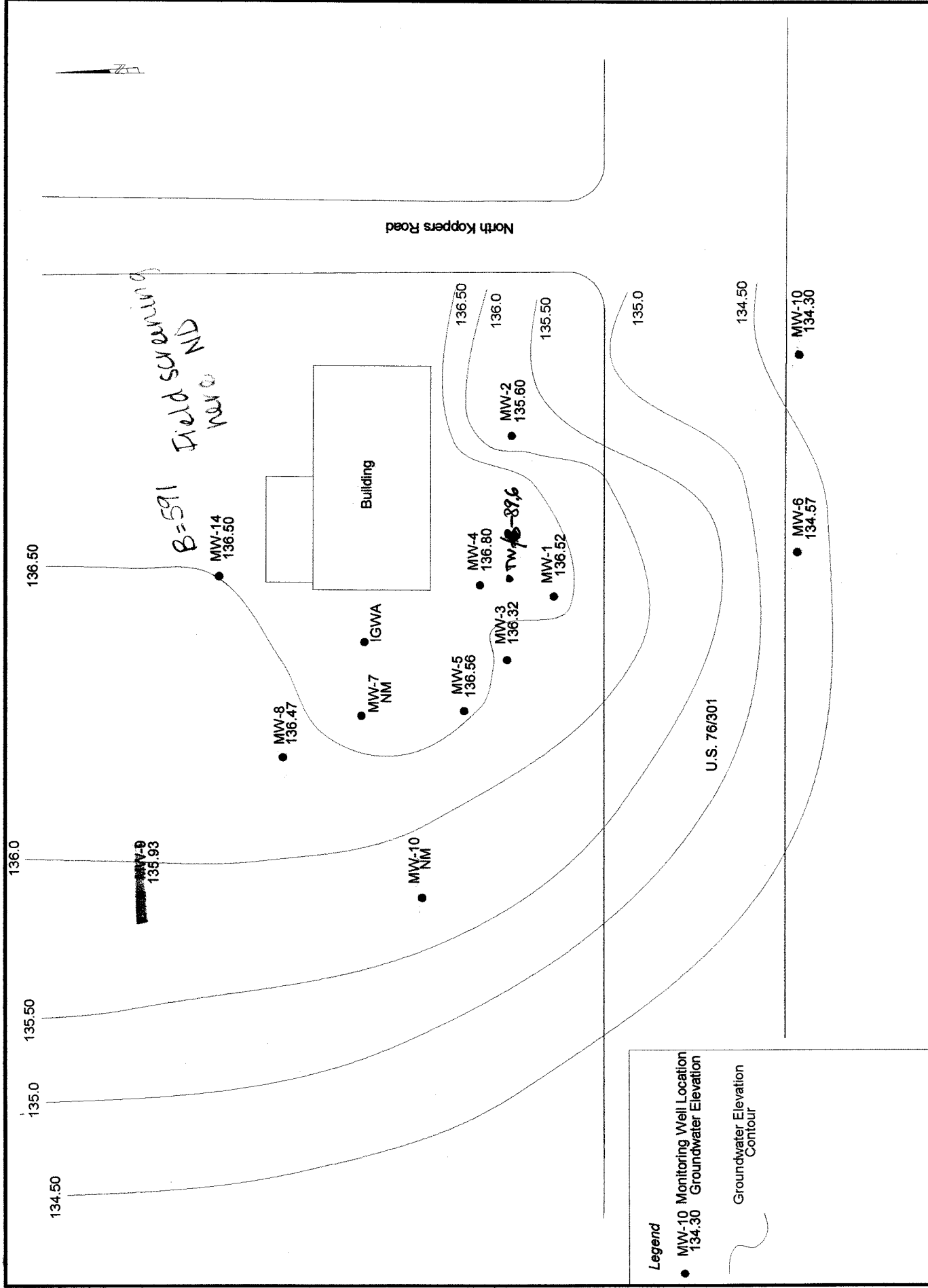
1" = 30'

Hwy. 76

Southeastern Environmental, Inc.
323 Main Street
Conway, SC 29526
(843) 248-3533

Site Name: Coastal Truck Stop Hwy. 76/N. Koppers Rd. Florence SC	Site ID #: 03538	Drawn JMH
	Date: 3/4 - 3/25/99	
Scale: 1" = 30'	BH 47 (ND) BH 48 (ND) BH 51 (ND) BH 49 (ND) BH 50 (ND)	

By: JMH



Southeastern Environmental, Inc.	Author	CB	Drawing	0	Layers	0	Date	10/27/99	Title	Groundwater Flow Map Southeastern Truck Stop
	Job No.	10308	Revision	000	Figure	5	Scale	1"=50'	Project	Site ID #03538 Florence, South Carolina

• MW-9
BDL

B = 591
• MW-14
BDL

• MW-8
BDL

• IGWA
6.2
5
• MW-7
BDL

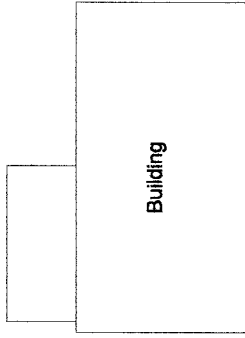
• MW-10
BDL

• MW-5
BDL

• MW-4
BDL

• MW-3
BDL

• MW-2
181
104
100
BDL
• MW-1
BDL



North Koppers Road

Legend

• MW-2
181
Benzene Concentration

Benzene Concentration
Contour

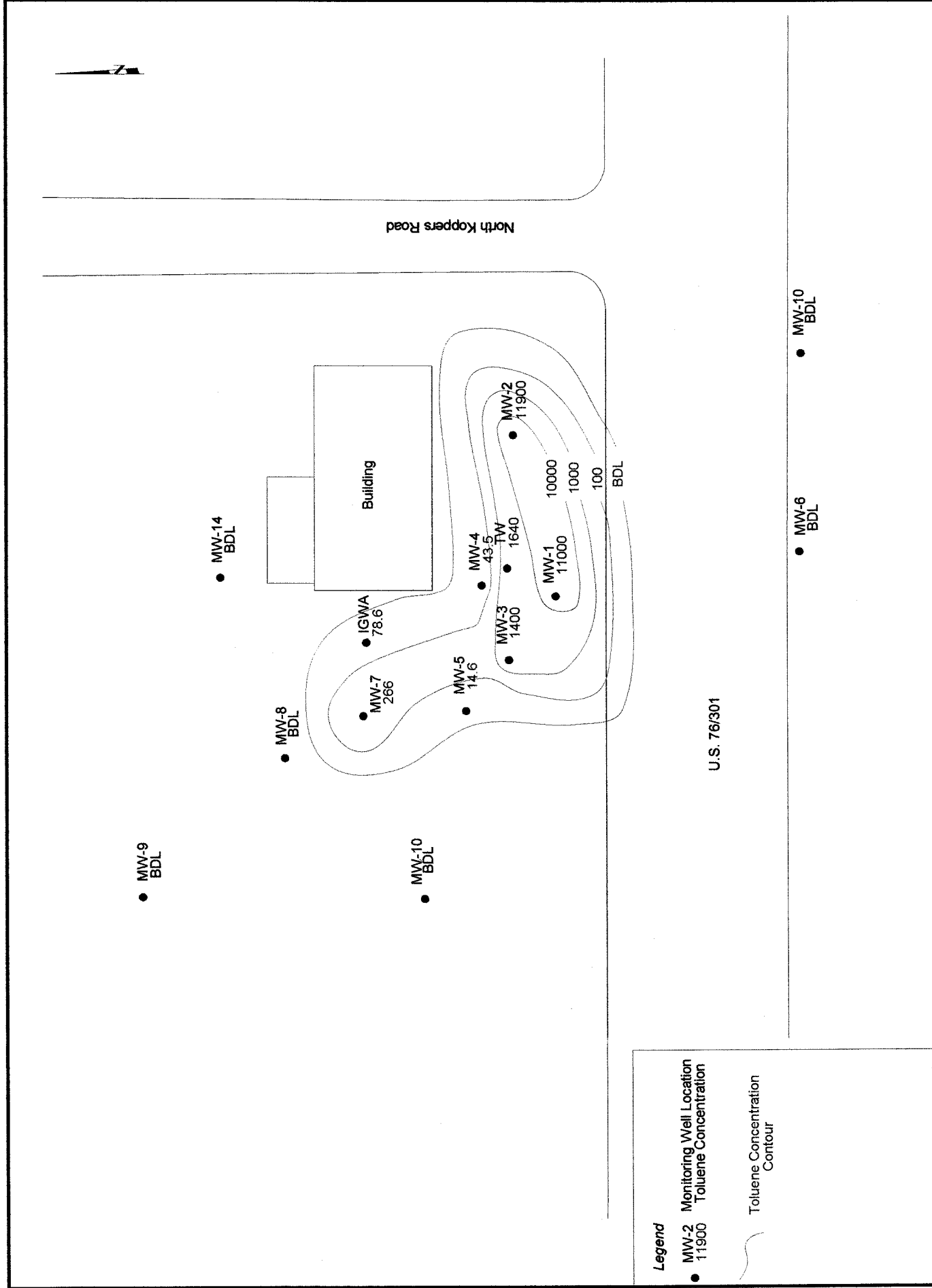
U.S. 76/301

• MW-6
BDL

• MW-10
BDL

**Southeastern
Environmental, Inc.**

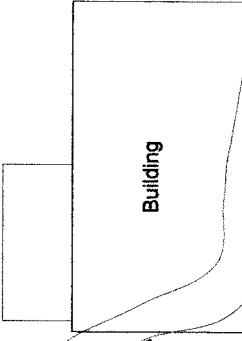
Author CB	Drawing 0	Layers 0	Date 10/27/99	Title Benzene In Soil Isoconcentration Map Southeastern Truck Stop
Job No. 10308	Revision 000	Figure 6	Scale 1"=50'	Project Site ID #03538 Florence, South Carolina



Southeastern Environmental, Inc.	Author	Drawing	Layers	Date	Title
	CB	0	0	10/27/99	Toluene In Soil Isoconcentration Map Southeastern Truck Stop
	Job No.	Revision	Figure	Scale	Project
	10308	000	7	1"=50'	Site ID #03538 Florence, South Carolina

• MW-9
BDL

• MW-14
BDL



North Koppers Road

• MW-10
BDL

• MW-5
831

• MW-4
1332

• MW-3
6380

• TW
8720

• MW-2
20850

• MW-1
45600

• 10000

• 1000

• 100

• BDL

U.S. 76/301

Legend

• MW-2 Monitoring Well Location
20850 Xylene Concentration

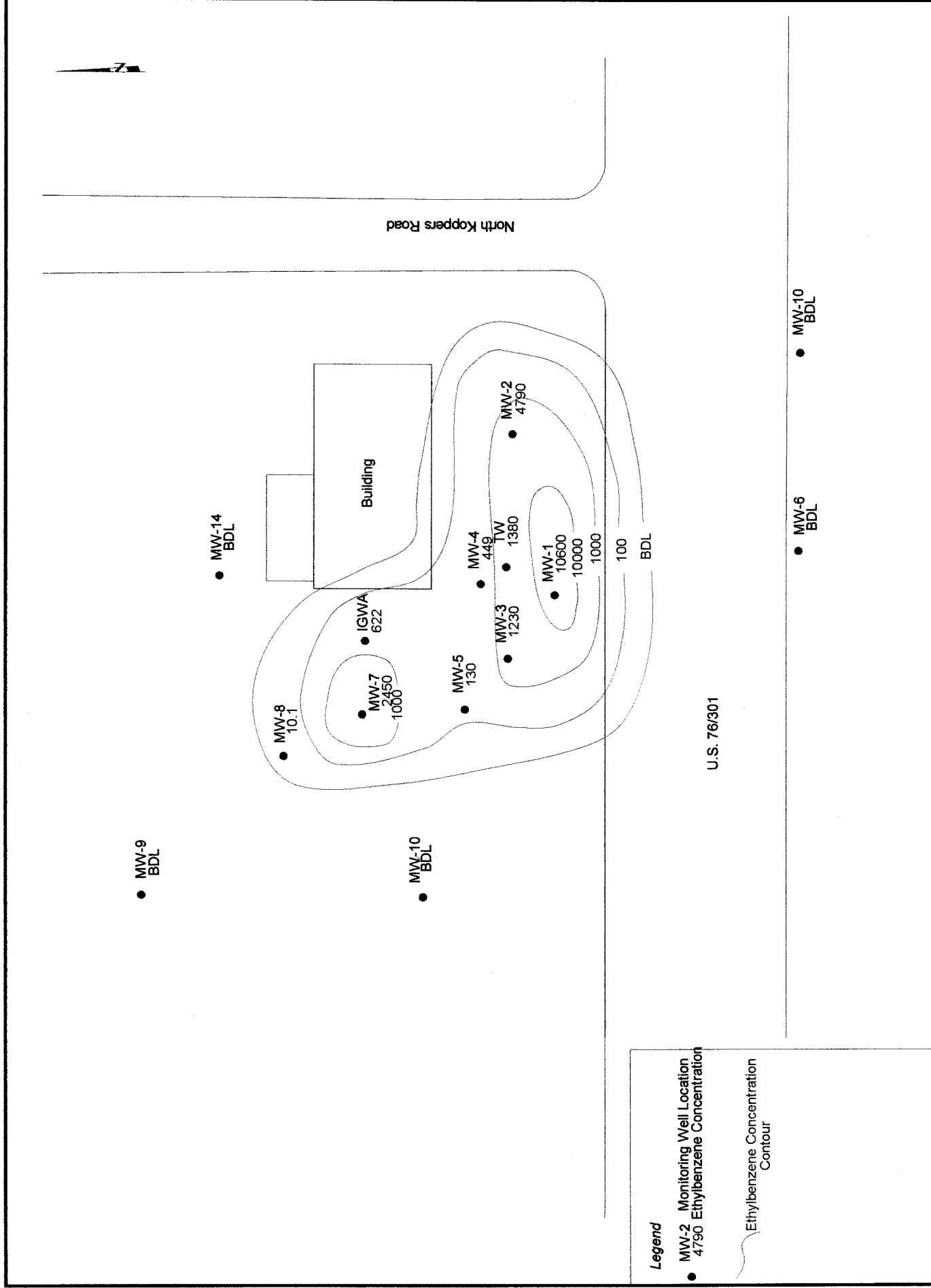
Xylene Concentration
Contour

• MW-6
BDL

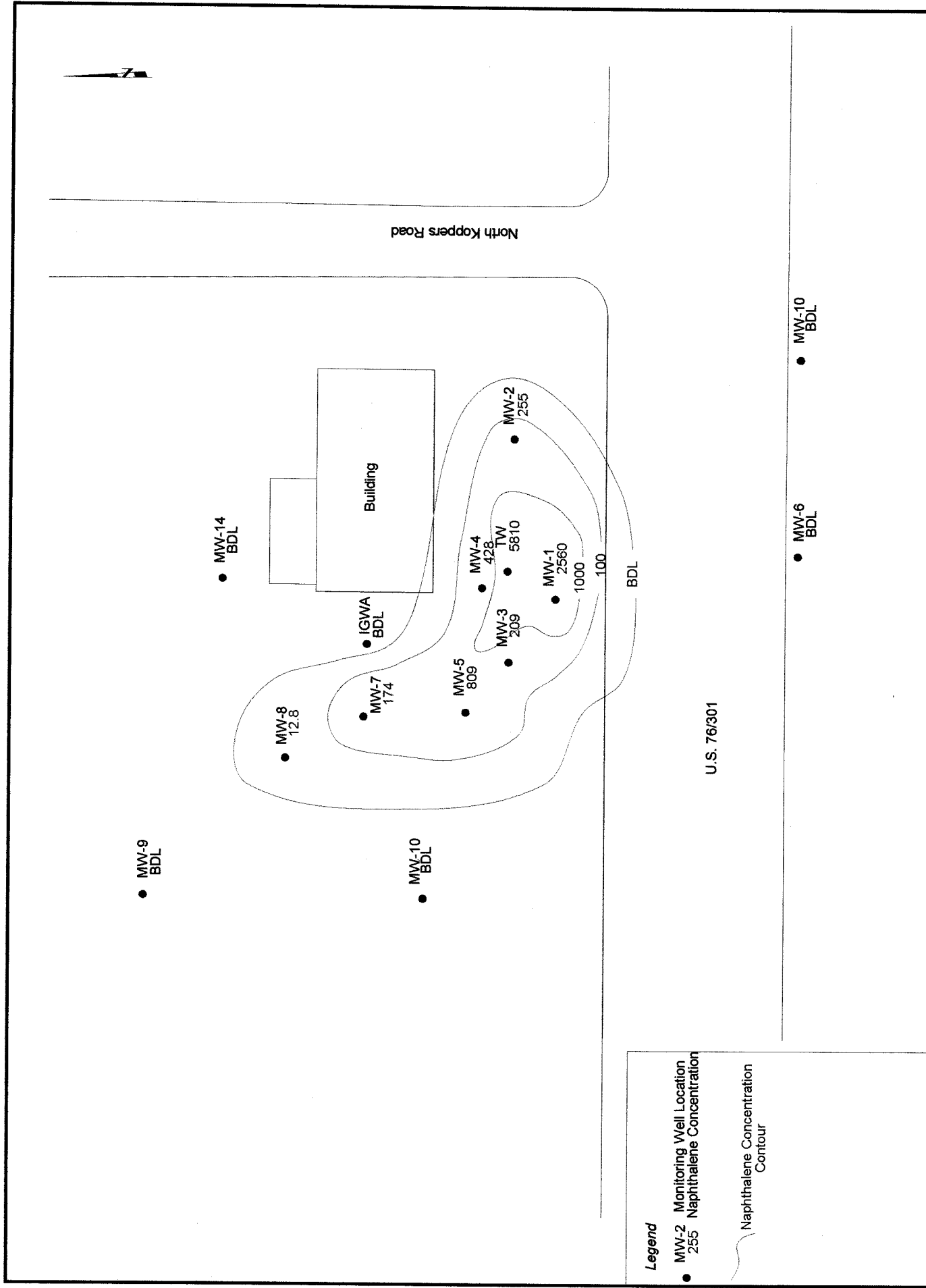
• MW-10
BDL

**Southeastern
Environmental, Inc.**

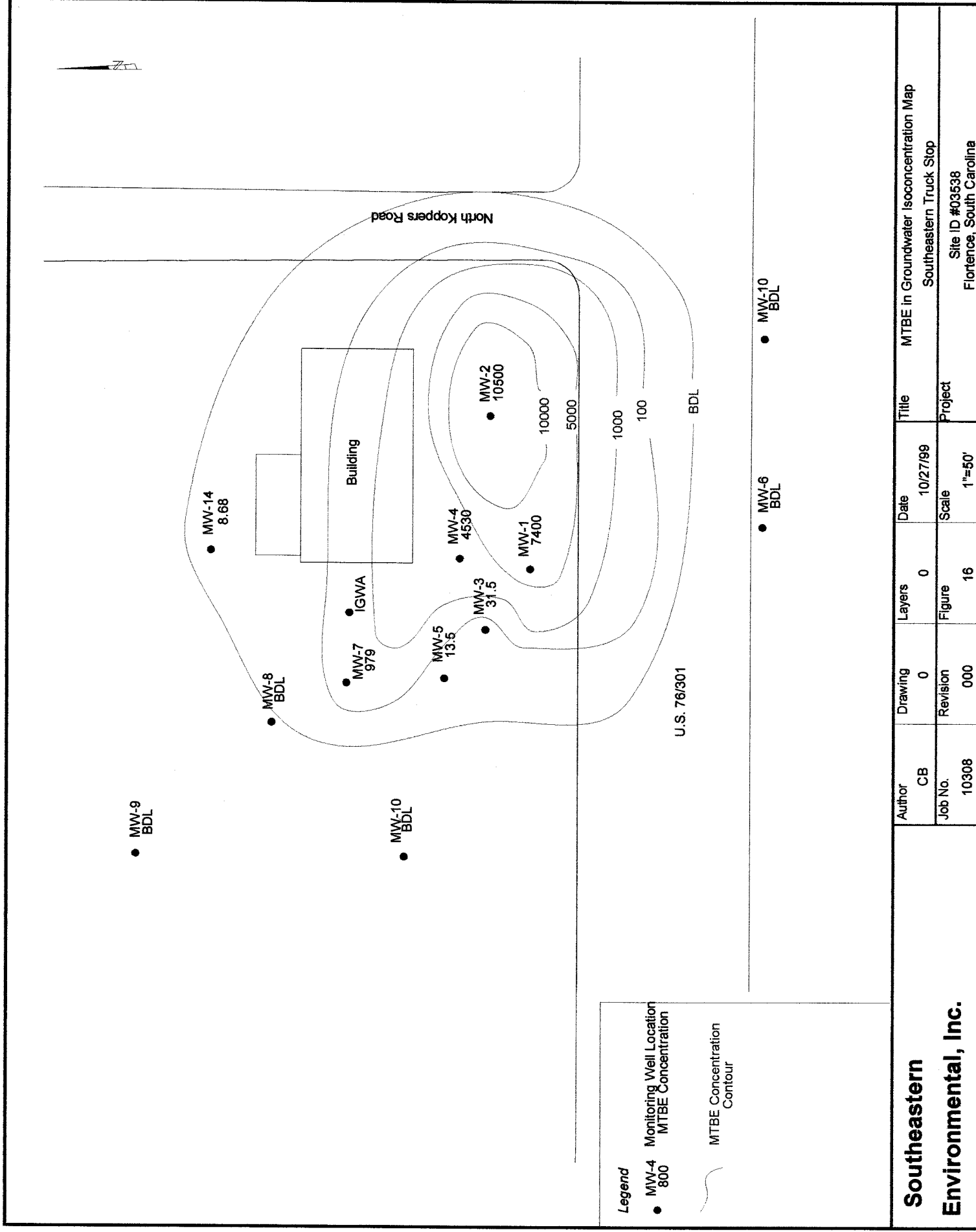
Author	CB	Drawing	0	Layers	0	Date	10/27/99	Title	Xylene In Soil Isoconcentration Map
Job No.	10308	Revision	000	Figure	8	Scale	1"=50'	Project	Southeastern Truck Stop
									Site ID #03538 Florence, South Carolina



Southeastern Environmental, Inc.	Author	CB	Drawing	0	Layers	0	Date	10/27/99	Title	Ethylbenzene In Soil Isoconcentration Map Southeastern Truck Stop	
	Job No.	10308	Revision	000	Figure	9	Scale	1"=50'	Project	Site ID #03538 Florence, South Carolina	

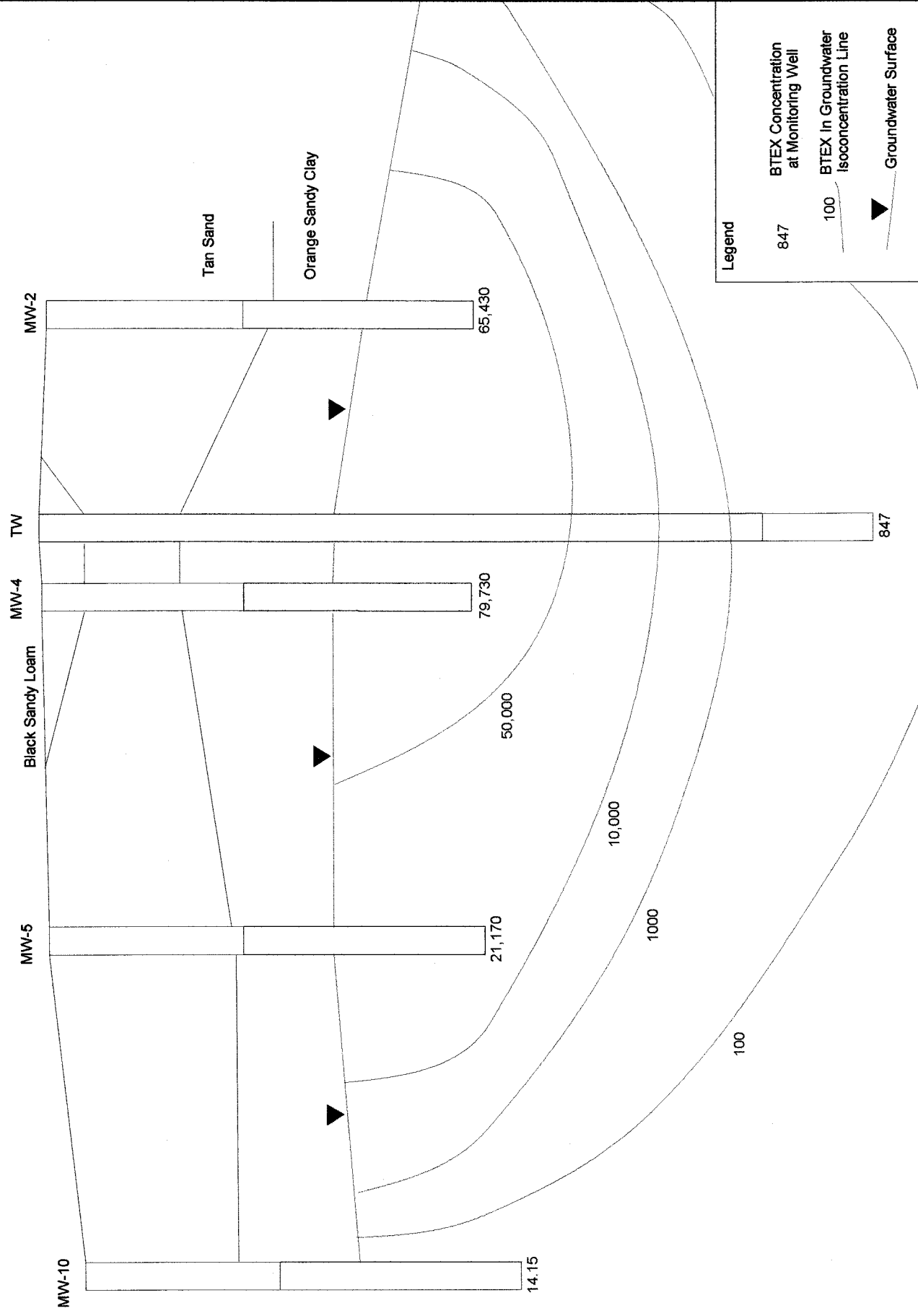


Southeastern Environmental, Inc.		Author	Drawing	Layers	Date	Title
		CB	0	0	10/27/99	Naphthalene In Soil Isoconcentration Map
		Job No. 10308	Revision 000	Figure 10	Scale 1"=50'	Project
		Site ID #03538 Florence, South Carolina				



A

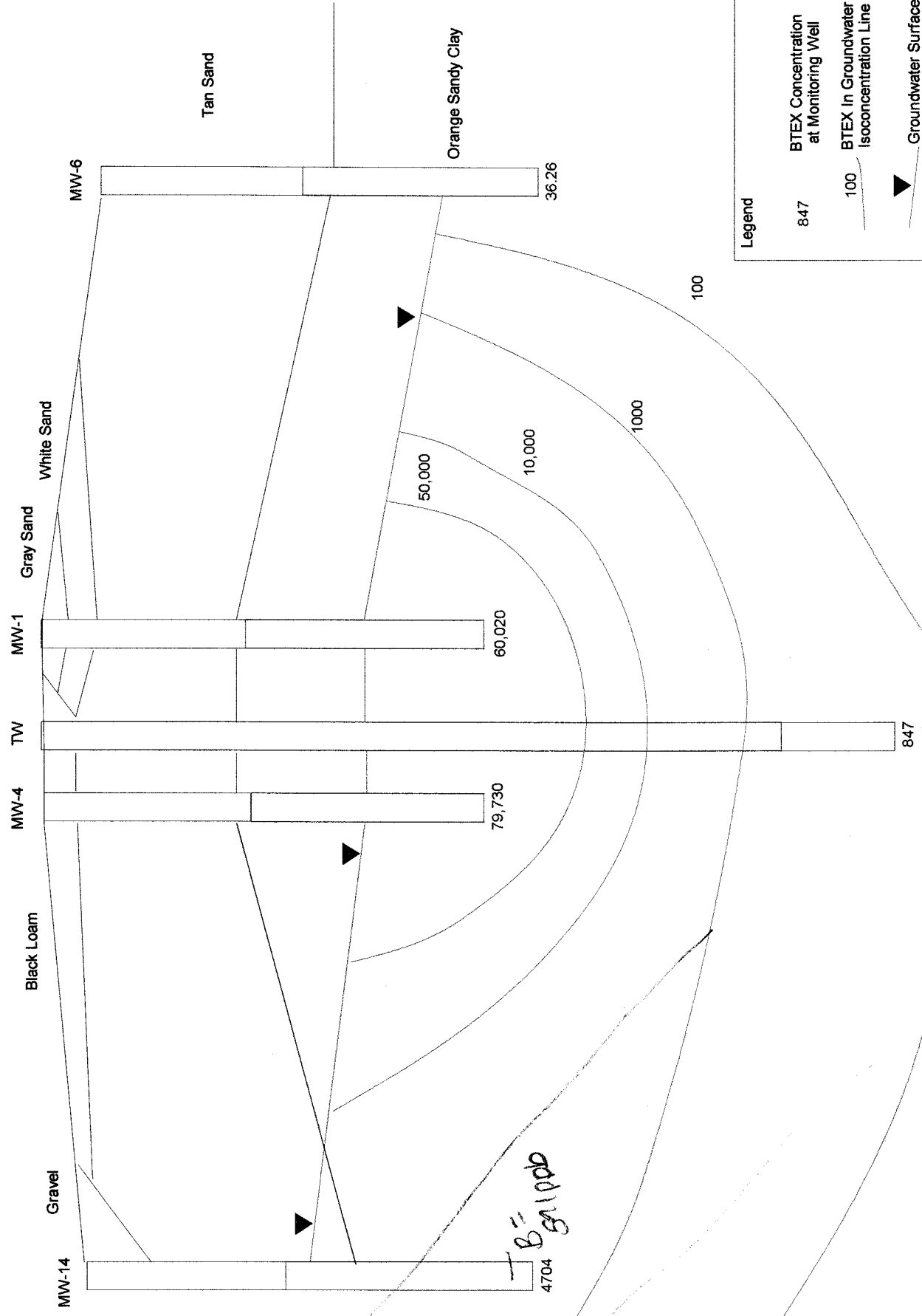
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Southeastern Environmental, Inc.	Author		Drawing	Layers	Date	Title	
	CB		xsaa'	0	12/17/99	Cross Section A-A'	
	Job No.		Revision	Figure	Scale	Project	
	10308		000	18	v: 1"=6' h: 1"=50'	Southeastern Truck Stop	
							Site ID #03538 Florence, South Carolina

B

B'



**Southeastern
Environmental, Inc.**

Author
CB
Job No.
10308

Drawing
xsbb'
Revision
000

Layers
0
Figure
19

Date
12/17/99
Scale
v: 1"=6'
h: 1"=50'

Title
Southeastern Truck Stop
Project

Cross Section B-B'
Site ID #03538
Florence, South Carolina

UNDERGROUND STORAGE TANK AND PROPERTY OWNER

RECEIVED

May 5 1999

PERMISSION FORM - UST Permit #03538

DIVISION OF UNDERGROUND
STORAGE TANK MGMT.

If you are the owner of the former or existing underground storage tanks and the property owner, please complete this form.

I, DAN M. McEACHIN, certify that I am the legal owner of the underground storage tanks and property located 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 (SCDHEC) to secure on my behalf contractor services to conduct assessment and corrective action activities as required, and authorize SCDHEC, or a contractor selected by SCDHEC, 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 SCDHEC 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 COASTAL TRUCK STOP Phone # 843-669-6177

Street Address of Facility 2607 E. PALMETTO ST

Town, City, District, Suburb FLORENCE S.C.

Name of nearest intersecting street, road, highway, alley KOPPER RD.

Is this facility within the city limits? (yes or no) NO

Is this facility serviced by a public water or sewer utility? (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 BRUCE NEWELL
Phone number 1-800-257-3133

Is the property currently leased or rented to someone? (yes or no) YES, if yes, please provide their name SIAM TSON and phone number 843-662-2738 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 UST/property owner (Please Print): DAN M. McEACHIN

Phone Number (home) 843-669-6177 (work) _____

Signature of UST/property Owner: [Signature]

Witness: Elizabeth D. McEachin

Date: 10 Month 10 Day 99 Year

[Signature] 10 22





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

JAN 20 2012



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
14597	Hoopers Auto Service	Anderson	15-BTEXMN, DCA, Oxygenates, & EDB	R. Miner
04878	Nickelpumper 233	Jasper	5-BTEXMN, DCA, Oxygenates, & EDB	D. Ebinger
03051	Arnold Stewart	Dorchester	24-BTEXMN, DCA, Oxygenates, & EDB	A. Smith
19449	Wando Lounge	Berkeley	18-BTEXMN, DCA, Oxygenates	A. Smith
04474	Stewart Sandwich	Greenville	10-BTEXMN, DCA, & EDB	A. Smith
07608	Frm Red Diamond	Richland	11-BTEXMN, DCA, & Oxygenates	A. Smith
16410	Brown's Market	Spartanburg	9-BTEXMN, DCA, Oxygenates, EDB, & lead	M. Milenkova
03538	Coastal 76 Truck Stop	Florence	14-BTEXMN, DCA, Oxygenates, EDB, & lead	M. Milenkova
08604	Roadrunner Market	Spartanburg	10-BTEXMN, DCA, Oxygenates, EDB, & lead	M. Milenkova
00141	Chevron Food Mart	Aiken	11-BTEXMN, DCA, Oxygenates, EDB, & lead	M. Hornosky

* The number of samples does not include trip blanks, field blanks, or field duplicates.

Please contact me with the sampling schedule before commencing work at these facilities. In addition, a weekly update for each site is required to be submitted via e-mail to the site's project manager and myself. If you have any questions or need further assistance, please contact me at (803) 896-6397 or thomadl@dhec.sc.gov.

Sincerely,

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

Enc: Site Information Packets
cc: Technical Files

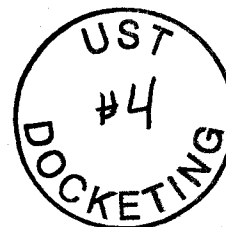
 **Midlands
Environmental
Consultants, Inc.**

February 7, 2012

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



Subject: QAPP Contractor Addendum – Revision 1
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID Number 03538
MECI Project Number 12-3791
Certified Site Rehabilitation Contractor UCC-0009



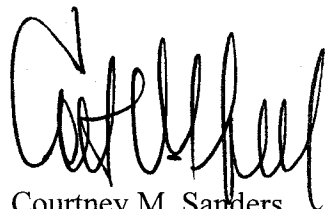
Dear Ms. Thoma,

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

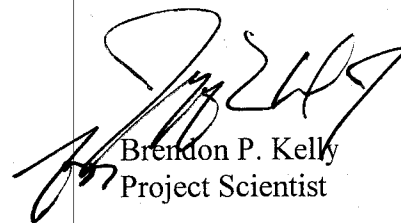
On February 3, 2012, MECI personnel performed a site visit to the subject site to evaluate site conditions, locate monitoring wells and identify potential problems for future sampling activities.

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

Sincerely,
Midlands Environmental Consultants, Inc.



Courtney M. Sanders
Staff Biologist



Brendon P. Kelly
Project Scientist

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Coastal 76 Truck Stop, SCDHEC Site ID# 03538

2513 E. Palmetto Street, Florence, South Carolina

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

Date: February 7, 2012

Approvals

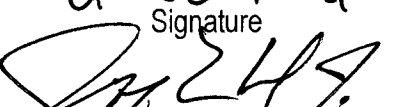
Maia Milenkova
SC DHEC Project Manager


Signature Date 2/09/12

Brendon P. Kelly
Contractor QA Manager


Signature Date 2-8-12

Jeff L. Coleman
Site Rehabilitation Contractor


Signature Date 2/8/12

Michael Woodrum
Laboratory Director


Signature Date 2-7-12

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Maia Milenkova	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6664	803-896-6245	milenkmp@dhec.sc.gov
Jeff L. Coleman	Site Rehabilitation Contractor	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Courtney M. Sanders	Quality Assurance Officer	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net
Brendon P. Kelly	Field Manager	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bpk@meci.net
Michael Woodrum	Laboratory Director	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
	Well Services/Driller				

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Project Manager	Maia Milenkova	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6664	803-896-6245	milenkmp@dhec.sc.gov
Site Rehabilitation Contractor	Jeff L. Coleman	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Quality Assurance Officer	Courtney M. Sanders	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net
Field Manager	Brendon	Midlands Environmental	803-808-	803-808-2048	bpk@meci.net

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
	P. Kelly	Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	2043		
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Project Verifier	Courtney M. Sanders or Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net

Table 2A Addendum Role Identification and Contact Information

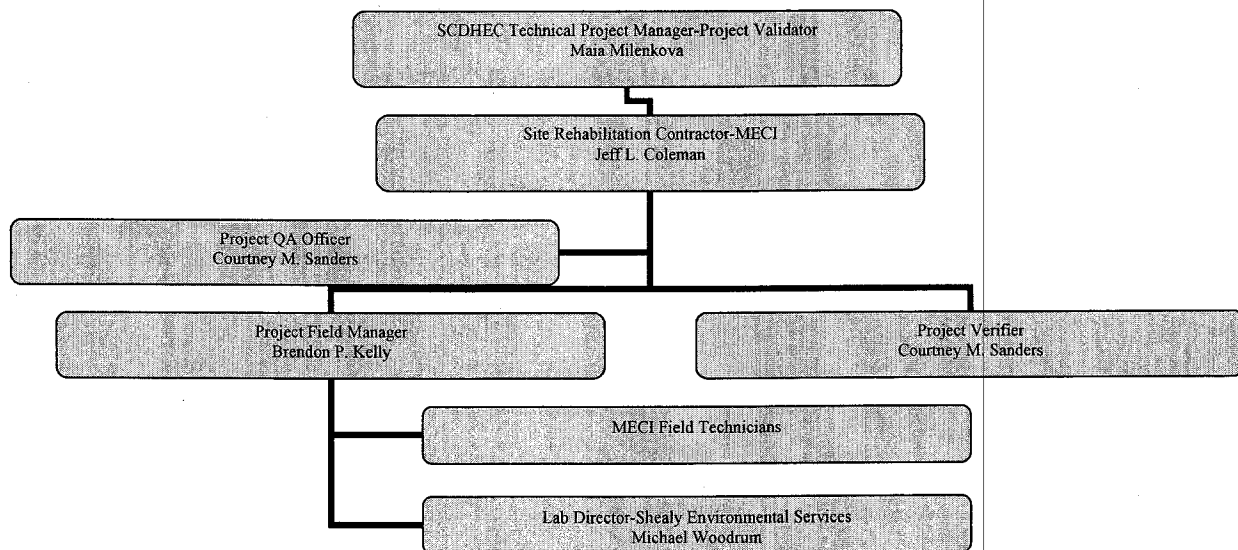


Figure 1A Organizational Chart

Project Manager (Maia Milenkova) – The project manager is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites.

Site Rehabilitation Contractor (Jeff L. Coleman.) – The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for assessments or cleanup.

- Final Review of all work produced for a scope of work.

- Final say on technical interpretation of data.

Quality Assurance Officer (Courtney M. Sanders) – The Quality Assurance Officer is responsible for the oversight of all quality assurance activities associated with projects performed by the Site Rehabilitation Contractor.

- In charge of producing and maintaining the QAPP for MECI.
- Reviews (and Audits, if necessary) all work produced in conjunction with a scope of work.
- Quality control of data entry and report preparation.

Field Manager (Brendon P. Kelly) –The field manager will oversee all work done on any given project.

- Assign, direct and oversee all field personnel working on each project.
- Responsible for coordinating with the SCDHEC project manager, should any problems or clarifications arise.
- Responsible for all reporting done in conjunction with field work.

Analytical Laboratory Director (Michael Woodrum)– The Laboratory Director is directly responsible for the Analytical Laboratory used during a scope of work. The Analytical Laboratory receives the soil and water samples from the site rehabilitation contractor, performs the requested analyses, and provides analytical reports.

Project Verifier (Courtney M. Sanders) – The project verifier is responsible for verifying the quality of data produced during a scope of work. This includes review of field work and laboratory reports for potential quality issues.

Field Technicians (various employees) – Responsible for all field activities for a given scope of work.

- Conduct all initial site visit, and record findings
- Conduct all field activities associated with a scope of work. All work will be conducted according to the MECI SOP. Will be responsible for reporting any potential problems or 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 (Coastal 76 Truck Stop) is located at 2513 E. Palmetto Street, Florence, Florence County, South Carolina. The subject site formally maintained one 2,000 gallon gasoline underground storage tank (UST), one 3,000 gallon gasoline UST, one 1,000 gallon gasoline UST and one 2,000 gallon diesel UST. These UST's were abandoned by removal from the ground in August of 1995. SCDHEC reported a release from these UST's in September of 1995 and confirmed the release in August of 1997. The subject site is currently rated a Class 3BA.

The site is being sampled in conjunction with the SCDHEC Groundwater Sampling Contract (Solicitation # IFB-5400002759, PO# 4600088529).

Please answer the following: Does this project fall under UST or Brownfields area?

Underground Storage Tank Division

A6 Project/Task Description

1. **Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).**

The subject site (Coastal 76 Truck Stop) will be sampled in conjunction with the SCDHEC Groundwater Sampling Contract (Solicitation # IFB-5400002759, PO# 4600088529). During assessment activities monitoring wells will be sampled for petroleum constituents.

2. **The work will begin within fourteen (14) days of receipt of approved QAPP contractors addendum after cost approval and sampling should be complete by twenty-one (21) days of receipt of approved QAPP contractors addendum.**
3. **Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.**

Factors that may prevent schedule work will be, but not limited to, inclement weather, equipment malfunction, and machine failure.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

The subject site is located at 2513 E. Palmetto Street, Florence, Florence County, South Carolina. The site is currently occupied by a vacant building.

A8 Training and Certificates

Required training and licenses:

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Principal Geologist	Bryan T. Shane, P.G.	Professional Geologist	10/30/1993	State of South Carolina	1102
Senior Scientist	Jeff Coleman	OSHA 40 hr HAZWOPER	7/27/2007	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	7/27/2011	N/A	N/A
Project Scientist	Brendon Kelly	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Geologist	John Bryant	OSHA 40 hr HAZWOPER	4/17/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Field	Brian Owen	OSHA 40 hr	8/21/2009	N/A	N/A

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Technician		HAZWOPER			
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Courtney Sanders	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Kyle Pudney	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Chris Lashley	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/15/11	N/A	N/A
Staff Biologist	Gavin Globensky	OSHA 40 hr HAZWOPER	7/29/2011	N/A	N/A
Staff Biologist	Ryan Ariail	OSHA 40 hr HAZWOPER	9/23/2011	N/A	N/A
Lab Manager	Michael Woodrum	***	***	Lab Certification	SC 32010

Table 3A Required Training and Licenses

Brendon P. Kelly of Midlands Environmental Consultants, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: 235-B Dooley Road, Lexington, SC 29073.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory Shealy Environmental Services, Inc.

Name of Lab Director Michael Woodrum

SC DHEC Certification Number 32010

Parameters this Lab will analyze for this project:

BTEX, Napth, MTBE, 1,2 DCA, 8-oxygenates (EPA Method 8260-B), EDB (EPA Method 8011), and Total Lead (EPA Method 6010).

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 ☒ Hand delivered

Other (please specify): E-mailed electronic copies

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target, Thermospec, or Iteva software	Hardcopy and Electronic	Hardcopy: Offsite storage for 7 yrs Electronic: Two external storage device backups – one offsite, one onsite storage for 10 yrs	Yes
Final Reports	LIMS	Electronic	Electronic: Two external storage device backups – one offsite, one onsite storage for 10 years	Yes
Field Work	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Chain of Custody	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
QAPP Addendum	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Brendon Kelly	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
Site Reconnaissance	2/3/12	2/3/12	Already Completed
QAPP preparation	2/6/12	2/6/12	In progress
QAPP approval	2/7/12	2/28/12	Assuming three week turnaround
Monitoring well Sampling	2/29/12	3/14/12	Sampled within 2 weeks of QAPP approval
Report Preparation	3/15/12	4/5/12	Three weeks to prepare/submit report

Item	Start Date	End Date	Comments

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

Estimate the number of samples of each matrix that are expected to be collected:

Soil	_____
Ground Water from monitoring wells	_____13_____
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	_____16_____

Notes:

During the February 3, 2012 site visit, thirteen (13) monitoring wells were located. Monitoring well MW-9 is behind a locked gate, and could not be located.

Monitoring well MW-8 is in need of three bolts to be properly secure.

Samples will be analyzed by Shealy Environmental Services, Inc. for BTEX, Napth, MTBE, 1,2 DCA, 8-Oxygenates (8260-B), EDB (8011) and Total Lead (EPA Method 6010).

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

Please see MECI Monitoring Well Sampling SOP for sampling procedures and type of materials used for sampling

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All equipment, excluding electronic water level indicators, field probes and turbidity tubes, is disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

Please see MECI Monitoring Well Sampling SOP for decontamination procedures.

Identify any equipment and support facilities needed. This may include such things as Fed-ex to ship the samples, a Geoprobe, field analysis done by another contractor (who must be certified), and electricity to run sampling equipment.

All samples will be shipped to the lab via courier or overnight shipping company. Please see MECI Monitoring Well Sampling SOP for sample shipping procedures.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Water level indicator not working properly	Attempt to clean probe, change battery, use back-up indicator if need be.	Record on field sheets, notify office staff. Take indicator out of rotation until problem identified and corrected.	Field Staff, Field Manager
Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
Wells not located	Use metal detector, measure from known points, contact project manager for additional information.	Record method used to attempt to locate the well on field sheets, and possibly reasoning for the well to be missing	Field Staff

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. How will the samples get from the Site to the Lab to ensure holding requirements are met?

Following sample collection, the samples are immediately place in a laboratory provided cooler, pre-filled with wet ice obtained from the MECI office. Samples are transported to the MECI office once a sampling event is complete. A Chain of Custody (CoC) is filled out following the sampling event by the field staff. See attached CoC. If a lab provided courier is scheduled to visit the MECI offices the day following a sampling event, sampling coolers are repacked with wet ice, and left at the office for pick-up the following morning. If no courier is schedule to visit the MECI office the day following a sampling event, all sampling coolers are repacked with ice and are dropped off at a lab approved shipping company for overnight delivery to the lab.

2. How will the contactors cool the samples and keep the samples cool?

All samples are kept on wet ice, obtained from MECI office.

3. How will the lab determine the temperature of the samples upon receipt? Will they be using a temperature blank?

A calibrated thermometer and temperature blank will be used to document sample temperature. The temperature blank is immediately checked by the sample receiving technician upon arrival at the laboratory.

4. Where will the samples be stored in the Lab once they are received?

All samples are stored in clean refrigeration units monitored and maintained at 4 degrees C + or – 2 degrees. Volatile organic samples are stored separately from all other samples.

5. Describe the chain of custody procedure and attach a copy of each chain of custody that will be used. If a Chain of Custody SOP exists from the Lab and the Contractor is willing to adhere to it, then this may be attached.

A chain of custody (COC) will be filled out for each sampling event at each project site. COC to be signed by MECI and Shealy Environmental technician at time physical transfer of samples occurs to courier. Shealy uses the following COC procedures to protect sample integrity following pickup by their courier: A full time Sample Receiving Technician receives all samples and completes a Sample Receipt Checklist (SRC), which will identify any anomalies, if any exist the Sample Receiving Technician or Project Manager must resolve the deviation internally and/or notify the client to resolve the anomaly

B4 Analytical Methods

1. Identify the SOPs which will be used to analyze the samples, the method which the SOP references and the equipment or instrumentation that is needed:

Parameter	SOP ID*	Method Referenced	Equipment	Comments
BTEX+Naph+MTBE+Oxygentaes	S-VO-002	8260B	GC/MS	
PAH's	S-SV-021	8270D	GC/MS	
EDB	S-SV-012	8011	GC	
Lead, T.	S-IM-022	6010C	ICP	
Ferrous Iron	S-IN-009	SM 3500-FED	Spectrophotometer	
Nitrate	S-IN-042	353.2	Auto-analyzer/Lachate	
Sulfate	S-IN-010	300.0	Ion Chromatograph	
Methane	S-VO-004	RSK-175	GC	
TOC	S-IN-030	Walkley-Black	N/A	
DRO - TPH	S-SV-001	8015C	GC	
pH	MECI SOP 4.3.6	*	YSI 63	
Conductivity	MECI SOP 4.3.6	*	YSI 63	
Dissolved Oxygen	MECI SOP 4.3.6	*	YSI 550A	

Temperature	MECI SOP 4.3.6	*	YSI 550A	
Turbidity	MECI SOP 4.3.6	*	60 cm Turbidity Tube	

Table 7A Analytical SOPs and Referenced Methods

- This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
S-VO-002	S-VO-002	GC/MS VOLATILES ANALYSIS BASED ON EPA METHODS 8260B AND 624 PREPARED BY EPA METHODS 5030B, 5035 AND 3585
S-SV-021	S-SV-021	GC/MS ANALYSIS BASED ON EPA METHOD 8270D PREPARED BY EPA METHODS 3520C, 3550C AND 3580A
S-SV-012	S-SV-012	GC/ECD ANALYSIS OF EDB AND DBCP BASED ON METHOD 8011 & 504.1
S-IM-022	S-IM-022	INDUCTIVELY COUPLED PLASMA ATOMIC EMISSION SPECTROSCOPY-PECTROMETRIC METHOD for TRACE ELEMENT ANALYSES METHOD 6010C
S-IN-009	S-IN-009	FERROUS IRON (PHENANTHROLINE METHOD) STANDARD METHOD 3500-Fe D
S-IN-042	S-IN-042	NITRATE+NITRITE NITROGEN BY EPA METHOD 353.2, NITRATE NITROGEN BY 353.2 SUBTRACTION, AND NITRITE NITROGEN BY EPA METHOD 353.2
S-IN-010	S-IN-010	INORGANIC ANIONS BY ION CHROMATOGRAPHY EPA METHOD 300.0 and SW-846 9056 and 9056A
S-VO-004	S-VO-004	STANDARD OPERATING PROCEDURE GC ANALYSIS BASED ON METHOD RSKSOP-175
S-IN-030	S-IN-030	TOTAL ORGANIC CARBON (TOC) WALKLEY-BLACK PROCEDURE
S-SV-001	S-SV-001	GC/FID DIESEL RANGE ORGANICS ANALYSIS BASED ON METHOD 8015B and/or 8015C PREPARED BY EPA METHODS 3520C, 3550C and 3580A
MECI SOP 4.3.6	MECI SOP 4.3.6	Sampling Standard operating procedures

Table 8A SOP Abbreviation Key

2. Identify procedures to follow when failures occur, identify the individual responsible for corrective action and appropriate documentation:

Failure	Response	Documented Where?	Individual Responsible
Field meters not working	Attempt to clean probes, recalibrate in the field.	Record on field sheets, notify office staff. Take meters out of rotation until problem identified and corrected.	Field Staff, Field Manager
COC or	Call Client	Sample Receiving Checklist	PM – Kelly Maberry

Sample Receiving issues		(SRC)	kmaberry@shealylab.com
Analytical errors	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com
QA/QC Failure	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com
On time delivery	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
BTEX+Naph+MTBE+Oxygenates	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
PAH's	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
EDB	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Lead	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as	

			Hazardous or non-Hazardous waste.	
Ferrous Iron	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Nitrate, Sulfate	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Methane	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
All	Water	On-Site	Portable Granulated Activated Carbon (GAC) Unit	All waste water produced from sampling and decontamination activities will be run through a GAC unit

Table 10A Sample Disposal Procedures

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Volatiles Mass Spec	Shealy SOP S-SV-021 Page 7	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Semivolatile Mass Specc	Shealy SOP S-SV-021 Page 7	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	Shealy SOP S-SV-012 Page 5	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Dionex IC	Shealy SOP S-IN-010 Page 6	Replace auto sampler filter, tubing, line filter, sample Line and Waste Line, as needed. Check Reagent levels, flow rate, waste line.	Periodic	Laboratory	IC Analyst
ICP	Shealy SOP S-IM-005 Page 6 & 7	Clean Sample introduction system , auto sampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst
Leeman Mercury Analyzer	Shealy SOP S-IM-006 Page 5	Clean GLS, Change Pump tubing, Nafion Dryer, Lamp	Periodic	Laboratory	Mercury Analyst
Flow Injection Analysis – Lachat 8000	Shealy SOP S-IN-042 Page 5	Replace sample and reagent lines, replace light source, re-wrap heating coil, replace column	Periodic/As Needed	Laboratory	Nitrate Analyst
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace probe tip	Yearly	Order from YSI	B. Kelly
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace batteries	As Needed	In stock at office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	Check buffer solutions for expiration	Weekly	In stock at office	B. Kelly
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace membrane	4 to 8 weeks	In stock at office	Field Staff
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace batteries	As Needed	In stock at office	Field Staff

YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
Turbidity Tube	#1, #2, #3	General inspection for wear and tear on equipment, clarity of Secchi Disk	Daily	Tubes will be cleaned/fixed in office	Field Staff

Table 11A Instrument and Equipment Maintenance

2. Identify the testing criteria for each lab or field instrument that is used to ensure the equipment is performing properly. Indicate how deficiencies, if found, will be resolved, re-inspections performed, and effectiveness of corrective action determined and documented. Give the person responsible for this

Instrument/Equipment & Serial Number	Type of Inspection	Requirement	Individual Responsible	Resolution of Deficiencies
Volatiles Mass Spec Shealy SOP S-SV-021 Page 7	Daily calibration check	Method Requirements	MSV Analyst	Recalibration or instrument maintenance
Semi-volatiles Mass Spec Shealy SOP S-SV-021 Page 7	Daily calibration check	Method Requirements	MSSV Analyst	Recalibration or instrument maintenance
ECD GC Shealy SOP S-SV-012 Page 5	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument maintenance
Dionex IC Shealy SOP S-IN-010 Page 6	Daily calibration check	Method Requirements	IC Analyst	Recalibration or instrument maintenance
ICP Shealy SOP S-IM-005 Page 6 & 7	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance
Leeman Mercury Analyzer Shealy SOP S-IM-006 Page 5	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance
Flow Injection Analysis – Lachat 8000 Shealy SOP S-IN-042 Page 5	Daily and continuing calibration check	See calibration criteria	Nitrate Analyst	Recalibration or instrument maintenance
YSI 63 - 09C 101302, 10K 101895, 07M 100905	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
YSI 550A - 04L 2026AK, 08B 101407, 04A 0912AI	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by continuous calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-VO-002
Semi-volatile Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	MSSV Analyst	S-SV-021
GC ECD	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-SV-012
Dionex IC	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	IC Analyst	S-IN-010
ICP	Minimum of 3 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-IM-022
Cetac Mercury Analyzer	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	Mercury Analyst	S-IM-006
Lacaht QuickChem 8000	Minimum of 5 calibration standards	Daily or when indicated by calibration verification standard	Method Criteria	Detailed in SOP	Nitrate Analyst	S-IN-042
YSI 63	pH Calibration	Daily	+/- 0.2 pH units	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 63	Conductivity	As directed by	+/- 10 uS	clean/replace	Field Staff	4.3.6

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
	Calibration	manufacturer		probe tip, recalibrate		
YSI 550A	DO calibration	Daily	+/- 0.25 mg/l	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 550A	Temperature Calibration	Daily	+/- 1 °C	clean/replace probe tip, recalibrate	Field Staff	4.3.6
Electronic Water Level Indicator	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***
Oil/Water Interface probe	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***

Table 13A Instrument Calibration Criteria and Corrective Action

* This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Laboratory Chemicals	Fisher, VWR	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory standards	O2Si, Restek, High Purity, VHG, Supelco	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, QEC	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel
Clear, Disposable polyethylene Bailers	Preferred Pump	Individual sleeves intact, ball valve operational	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nylon Rope	Preferred Pump	Covered with plastic	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nitrile Gloves	Preferred Pump	Unopened box, no holes	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
40 mL HCL preserved amber vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
250 mL HNO3 preserved metals vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff

Coolers	Shealy Environmental Services	Intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
pH Buffer	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
Conductivity Standard	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
DO Membranes	YSI, Enviroequipment	Clean, in box	Stored in calibration room	B. Kelly, Field Staff
Batteries	Any Store	Not previously used	Stored in calibration room	B. Kelly, Field Staff

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
Historical Data	Site Maps and Well Construction Information	Well Location and Detail	

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

There are no non-direct measurements in this project

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

Following sample collection and chain of custody production, samples are shipped to the lab. Field work from the field staff is reviewed by the MECI project manager, and converted into digital form. All data entry is subsequently checked to validate the data entry. The original copies of the field work are stored in MECI files for a minimum of 5 years. Digital copies of the work are stored on the MECI server, which is backed up weekly, and stored for a minimum of 5 years. The digital copy of the field work is presented to SCDHEC with the final report.

2. How does the lab and field staff ensure that no unauthorized changes are made to the chain of custody, sampling notebooks, laboratory notebooks and computer records?

The laboratory maintains comprehensive Quality Control and Training Programs. All sample receipt data, sample log-in, and analytical data is peer reviewed, including review for inappropriate changes. Data management, review procedures and the Quality Systems Program are documented in the laboratory's Quality Manual and Standard Operating Procedures. The Quality Assurance Department oversees adherence to and review of these programs.

All MECI field work is produced using ink-pens. Any attempt to alter field data, after sampling is complete, can be readily identified. MECI keeps a carbon copy of the chain of custody after it is shipped to the lab. This copy is kept with the field work. If any change to the CoC are suspected, this original carbon copy can be use to identify potential changes.

3. How does the lab ensure that there are no errors in samples records including times when sample information is compiled, data calculated and/or transmitted?

Sample data acquisition software is reviewed periodically. The LIMS database is backed up daily and is able to be restored in the event of a system failure. These procedures are documented in laboratory SOP S-AD-003, LIMS. The IT Manager is responsible for these systems and procedures."

4. How will the data be archived once the report is produced? How can it be retrieved? (This applies to both electronic and hard copies).

Laboratory Hardcopy data stored off site is logged, maintained and archived by the Quality Assurance Department. Laboratory Electronic Data Reports are maintained through IT back up under the responsibility of the IT Systems Manager.

MECI keeps all field work and paper copies of reports in its in-house filing system. All paper copies are stored for a minimum of 5 years. Any file can be retrieved easily by going to the correct filing cabinet/box.

All electronic copies of reports generated are kept on the MECI server. This server is backed-up on a weekly basis. Any file stored on the MECI server can be retrieved instantly, by accessing the server. All electronic files are stored for a minimum of 5 years on the server.

Section C Assessment and Oversight

C1 Assessment and Response Actions

1. *The Contractor is supposed to observe field personnel daily during sampling activities to ensure samples are collected and handled properly and report problems to DHEC within 24 hours. . Please state who is responsible for doing this and what observations will be made. Will this person have the authority to stop work if severe problems are seen?*

Field audits can be conducted on any field personnel at any time. MECI field audits can be conducted by the Field Manager, 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

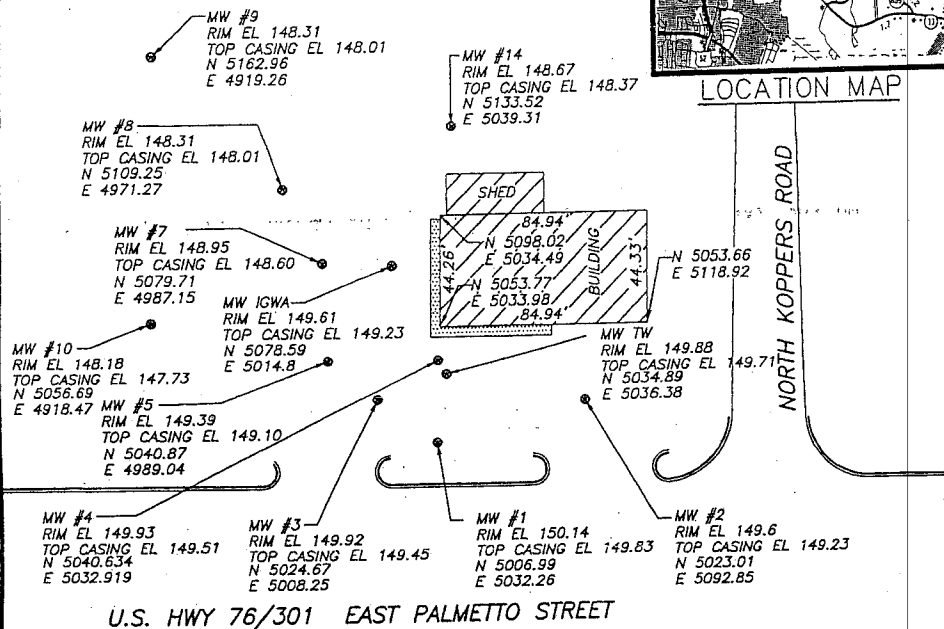
See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).



LOCATION MAP



FLORENCE COUNTY
SOUTH CAROLINA

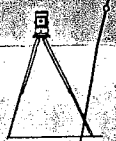
MONITORING WELL SURVEY

OF MONITORING WELLS LOCATED AT THE COASTAL TRUCK STOP IN FLORENCE COUNTY, SOUTH CAROLINA BEING A PORTION OF THAT PROPERTY DESCRIBED IN DEED BOOK 165 PG 235. A PORTION OF THAT PROPERTY SHOWN AS LOTS 20, 21, & 22 ON A PLAT OF THE J.C.C. BRUNSON LANDS RECORDED IN PLAT BOOK E PAGE 223. SURVEYED FOR:

SOUTHEASTERN ENVIRONMENTAL INC.

DATE: SEPTEMBER 13, 1999 JOB NO: 99808 FLD BK: 140 PAGE: 55 REF JOB NO: TM#: 90-150-01-029

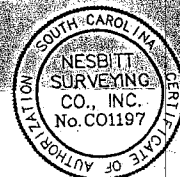
I HEREBY STATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN. ALSO THERE ARE NO ENCROACHMENTS, PROJECTIONS, OR SETBACKS AFFECTING THE PROPERTY OTHER THAN THOSE SHOWN.



NESBITT SURVEYING CO., INC.
4340 ALLIGATOR ROAD
U.S. HIGHWAY 76 & ALLIGATOR ROAD
TIMMONSVILLE, S.C. 29161
PHONE (843) 346-3302

SCALE 1" = 50 FT
0 25 50 100
GRAPHIC SCALE

David A. Nesbitt
DAVID A. NESBITT RLS NO 7623





Number 12602

[illegible]

3/1/12 # 03538 Coastal Truck Stop

Site visit w/ Bob & Maia

On-site Field Audit - Groundwater Monitoring
Midlands Environmental - Gavin & Kyle

turbidity measured using tube/black & white disc
method

partly cloudy, breezy, upper 60s

Wells that have not been "touched" in 12 months
must be purged before samples can be taken

NTUs have to be less than 10 or stabilized.

MW-10 one bailer put into well. Came back
half full & highly sedimented. NTUs came out
>240. Vials filled. Settled out to more than 1/2
sedimented. Didn't ~~take~~ use purge because no water.
Suggested they come back later to continue purge
& sample.

Suggested they put meter information onto field
data sheets.

Having issues with turbidity & low water levels at
site.

Reaffirmed GAPP. Take a minimum of 3 readings.
Take readings. May have to wait between each reading
because of slow recharge rate.

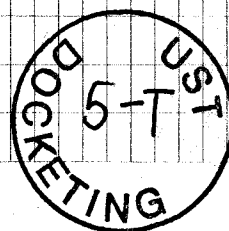
Wells not dry if water still coming back into well.

Define "dry."

Have to do 3 readings. If not stabilized, take 4th reading.
If not stabilized, 5th reading. If not stabilized, their
project manager decides whether or not to sample.

Told them they may have to make 3 complete passes of
site to get ~~sta~~ 3 readings.

Jessica E. Price
3/1/12

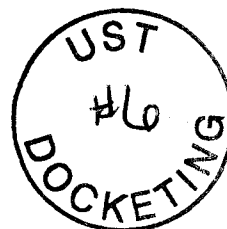




Midlands Environmental Consultants, Inc.

March 5, 2012

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



Subject: Report of Groundwater Sampling
Coastal 76 Truck Stop
2513 E. Palmetto Street
Florence, South Carolina
SCDHEC Site ID Number 03538; CA # 39814
MECI Project Number 12-3791
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Thoma,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Groundwater Sampling for the referenced site. This report describes site activities conducted at the site in general accordance with South Carolina Department of Health and Environmental Control's (SCDHEC) Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP).

PROJECT INFORMATION

The subject site (Coastal 76 Truck Stop) is located at 2513 E. Palmetto Street, Florence, Florence County, South Carolina. The subject site formally maintained one 2,000 gallon gasoline underground storage tank (UST), one 3,000 gallon gasoline UST, one 1,000 gallon gasoline UST and one 2,000 gallon diesel UST. These UST's were abandoned by removal from the ground in August of 1995. SCDHEC reported a release from these UST's in September of 1995 and confirmed the release in August of 1997. The subject site is currently rated a Class 3BA.

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

MONITORING WELL SAMPLING AND CHEMICAL ANALYSIS

On March 1, 2012, MECI personnel collected groundwater samples from seven (7) monitoring wells at the subject site. Two (2) monitoring wells, MW-3 and MW-4, were gauged and contained free phase petroleum product. Four (4) monitoring wells were gauged and determined to be dry. MECI personnel utilized an electronic water level indicator for water level measurements and an oil/water

interface probe for free phase petroleum product level measurements. Based on a request by SCDHEC personnel, all of the wells were to be purged prior to sampling. Six (6) monitoring wells were purged prior to sampling. One monitoring well, MW-11, was unable to be purged prior to sampling due to insufficient water. Purging was completed by bailing at least three well volumes of water from the well, until pH, conductivity, dissolved oxygen stabilized to within 10%, or all water was evacuated from the well, whichever occurred first. Sampling/purging was completed utilizing a prepackaged, clear, disposable polyethylene bailer and nylon rope. A new set of nitrile gloves were worn at each monitoring well, and at all time samples were handled. Field measurements of pH, conductivity, dissolved oxygen, water temperature, and turbidity were obtained before well sampling process. MECI utilized YSI550A meter for DO (mg/L) and temperature readings (°C), YSI63 meters for pH and conductivity (uS) readings and a 60 cm turbidity tube for turbidity readings. The attached Field Data Information Sheets presents the results of the field measurements obtained. The wells were sampled in accordance with SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP, Dated June 2011) and MECI's Standard Operating Procedures (MECI SOP, Dated August, 2011).

Groundwater samples obtained were sent to Shealy Environmental Services, Inc. of West Columbia, SC (SCDHEC Laboratory Certification #32010) for analysis. The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)	Ferrous Iron (Field Test)
					Analyte Sampled									
MW-1			X											
MW-2			X											
MW-3			X											
MW-4			X											
MW-5	X				X	X	X	X	X					
MW-6			X											
MW-7	X				X	X	X	X	X					
MW-8	X				X	X	X	X	X					
MW-9				X										
MW-10	X				X	X	X	X	X					
MW-11		X			X	X	X	X	X					
MW-12				X										
MW-13				X										
MW-14	X				X	X	X	X	X					
MW-IGWA			X											
MW-TW	X				X	X	X	X	X					
MW-7 Duplicate					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
Trip Blank provided by Shealy Environmental, temperature obtained upon receipt at Laboratory

Contractor Checklist

Item#	Item	Yes	No	N/A
1	Is Facility Name, Permit #, and address provided?	X		
2	Is UST Owner/Operator name, address, & phone number provided?			X
3	Is name, address, & phone number of current property owner provided?			X
4	Is the DHEC Certified UST Site Rehabilitation Contractor's Name, Address, telephone number, and certification number provided?	X		
5	Is the name, address, telephone number, and certification number of the well driller that installed borings/monitoring wells provided?			X
6	Is the name, address, telephone number, and certification number of the certified laboratory(ies) performing analytical analyses provided?	X		
7	Has the facility history been summarized?	X		
8	Has the regional geology and hydrogeology been described?			X
9	Are the receptor survey results provided as required?			X
10	Has current use of the site and adjacent land been described?			X
11	Has the site-specific geology and hydrogeology been described?			X
12	Has the primary soil type been described?			X
13	Have field screening results been described?			X
14	Has a description of the soil sample collection and preservation been detailed?			X
15	Has the field screening methodology and procedure been detailed?			X
16	Has the monitoring well installation and development dates been provided?			X
17	Has the method of well development been detailed?			X
18	Has justification been provided for the locations of the monitoring wells?			X
19	Have the monitoring wells been labeled in accordance with the UST QAPP guidelines?			X
20	Has the groundwater sampling methodology been detailed? See MECI SOP	X		
21	Have the groundwater sampling dates and groundwater measurements been provided? See attached Site Activity Summary Sheet	X		
22	Has the purging methodology been detailed? See MECI SOP	X		
23	Has the volume of water purged from each well been provided along with measurements to verify that purging is complete? See attached Field Data Information Sheets	X		
24	If free-product is present, has the thickness been provided? See attached Site Activity Summary Sheets	X		
25	Does the report include a brief discussion of the assessment done and the results?			X
26	Does the report include a brief discussion of the aquifer evaluation and results?			X
27	Does the report include a brief discussion of the fate & transport models used?			X

Item#	Item	Yes	No	N/A
28	Are the site-conceptual model tables included? (Tier 1 Risk Evaluation)			X
29	Have the exposure pathways been analyzed? (Tier 2 Risk Evaluation)			X
30	Have the SSTLs for each compound and pathway been calculated? (Tier 2 Risk Evaluation)			X
31	Have recommendations for further action been provided and explained?			X
32	Has the soil analytical data for the site been provided in tabular format? (Table 1)			X
33	Has the potentiometric data for the site been provided in tabular format? (Table 2)			X
34	Has the current and historical laboratory data been provided in tabular format?			X
35	Have the aquifer characteristics been provided and summarized on the appropriate form?			X
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figure 3 & Figure 4)			X
40	Has the site potentiometric map been provided? (Figure 5)			X
41	Have the geologic cross-sections been provided? (Figure 6)			X
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix A)			X
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)			X
47	Have the soil boring/field screening logs been provided? (Appendix D)			X
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)			X
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)			X
50	Have the disposal manifests been provided? See attached	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)			X
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided?	X		

Site Activity Summary

UST Permit #: 03538
Facility Name: Coastal 76 Truck Stop
County: Florence
Field Personnel: K. Pudney, G. Globensky


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

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-1	N	***	***	TD=17.80	***	***	***	***	***	Gauged Dry
MW-2	N	***	***	TD=18.30	***	***	***	***	***	Gauged Dry
MW-3	N	***	***	TD=18.00	17.80	18.20	0.40	***	***	Free Phase Petroleum Product to bottom of the well
MW-4	N	***	***	TD=18.35	17.56	17.58	0.02	***	***	Free Phase Petroleum Product
MW-5	Y	2/20/12	15:10	TD=18.20	***	17.05	***	0.20	0.50	Slight Odor
MW-6	N	***	***	TD=17.78	***	***	***	***	***	Gauged Dry
MW-7	Y	2/20/12	15:20	TD=18.10	***	16.54	***	0.15	0.50	Slight Odor
MW-8	Y	2/20/12	14:30	TD=18.00	***	15.59	***	0.45	1.50	Slight Odor / 3 Bolts Added
MW-9	N	***	***	***	***	***	***	***	***	Not Located
MW-10	Y	2/20/12	15:40	TD=18.25	***	15.65	***	6.90	1.0	No Odor
MW-11	N	***	***	TD=18.40	***	17.85	***	***	***	Insufficient water for field measurements or purging
MW-12	N	***	***	***	***	***	***	***	***	Not on Map provided by SCDHEC
MW-13	N	***	***	***	***	***	***	***	***	Not on Map provided by SCDHEC
MW-14	Y	2/20/12	14:40	TD=18.14	***	16.35	***	0.16	0.75	Odor
MW-IGWA	N	***	***	TD=16.40	***	***	***	***	***	Gauged Dry
									4.25	TOTAL GALLONS PURGED

Site Activity Summary

UST Permit #: 03538
Facility Name: Coastal 76 Truck Stop
County: Florence
Field Personnel: K. Pudney, G. Globensky


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

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-TW	Y	3/1/12	13:35	31-36	***	17.75	***	4.23	12.00	No Odor / Well Cap Added
MW-7 Duplicate	Y	3/1/12	15:20	***	***	***	***	***	***	MW-7 Duplicate Sample
Field Blank	Y	3/1/12	16:00	***	***	***	***	***	***	Field Blank
Trip Blank	Y	3/1/12	14:00	***	***	***	***	***	***	Trip Blank
									16.25	TOTAL GALLONS PURGED

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/1/2012

Field Personnel: K. Pudney, G. Globensky

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 18.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302 X

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK X

08B 101895

04A 0912AI

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-5

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) 17.05 feet

Total Well Depth (TWD) 18 feet

Length of the water column (LWC=TWD-DGW) 0.95 feet

1 casing volume (CV=LWC X C)= 0.163 X 0.15 gallons

3 casing volume (3 X CV)= 3 X 0.46 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	14:00	15:00	15:10					
pH (s.u.)	6.72	7.02	7.10					
Specific Conductivity (µmhos/cm)	71.7	85.9	90.5					
Water Temperature (°C)	22.3	22.4	22.4					
Dissolved Oxygen	0.20	0.56	0.48					
Turbidity (NTU)	>240	>240	>240					
PID readings, if required								

Remarks: **Sample Time:** 15:10 **Parameters within 10%**

Field Data Information Sheet for Groundwater Sampling

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-7

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) 16.54 feet

Total Well Depth (TWD) 18.1 feet

Length of the water column (LWC=TWD-DGW) 1.56 feet

1 casing volume (CV=LWC X C)= 0.163

0.25

 gallons

3 casing volume (3 X CV)= 3

0.76

 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:40	15:15	15:20					
pH (s.u.)	6.91	6.82	6.85					
Specific Conductivity (µmhos/cm)	124.9	137.8	141.0					
Water Temperature (°C)	20.8	20.8	20.9					
Dissolved Oxygen	0.15	0.98	1.05					
Turbidity (NTU)	>240	>240	>240					
PID readings, if required								

Remarks:	Sample Time:	15:20	Parameters within 10%
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**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**

Remarks: Sample Time: 14:30

Field Data Information Sheet for Groundwater Sampling

Facility Name:		<u>Coastal 76 Truck Stop</u>	
Site ID#:	<u>03538</u>	Monitoring Well #	<u>MW-10</u>
Water Supply Well	Public	Private	
Monitoring Well Diameter (D):		<u>2</u>	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)	<u>15.65</u>		feet
Total Well Depth (TWD)	<u>18.25</u>		feet
Length of the water column (LWC=TWD-DGW)			2.6 feet
1 casing volume (CV=LWC X C)=	<u>0.163</u>	<u>0.42</u>	gallons
3 casing volume (3 X CV)=	<u>3</u>	<u>1.27</u>	gallons
Total Volume of Water Purged Before Sampling		<u>1</u>	gals.

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

Remarks: Sample Time: 15:40 Parameters within 10%

Field Data Information Sheet for Groundwater Sampling

Facility Name: <u>Coastal 76 Truck Stop</u>	
Site ID#: <u>03538</u>	Monitoring Well # <u>MW-14</u>
Water Supply Well <u>Public</u>	Private <u> </u>
Monitoring Well Diameter (D): <u>2</u> 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:	<u> </u> feet
Depth to Free Product (DFP)	<u> </u> feet
Depth to Ground Water (DGW)	<u>16.35</u> feet
Total Well Depth (TWD)	<u>18.14</u> feet
Length of the water column (LWC=TWD-DGW)	<u>1.79</u> feet
1 casing volume (CV=LWC X C)= <u> </u> X <u>0.163</u>	<u>0.29</u> gallons
3 casing volume (3 X CV)=	<u>3</u> <u>0.88</u> gallons
Total Volume of Water Purged Before Sampling	<u>0.75</u> 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)	12:50	12:55	14:40					
pH (s.u.)	7.17	7.15	7.18					
Specific Conductivity (µmhos/cm)	209.1	193.8	195.8					
Water Temperature (°C)	20.4	20.6	20.7					
Dissolved Oxygen	0.16	0.88	0.95					
Turbidity (NTU)	>240	>240	>240					
PID readings, if required								

Remarks: Sample Time: 14:40 Parameters within 10%

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program
Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 3/1/2012

Field Personnel: K. Pudney, G. Globensky

General Weather Conditions: Clear, Sunny

Ambient Air Temperature: 18.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302 X

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK X

08B 101895

04A 0912AI

Chain of Custody

Relinquished by Date/Time Received by Date/Time

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 Monitoring Well # MW-TW

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) 17.75 feet

Total Well Depth (TWD) 36 feet

Length of the water column (LWC=TWD-DGW) 18.25 feet

1 casing volume (CV=LWC X C)= 0.163 X 2.97 gallons

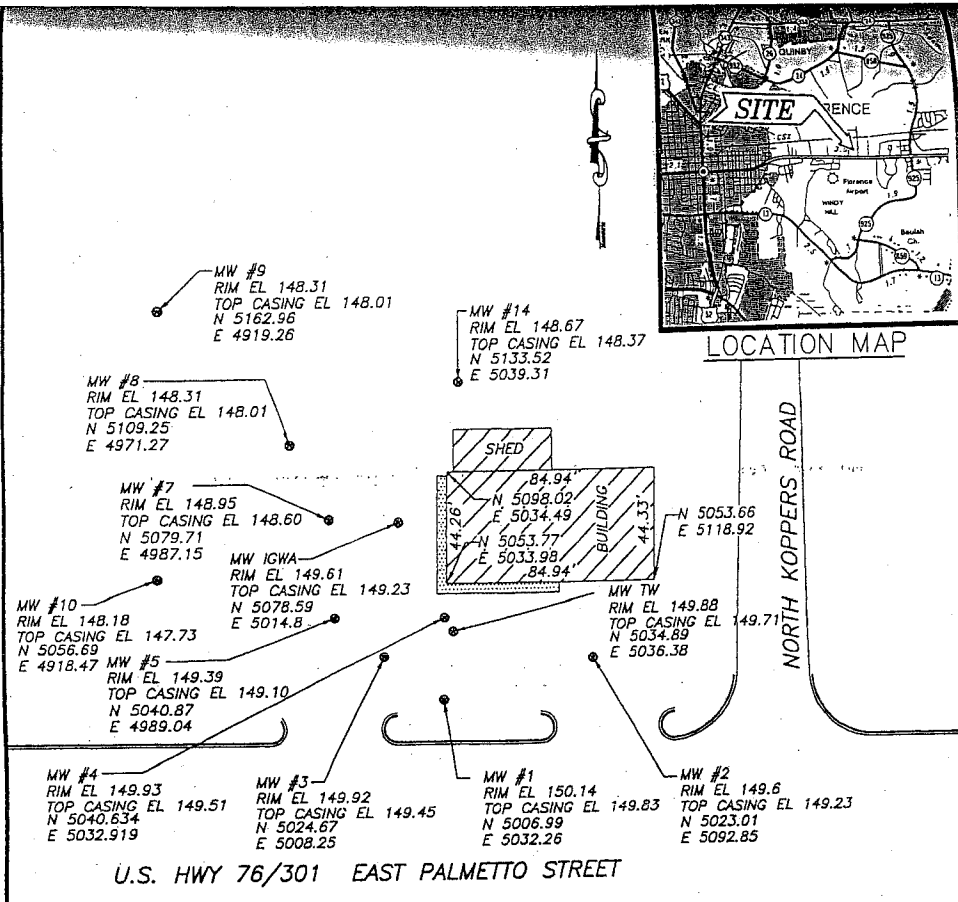
3 casing volume (3 X CV)= 3 X 8.92 gallons

Total Volume of Water Purged Before Sampling 12 gals.

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:20	13:23	13:28	13:30	13:35			
pH (s.u.)	6.34	6.20	6.18	6.15	6.13			
Specific Conductivity (µmhos/cm)	38.6	30.7	28.9	29.0	28.7			
Water Temperature (°C)	23.1	22.9	22.2	22.1	22.1			
Dissolved Oxygen	4.23	4.48	5.24	5.12	5.10			
Turbidity (NTU)	<5	>240	>240	>240	>240			
PID readings, if required								

Remarks: Sample Time: 13:35



FLORENCE COUNTY
SOUTH CAROLINA

MONITORING WELL SURVEY

OF MONITORING WELLS LOCATED AT THE COASTAL TRUCK STOP IN FLORENCE COUNTY, SOUTH CAROLINA BEING A PORTION OF THAT PROPERTY DESCRIBED IN DEED BOOK 165 PG. 235. A PORTION OF THAT PROPERTY SHOWN AS LOTS 20, 21, & 22 ON A PLAT OF THE J.C.C. BRUNSON LANDS RECORDED IN PLAT BOOK E PAGE 223. SURVEYED FOR:

SOUTHEASTERN ENVIRONMENTAL INC.

DATE: SEPTEMBER 13, 1999 JOB NO. 99808 FLD BK. 140 PAGE 55 REF JOB NO. TM# 90-150-01-029

I HEREBY STATE TO THE BEST OF MY KNOWLEDGE, INFORMATION AND BELIEF, THE SURVEY SHOWN HEREON WAS MADE IN ACCORDANCE WITH THE REQUIREMENTS OF THE MINIMUM STANDARDS MANUAL FOR THE PRACTICE OF LAND SURVEYING IN SOUTH CAROLINA, AND MEETS OR EXCEEDS THE REQUIREMENTS FOR A CLASS "A" SURVEY AS SPECIFIED THEREIN. ALSO THERE ARE NO ENCROACHMENTS, PROJECTIONS, OR SETBACKS AFFECTING THE PROPERTY OTHER THAN THOSE SHOWN.

	NESBITT SURVEYING CO., INC. 4340 ALLIGATOR ROAD U.S. HIGHWAY 76 & ALLIGATOR ROAD TIMMONSVILLE, S.C. 29161 PHONE (843) 346-3302	
	SCALE 1" = 50 FT GRAPHIC SCALE	

DAVID A. NESBITT RLS NO 7623



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 12004

Client: SCDHEC			Report to Contact: D. Thomas			Sampler (Printed Name): GAVIN GROBENSKY			Quote No.		
Address: 2600 Bull Street			Telephone No. / Fax No. / Email: 803-896-6241			Waybill No.			Page 1 of 2		
City: Columbia	State: SC	Zip Code: 29201	Preservative: 1. Unpres. 4. HNO3 7. NaOH 2. NaOH/ZnA 5. HCL 3. H2SO4 6. Na Thio.						Number of Containers Bottle (See Instructions on back) Preservative Lot No. NC02058		
Project Name: Coastal 76 Truck Stop			Project Number: 03538/39815			P.O. Number: 4600098529			Matrix: Analysis: GT (800) (EPA) 1,2 DCA 800 (800) EDB (800) Total Lead		
Sample ID / Description (Containers for each sample may be combined on one line)			Date	Time	Lab/Client Composite	GW	DW	WW	S	Other	Remarks / Comments
MW-1											DRY
MW-2											DRY
MW-3											Product
MW-4											Product
MW-5			3/1	3:10	6	X					Slight odor
MW-6											DRY
MW-7				3:20							Slight odor
MW-8				2:30							Slight odor
MW-9											Not located
MW-10			3/1	3:40	6	X					No odor
Turn Around Time Required (Prior lab approval required for expedited TAT)			Sample Disposal: ☐ Standard ☐ Rush (Please Specify)			QC Requirements (Specify)			Possible Hazard Identification: ☐ Non-Hazard ☐ Harmless ☐ Skin Irritant ☐ Poison ☐ Unknown		
1. Retained by: Don D. Kelly			Date: 3/1/12 Time: 21:00			1. Received by:			Date: Time:		
2. Retained by: Don D. Kelly			Date: 3/1/12 Time: 21:05			2. Received by:			Date: 3/2/12 Time: 1600		
3. Retained by:			Date: Time:			3. Received by:			Date: Time:		
4. Retained by:			Date: 3/2/12 Time: 1625			4. Laboratory Received by:			Date: 3/2/12 Time: 1625		
Note: All samples are retained for six weeks from receipt unless other arrangements are made.						LAB USE ONLY Received on Ice (Check) ☒ Yes ☐ No ☐ Ice Pack			Receipt Temp. 1-6 °C Temp. Blank 1 Y / N		



www.jstoh.com

Number 12003

Client SCDEEC						Report To Contact J. Thoma							Sampler (Printed Name) GAVIN GLOBENSKY								Quote No.							
Address 2600 Ball Street						Telephone No. / Fax No. / Email 803-896-6241							Waybill No.								Page 2 of 2							
City Columbia		State SC		Zip Code 29201		Preservative 1. Ungas. 4. HNO ₃ 7. NaOH 2. NaOH/NaA 5. HCL 3. H ₂ SO ₄ 6. Na Tlro.													Number of Containers Bottle (See instructions on back) # Bases used Lot No. N Co no S8									
Project Name Coastal 76 Truck Stop																			Remarks / Cooler ID									
Project Number 03538/39815						P.O. Number 4600088529																						
Sample ID Description (Containers for each sample may be contained on one or)						Date	Time	G-Cab	Catagories	Matrix	DW/DWI/WWS	S	Other	Analysis Dioxin/Furans/MTC (ppb/L) 1,2 DCA Benzene/toluene EDG (SOL) Total Lead														
MW-11													X	X	X	X	X	only silt at bottom odor										
MW-14						3/1	2:40	6	x				X	X	X	X	X	odor										
MW IGWA																		PRY										
MW-TW							1:35						X	X	X	X	X	No odor										
MW-F Dup.							3:20						X	X	X	X	X	slight odor										
Field Blank							4:00						X	X	X	X		-										
Trip Blank						3/1	2:00	G	x				X	X	X			-										
Turn Around Time Required prior as approved required for expected TAT						Sample Disposal ☐ Return to Client ☒ Disposal by Lab							QC Requirements (Specify) ☒ Other Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown							Possible Hazard Identification								
L. Standards N. Fast (Please Specify)																												
1. Reinspected By [Signature]						Date 3/1/12	Time 21:00								1. Received by [Signature]							Date 3/2/12	Time 14:00					
2. Reinspected By V. Pety						Date 3/1/12	Time 21:05								2. Received by [Signature]							Date 3/2/12	Time 14:00					
3. Reinspected By						Date	Time								3. Received by							Date	Time					
4. Reinspected By						Date 3/2/12	Time 16:25								4. Laboratory Received by [Signature]							Date 3/2/12	Time 16:25					
Note: All samples are retained for six weeks from receipt unless other arrangements are made.						LAB USE ONLY Received on for (Check) Yes ___ No ___ L. for Pack							Receipt Temp. 10°C							Temp. Blank / °C								



March 5, 2012

Re: Treatment of Purge Water
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID Number 03538
MECI Project Number 12-3791

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.

March 5, 2012

A total of 16.25 gallons were treated on March 1, 2012 at the referenced site.

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

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

Sincerely,

Midlands Environmental Consultants, Inc.

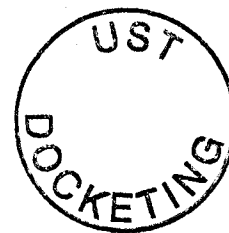
A handwritten signature in black ink, appearing to read 'Courtney Sanders', with a large, stylized initial 'C'.

Courtney M. Sanders
Staff Biologist

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

SC DHEC - UST Management
2600 Bull Street
Columbia, SC 29201
Attention: Debra Thoma



Project Name: **Coastal 76 Truck Stop**
Project Number: **UST Permit #03538/CA #39815**
Lot Number: **NC02058**
Date Completed: **03/13/2012**




Kelly M. Maberry
Project Manager



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

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



SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

Case Narrative SC DHEC - UST Management Lot Number: NC02058

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

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

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

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

Sample Receiving

Sample -001 for volatiles analysis contained vials with air bubbles greater than ¼" or 6mm in diameter. The laboratory uses these vials for screening and the vials without bubbles for analysis whenever possible. Condition of samples is documented on the Sample Receipt Checklist (SRC).

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary SC DHEC - UST Management Lot Number: NC02058

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	MW-5	Aqueous	03/01/2012 1510	03/02/2012
002	MW-7	Aqueous	03/01/2012 1520	03/02/2012
003	MW-8	Aqueous	03/01/2012 1430	03/02/2012
004	MW-10	Aqueous	03/01/2012 1540	03/02/2012
005	MW-14	Aqueous	03/01/2012 1440	03/02/2012
006	MW-TW	Aqueous	03/01/2012 1335	03/02/2012
007	MW-7 Dup	Aqueous	03/01/2012 1520	03/02/2012
008	Field Blank	Aqueous	03/01/2012 1600	03/02/2012
009	Trip Blank	Aqueous	03/01/2012 1400	03/02/2012

(9 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary SC DHEC - UST Management Lot Number: NC02058

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	MW-5	Aqueous	Benzene	8260B	640		ug/L	6
001	MW-5	Aqueous	1,2-Dichloroethane	8260B	12		ug/L	6
001	MW-5	Aqueous	Ethylbenzene	8260B	990		ug/L	6
001	MW-5	Aqueous	Naphthalene	8260B	210		ug/L	6
001	MW-5	Aqueous	Toluene	8260B	5100		ug/L	6
001	MW-5	Aqueous	Xylenes (total)	8260B	5800		ug/L	6
001	MW-5	Aqueous	tert-Amyl alcohol (TAA)	8260B	180		ug/L	6
001	MW-5	Aqueous	tert-butyl alcohol (TBA)	8260B	8.9	J	ug/L	6
001	MW-5	Aqueous	1,2-Dibromoethane (EDB)	8011	0.45		ug/L	7
001	MW-5	Aqueous	Lead	6020A	670		ug/L	7
002	MW-7	Aqueous	Benzene	8260B	180		ug/L	8
002	MW-7	Aqueous	1,2-Dichloroethane	8260B	4.1	J	ug/L	8
002	MW-7	Aqueous	Ethylbenzene	8260B	740		ug/L	8
002	MW-7	Aqueous	Naphthalene	8260B	210		ug/L	8
002	MW-7	Aqueous	Toluene	8260B	870		ug/L	8
002	MW-7	Aqueous	Xylenes (total)	8260B	2500		ug/L	8
002	MW-7	Aqueous	3,3-Dimethyl-1-butanol	8260B	2.5	J	ug/L	8
002	MW-7	Aqueous	tert-Amyl alcohol (TAA)	8260B	140		ug/L	8
002	MW-7	Aqueous	tert-butyl alcohol (TBA)	8260B	8.9	J	ug/L	8
002	MW-7	Aqueous	Lead	6020A	280		ug/L	9
003	MW-8	Aqueous	Naphthalene	8260B	4.1	J	ug/L	10
003	MW-8	Aqueous	Xylenes (total)	8260B	3.4	J	ug/L	10
003	MW-8	Aqueous	tert-Amyl alcohol (TAA)	8260B	72	J	ug/L	10
003	MW-8	Aqueous	tert-butyl alcohol (TBA)	8260B	18	J	ug/L	10
003	MW-8	Aqueous	Lead	6020A	140		ug/L	11
004	MW-10	Aqueous	Lead	6020A	2.9		ug/L	13
005	MW-14	Aqueous	Benzene	8260B	530		ug/L	14
005	MW-14	Aqueous	1,2-Dichloroethane	8260B	10		ug/L	14
005	MW-14	Aqueous	Ethylbenzene	8260B	1500		ug/L	14
005	MW-14	Aqueous	Naphthalene	8260B	260		ug/L	14
005	MW-14	Aqueous	Toluene	8260B	3100		ug/L	14
005	MW-14	Aqueous	Xylenes (total)	8260B	4400		ug/L	14
005	MW-14	Aqueous	3,3-Dimethyl-1-butanol	8260B	1.1	J	ug/L	14
005	MW-14	Aqueous	tert-Amyl alcohol (TAA)	8260B	630		ug/L	14
005	MW-14	Aqueous	tert-butyl alcohol (TBA)	8260B	9.5	J	ug/L	14
005	MW-14	Aqueous	1,2-Dibromoethane (EDB)	8011	0.21		ug/L	15
005	MW-14	Aqueous	Lead	6020A	5.2		ug/L	15
006	MW-TW	Aqueous	Naphthalene	8260B	2.6	J	ug/L	16
006	MW-TW	Aqueous	Lead	6020A	13		ug/L	17
007	MW-7 Dup	Aqueous	Benzene	8260B	210		ug/L	18
007	MW-7 Dup	Aqueous	1,2-Dichloroethane	8260B	4.4	J	ug/L	18
007	MW-7 Dup	Aqueous	Ethylbenzene	8260B	930		ug/L	18
007	MW-7 Dup	Aqueous	Naphthalene	8260B	210		ug/L	18
007	MW-7 Dup	Aqueous	Toluene	8260B	1100		ug/L	18
007	MW-7 Dup	Aqueous	Xylenes (total)	8260B	3200		ug/L	18

Executive Summary (Continued)

Lot Number: NC02058

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
007	MW-7 Dup	Aqueous	3,3-Dimethyl-1-butanol	8260B	2.1	J	ug/L	18
007	MW-7 Dup	Aqueous	tert-Amyl alcohol (TAA)	8260B	170		ug/L	18
007	MW-7 Dup	Aqueous	tert-butyl alcohol (TBA)	8260B	9.3	J	ug/L	18
007	MW-7 Dup	Aqueous	Lead	6020A	180		ug/L	19

(49 detections)

Description: MW-5

Matrix: Aqueous

Date Sampled: 03/01/2012 1510

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0542	DD		79862
2	5030B	8260B	50	03/13/2012 1204	AAC		80018

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	640		250	10	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	12		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	990		250	85	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	210		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	5100		250	85	ug/L	2
Xylenes (total)	1330-20-7	8260B	5800		250	85	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		106	70-130		92	70-130
Bromofluorobenzene		87	70-130		82	70-130
Toluene-d8		112	70-130		96	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0542	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	180		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	8.9	J	100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		87	70-130
1,2-Dichloroethane-d4		106	70-130
Toluene-d8		112	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-5

Matrix: Aqueous

Date Sampled: 03/01/2012 1510

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	8011	8011	1	03/08/2012 0312	MSM	03/06/2012 0915	79418		
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4		8011	0.45		0.032	0.032	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,1,1,2-Tetrachloroethane		105	57-137						

ICP-MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	03/06/2012 0022	BNW	03/05/2012 1031	79321

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6020A	670		1.0	0.047	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

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

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-7

Matrix: Aqueous

Date Sampled: 03/01/2012 1520

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0604	DD		79862
2	5030B	8260B	20	03/13/2012 1225	AAC		80018

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	180		100	4.0	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	4.1	J	5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	740		100	34	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	210		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	870		100	34	ug/L	2
Xylenes (total)	1330-20-7	8260B	2500		100	34	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130		99	70-130
Bromofluorobenzene		90	70-130		93	70-130
Toluene-d8		108	70-130		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0604	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	2.5	J	100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	140		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	8.9	J	100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		90	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		108	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-7

Matrix: Aqueous

Date Sampled: 03/01/2012 1520

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch				
1	8011	8011	1	03/08/2012 0333	MSM	03/06/2012 0915	79418				
Parameter				CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)				106-93-4	8011	ND		0.020	0.020	ug/L	1
Surrogate		Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane			107	57-137							

ICP-MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch				
1	3005A	6020A	1	03/06/2012 0026	BNW	03/05/2012 1031	79321				
Parameter				CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead				7439-92-1	6020A	280		1.0	0.047	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-8

Matrix: Aqueous

Date Sampled: 03/01/2012 1430

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/08/2012 1656	AAC		79699

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	4.1	J	5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	3.4	J	5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		85	70-130
Bromofluorobenzene		97	70-130
Toluene-d8		97	70-130

Volatile Organic Compounds by GC/MS

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 1	Analysis Date 03/13/2012 0129	Analyst DD	Prep Date	Batch 80001	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	72	J	100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	18	J	100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
Bromofluorobenzene		96	70-130					
1,2-Dichloroethane-d4		96	70-130					
Toluene-d8		100	70-130					

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/08/2012 0355	MSM	03/06/2012 0915	79418

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-8

Matrix: Aqueous

Date Sampled: 03/01/2012 1430

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/08/2012 0355	MSM	03/06/2012 0915	79418

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,1,1,2-Tetrachloroethane		97	57-137					

ICP-MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	03/06/2012 0031	BNW	03/05/2012 1031	79321

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6020A	140		1.0	0.047	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

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

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-10

Matrix: Aqueous

Date Sampled: 03/01/2012 1540

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0625	DD		79862
2	5030B	8260B	1	03/13/2012 1408	AAC		80022

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130		93	70-130
Bromofluorobenzene		90	70-130		96	70-130
Toluene-d8		99	70-130		94	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0625	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		90	70-130
1,2-Dichloroethane-d4		104	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-10

Matrix: Aqueous

Date Sampled: 03/01/2012 1540

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	8011	8011	1	03/08/2012 0416	MSM	03/06/2012 0915	79418		
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4		8011	ND		0.023	0.023	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,1,1,2-Tetrachloroethane		99	57-137						

ICP-MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch		
1	3005A	6020A	1	03/06/2012 0036	BNW	03/05/2012 1031	79321		
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1		6020A	2.9		1.0	0.047	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-14

Matrix: Aqueous

Date Sampled: 03/01/2012 1440

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0647	DD		79862
2	5030B	8260B	20	03/13/2012 1247	AAC		80018

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	530		100	4.0	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	10		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	1500		100	34	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	260		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	3100		100	34	ug/L	2
Xylenes (total)	1330-20-7	8260B	4400		100	34	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130		98	70-130
Bromofluorobenzene		86	70-130		96	70-130
Toluene-d8		109	70-130		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0647	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	1.1	J	100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	630		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	9.5	J	100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		86	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		109	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-14

Matrix: Aqueous

Date Sampled: 03/01/2012 1440

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/08/2012 0438	MSM	03/06/2012 0915	79418

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	0.21		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,1,1,2-Tetrachloroethane		107	57-137					

ICP-MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	03/06/2012 0040	BNW	03/05/2012 1031	79321

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6020A	5.2		1.0	0.047	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-TW

Matrix: Aqueous

Date Sampled: 03/01/2012 1335

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0709	DD		79862
2	5030B	8260B	1	03/13/2012 1429	AAC		80022

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	2.6	J	5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		103	70-130		94	70-130
Bromofluorobenzene		91	70-130		96	70-130
Toluene-d8		101	70-130		95	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0709	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		103	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Client: SC DHEC - UST Management

Laboratory ID: NC02058-006

Description: MW-TW

Matrix: Aqueous

Date Sampled: 03/01/2012 1335

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/08/2012 0459	MSM	03/06/2012 0915	79418

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,1,1,2-Tetrachloroethane		99	57-137					

ICP-MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6020A	1	03/06/2012 0045	BNW	03/05/2012 1031	79321

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6020A	13		1.0	0.047	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-7 Dup

Matrix: Aqueous

Date Sampled: 03/01/2012 1520

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0731	DD		79862
2	5030B	8260B	20	03/13/2012 1309	AAC		80018

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	210		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	4.4	J	5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	930		100	34	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	210		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	1100		100	34	ug/L	2
Xylenes (total)	1330-20-7	8260B	3200		100	34	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		97	70-130		96	70-130
Bromofluorobenzene		86	70-130		95	70-130
Toluene-d8		109	70-130		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0731	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	2.1	J	100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	170		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	9.3	J	100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		86	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		109	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-7 Dup

Matrix: Aqueous

Date Sampled: 03/01/2012 1520

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	03/08/2012 0521	MSM	03/06/2012 0915	79418			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		115	57-137							

ICP-MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6020A	1	03/06/2012 0050	BNW	03/05/2012 1031	79321			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6020A	180		1.0	0.047	ug/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: Field Blank

Matrix: Aqueous

Date Sampled: 03/01/2012 1600

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0217	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		125	70-130
Bromofluorobenzene		91	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0217	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		91	70-130
1,2-Dichloroethane-d4		125	70-130
Toluene-d8		99	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	8011	8011	1	03/08/2012 0542	MSM	03/06/2012 0915	79418	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Client: SC DHEC - UST Management

Laboratory ID: NC02058-008

Description: Field Blank

Matrix: Aqueous

Date Sampled: 03/01/2012 1600

Date Received: 03/02/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	03/08/2012 0542	MSM	03/06/2012 0915	79418

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	ND		0.019	0.019	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		95	57-137

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

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

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: Trip Blank

Matrix: Aqueous

Date Sampled: 03/01/2012 1400

Date Received: 03/02/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0239	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		126	70-130
Bromofluorobenzene		92	70-130
Toluene-d8		99	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	03/10/2012 0239	DD		79862

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		92	70-130
1,2-Dichloroethane-d4		126	70-130
Toluene-d8		99	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ79699-001

Matrix: Aqueous

Batch: 79699

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	03/08/2012 1228
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	03/08/2012 1228
Ethylbenzene	ND		1	5.0	1.7	ug/L	03/08/2012 1228
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	03/08/2012 1228
Naphthalene	ND		1	5.0	1.7	ug/L	03/08/2012 1228
Toluene	ND		1	5.0	1.7	ug/L	03/08/2012 1228
Xylenes (total)	ND		1	5.0	1.7	ug/L	03/08/2012 1228
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		100	70-130				
1,2-Dichloroethane-d4		95	70-130				
Toluene-d8		93	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ79699-002

Matrix: Aqueous

Batch: 79699

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	39		1	78	70-130	03/08/2012 1059
1,2-Dichloroethane	50	39		1	78	70-130	03/08/2012 1059
Ethylbenzene	50	41		1	82	70-130	03/08/2012 1059
Methyl tertiary butyl ether (MTBE)	50	40		1	79	70-130	03/08/2012 1059
Naphthalene	50	45		1	91	70-130	03/08/2012 1059
Toluene	50	41		1	81	70-130	03/08/2012 1059
Xylenes (total)	100	83		1	83	70-130	03/08/2012 1059
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		96	70-130				
1,2-Dichloroethane-d4		90	70-130				
Toluene-d8		95	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ79699-003

Matrix: Aqueous

Batch: 79699

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	39		1	78	0.049	70-130	20	03/08/2012 1121
1,2-Dichloroethane	50	38		1	76	2.2	70-130	20	03/08/2012 1121
Ethylbenzene	50	41		1	83	0.87	70-130	20	03/08/2012 1121
Methyl tertiary butyl ether (MTBE)	50	38		1	75	5.2	70-130	20	03/08/2012 1121
Naphthalene	50	45		1	89	1.7	70-130	20	03/08/2012 1121
Toluene	50	41		1	82	0.53	70-130	20	03/08/2012 1121
Xylenes (total)	100	82		1	82	1.5	70-130	20	03/08/2012 1121
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		96	70-130						
1,2-Dichloroethane-d4		87	70-130						
Toluene-d8		96	70-130						

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ79862-001

Matrix: Aqueous

Batch: 79862

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	03/09/2012 2328
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	03/09/2012 2328
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	03/09/2012 2328
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	03/09/2012 2328
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	03/09/2012 2328
Ethanol	ND		1	1000	33	ug/L	03/09/2012 2328
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	03/09/2012 2328
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	03/09/2012 2328
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		92	70-130				
1,2-Dichloroethane-d4		118	70-130				
Toluene-d8		103	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ = RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ79862-002

Matrix: Aqueous

Batch: 79862

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1000		1	101	70-130	03/09/2012 2200
tert-Amyl methyl ether (TAME)	50	56		1	112	70-130	03/09/2012 2200
tert-Butyl formate (TBF)	250	250		1	100	70-130	03/09/2012 2200
Diisopropyl ether (IPE)	50	52		1	104	70-130	03/09/2012 2200
3,3-Dimethyl-1-butanol	1000	1000		1	104	70-130	03/09/2012 2200
Ethanol	5000	5600		1	113	70-130	03/09/2012 2200
Ethyl-tert-butyl ether (ETBE)	50	50		1	100	70-130	03/09/2012 2200
tert-butyl alcohol (TBA)	1000	990		1	99	70-130	03/09/2012 2200
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		88	70-130				
1,2-Dichloroethane-d4		106	70-130				
Toluene-d8		104	70-130				

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ79862-003

Matrix: Aqueous

Batch: 79862

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	950		1	95	6.5	70-130	20	03/09/2012 2222
tert-Amyl methyl ether (TAME)	50	55		1	111	0.70	70-130	20	03/09/2012 2222
tert-Butyl formate (TBF)	250	240		1	98	2.1	70-130	20	03/09/2012 2222
Diisopropyl ether (IPE)	50	51		1	103	0.86	70-130	20	03/09/2012 2222
3,3-Dimethyl-1-butanol	1000	970		1	97	7.3	70-130	20	03/09/2012 2222
Ethanol	5000	5400		1	108	4.1	70-130	20	03/09/2012 2222
Ethyl-tert-butyl ether (ETBE)	50	50		1	99	0.98	70-130	20	03/09/2012 2222
tert-butyl alcohol (TBA)	1000	920		1	92	7.0	70-130	20	03/09/2012 2222
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		88	70-130						
1,2-Dichloroethane-d4		105	70-130						
Toluene-d8		103	70-130						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ79862-001

Matrix: Aqueous

Batch: 79862

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	03/09/2012 2328
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	03/09/2012 2328
Ethylbenzene	ND		1	5.0	1.7	ug/L	03/09/2012 2328
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	03/09/2012 2328
Naphthalene	ND		1	5.0	1.7	ug/L	03/09/2012 2328
Toluene	ND		1	5.0	1.7	ug/L	03/09/2012 2328
Xylenes (total)	ND		1	5.0	1.7	ug/L	03/09/2012 2328
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		92	70-130				
1,2-Dichloroethane-d4		118	70-130				
Toluene-d8		103	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ79862-002

Matrix: Aqueous

Batch: 79862

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	49		1	99	70-130	03/09/2012 2200
1,2-Dichloroethane	50	50		1	99	70-130	03/09/2012 2200
Ethylbenzene	50	50		1	100	70-130	03/09/2012 2200
Methyl tertiary butyl ether (MTBE)	50	51		1	101	70-130	03/09/2012 2200
Naphthalene	50	55		1	111	70-130	03/09/2012 2200
Toluene	50	50		1	101	70-130	03/09/2012 2200
Xylenes (total)	100	100		1	102	70-130	03/09/2012 2200
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		88	70-130				
1,2-Dichloroethane-d4		106	70-130				
Toluene-d8		104	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ79862-003

Matrix: Aqueous

Batch: 79862

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	50		1	100	1.2	70-130	20	03/09/2012 2222
1,2-Dichloroethane	50	49		1	98	1.8	70-130	20	03/09/2012 2222
Ethylbenzene	50	51		1	102	2.5	70-130	20	03/09/2012 2222
Methyl tertiary butyl ether (MTBE)	50	51		1	102	0.10	70-130	20	03/09/2012 2222
Naphthalene	50	54		1	107	3.4	70-130	20	03/09/2012 2222
Toluene	50	49		1	99	1.8	70-130	20	03/09/2012 2222
Xylenes (total)	100	100		1	103	0.75	70-130	20	03/09/2012 2222
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		88	70-130						
1,2-Dichloroethane-d4		105	70-130						
Toluene-d8		103	70-130						

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ80001-001

Matrix: Aqueous

Batch: 80001

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	03/12/2012 2309
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	03/12/2012 2309
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	03/12/2012 2309
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	03/12/2012 2309
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	03/12/2012 2309
Ethanol	ND		1	1000	33	ug/L	03/12/2012 2309
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	03/12/2012 2309
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	03/12/2012 2309
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		97	70-130				
1,2-Dichloroethane-d4		100	70-130				
Toluene-d8		101	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ80001-002

Matrix: Aqueous

Batch: 80001

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	770		1	77	70-130	03/12/2012 2052
tert-Amyl methyl ether (TAME)	50	41		1	83	70-130	03/12/2012 2052
tert-Butyl formate (TBF)	250	230		1	91	70-130	03/12/2012 2052
Diisopropyl ether (IPE)	50	49		1	99	70-130	03/12/2012 2052
3,3-Dimethyl-1-butanol	1000	830		1	83	70-130	03/12/2012 2052
Ethanol	5000	5100		1	103	70-130	03/12/2012 2052
Ethyl-tert-butyl ether (ETBE)	50	47		1	94	70-130	03/12/2012 2052
tert-butyl alcohol (TBA)	1000	860		1	86	70-130	03/12/2012 2052
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		96	70-130				
1,2-Dichloroethane-d4		101	70-130				
Toluene-d8		103	70-130				

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ80001-003

Matrix: Aqueous

Batch: 80001

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	820		1	82	6.2	70-130	20	03/12/2012 2147
tert-Amyl methyl ether (TAME)	50	42		1	84	1.1	70-130	20	03/12/2012 2147
tert-Butyl formate (TBF)	250	230		1	93	2.1	70-130	20	03/12/2012 2147
Diisopropyl ether (IPE)	50	50		1	101	2.0	70-130	20	03/12/2012 2147
3,3-Dimethyl-1-butanol	1000	900		1	90	8.9	70-130	20	03/12/2012 2147
Ethanol	5000	6000		1	119	15	70-130	20	03/12/2012 2147
Ethyl-tert-butyl ether (ETBE)	50	47		1	95	0.49	70-130	20	03/12/2012 2147
tert-butyl alcohol (TBA)	1000	910		1	91	6.4	70-130	20	03/12/2012 2147
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		97	70-130						
1,2-Dichloroethane-d4		97	70-130						
Toluene-d8		102	70-130						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ80018-001

Batch: 80018

Matrix: Aqueous

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	03/13/2012 0900
Ethylbenzene	ND		1	5.0	1.7	ug/L	03/13/2012 0900
Toluene	ND		1	5.0	1.7	ug/L	03/13/2012 0900
Xylenes (total)	ND		1	5.0	1.7	ug/L	03/13/2012 0900
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		92	70-130				
1,2-Dichloroethane-d4		96	70-130				
Toluene-d8		99	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ80018-002

Batch: 80018

Matrix: Aqueous

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	50	46		1	93	70-130	03/13/2012 0734
Ethylbenzene	50	50		1	99	70-130	03/13/2012 0734
Toluene	50	47		1	93	70-130	03/13/2012 0734
Xylenes (total)	100	96		1	96	70-130	03/13/2012 0734
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		98	70-130				
1,2-Dichloroethane-d4		101	70-130				
Toluene-d8		99	70-130				

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ80018-003

Batch: 80018

Matrix: Aqueous

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	48		1	96	3.0	70-130	20	03/13/2012 0756
Ethylbenzene	50	49		1	98	1.0	70-130	20	03/13/2012 0756
Toluene	50	48		1	97	3.6	70-130	20	03/13/2012 0756

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ80018-003

Matrix: Aqueous

Batch: 80018

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Xylenes (total)	100	95		1	95	0.57	70-130	20	03/13/2012 0756
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		92	70-130						
1,2-Dichloroethane-d4		97	70-130						
Toluene-d8		97	70-130						

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ80022-001

Matrix: Aqueous

Batch: 80022

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Xylenes (total)	ND		1	5.0	1.7	ug/L	03/13/2012 0918
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		97	70-130				
1,2-Dichloroethane-d4		95	70-130				
Toluene-d8		95	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ80022-002

Matrix: Aqueous

Batch: 80022

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Xylenes (total)	100	110		1	111	70-130	03/13/2012 0753
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		97	70-130				
1,2-Dichloroethane-d4		93	70-130				
Toluene-d8		98	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ80022-003

Matrix: Aqueous

Batch: 80022

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Xylenes (total)	100	110		1	112	0.81	70-130	20	03/13/2012 0814
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		97	70-130						
1,2-Dichloroethane-d4		92	70-130						
Toluene-d8		97	70-130						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MB

Sample ID: NQ79418-001

Batch: 79418

Analytical Method: 8011

Matrix: Aqueous

Prep Method: 8011

Prep Date: 03/06/2012 915

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	03/08/2012 0229
Surrogate	Q	% Rec	Acceptance Limit				
1,1,1,2-Tetrachloroethane		110	57-137				

EDB & DBCP by Microextraction - LCS

Sample ID: NQ79418-002

Batch: 79418

Analytical Method: 8011

Matrix: Aqueous

Prep Method: 8011

Prep Date: 03/06/2012 915

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.26		1	105	60-140	03/08/2012 0250
Surrogate	Q	% Rec	Acceptance Limit				
1,1,1,2-Tetrachloroethane		101	57-137				

EDB & DBCP by Microextraction - MS

Sample ID: NC02058-008MS

Batch: 79418

Analytical Method: 8011

Matrix: Aqueous

Prep Method: 8011

Prep Date: 03/06/2012 915

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.26		1	105	60-140	03/08/2012 0604
Surrogate	Q	% Rec	Acceptance Limit					
1,1,1,2-Tetrachloroethane		100	57-137					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: NC02058-008MD

Matrix: Aqueous

Batch: 79418

Prep Method: 8011

Analytical Method: 8011

Prep Date: 03/06/2012 915

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.22		1	92	14	60-140	20	03/08/2012 0625
Surrogate	Q	% Rec	Acceptance Limit							
1,1,1,2-Tetrachloroethane		87	57-137							

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-MS - MB

Sample ID: NQ79321-001

Batch: 79321

Analytical Method: 6020A

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 03/05/2012 1031

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	ND		1	1.0	0.047	ug/L	03/06/2012 0008

ICP-MS - LCS

Sample ID: NQ79321-002

Batch: 79321

Analytical Method: 6020A

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 03/05/2012 1031

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	100	98		1	98	80-120	03/06/2012 0012

ICP-MS - LCSD

Sample ID: NQ79321-003

Batch: 79321

Analytical Method: 6020A

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 03/05/2012 1031

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	100	97		1	97	1.3	80-120	20	03/06/2012 0017

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results



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 12004

Client SCDHEC		Report to Contact D. Thoma		Sampler (Printed Name) GAVIN GLOBENSKY		Quote No.	
Address 2600 Bull Street		Telephone No. / Fax No. / Email 803-896.6241		Waybill No.		Page 1 of 2	
City Columbia	State SC	Zip Code 29201	Preservative				Number of Containers
Project Name Coastal 76 Truck Stop			1. Unpres. 4. HNO3 7. NaOH				Bottle (See Instructions on back)
Project Number 03538/39815			2. NaOH/ZnA 5. HCL				Preservative
P.O Number 4600098529			3. H2SO4 6. Na Thio.				Lot No.
Sample ID / Description (Containers for each sample may be combined on one line)			Date	Time	G=Grab C=Composite	Matrix	Remarks / Cooler ID
					GW	DW WW S Other	
MW-1							DRY
MW-2							DRY
MW-3							Product
MW-4							Product
MW-5			3/1	3:10	G X		Slight odor
MW-6							DRY
MW-7				3:20			Slight odor
MW-8				2:30			Slight odor
MW-9							Not located
MW-10			3/1	3:40	G X		No odor
Turn Around Time Required (Prior lab approval required for expedited TAT)			Sample Disposal		QC Requirements (Specify)		Possible Hazard Identification
☐ Standard ☐ Rush (Please Specify)			☐ Return to Client ☐ Disposal by Lab				☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown
1. Relinquished by [Signature]			Date 3/1/12	Time 21:00	1. Received by		Date
2. Relinquished by [Signature]			Date 3/1/12	Time 21:05	2. Received by [Signature]		Date 3/2/12
3. Relinquished by			Date	Time	3. Received by		Date
4. Relinquished by [Signature]			Date 3/2/12	Time 1625	4. Laboratory Received by [Signature]		Date 3/2/12
Note: All samples are retained for six weeks from receipt unless other arrangements are made.					LAB USE ONLY		Receipt Temp. 1-0 °C
					Received on Ice (Check) ☒ Yes ☐ No ☐ Ice Pack		Temp. Blank ☐ Y / ☐ N



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 12003

Client SCDHEC			Report to Contact D. Thoma			Sampler (Printed Name) GAVIN GLOBENSKY			Quote No.			
Address 2600 Bull Street			Telephone No. / Fax No. / Email 803-896-6241			Waybill No.			Page 2 of 2			
City Columbia	State SC	Zip Code 29201	Preservative						Number of Containers			
Project Name Coastal 76 Track Stop			1. Unpres. 4. HNO3 7. NaOH						Bottle (See Instructions on back)			
Project Number 03538/39815			2. NaOH/ZnA 5. HCL						Preservative			
P.O. Number 4600088529			3. H2SO4 6. Na Thio.						Lot No. N Co 20 S8			
Sample ID / Description (Containers for each sample may be combined on one line)		Date	Time	G-Grab C-Composite	Matrix	Analysis				Remarks / Cooler ID		
MW-11												
MW-14		3/1	2:40	6	X		X	X	X	X		only silt at bottom odor
MW-16 WA				1								PRY
MW-17			1:35		X		X	X	X	X		No odor
MW-7 Dup.			3:20		X		X	X	X	X		slight odor
Field Blank			4:00		X		X	X	X			-
Trip Blank		3/1	2:00	G	X	X	X				-	
Turn Around Time Required (Prior lab approval required for expedited TAT)			Sample Disposal			QC Requirements (Specify)			Possible Hazard Identification			
☐ Standard ☐ Rush (Please Specify)			☐ Return to Client ☐ Disposal by Lab						☐ Non-Hazard ☐ Flammable ☐ Skin Irritant ☐ Poison ☐ Unknown			
1. Relinquished by [Signature]			Date 3/1/12	Time 21:00	1. Received by			Date	Time			
2. Relinquished by [Signature]			Date 3/1/12	Time 21:05	2. Received by [Signature]			Date 3/2/12	Time 14:00			
3. Relinquished by			Date	Time	3. Received by			Date	Time			
4. Relinquished by [Signature]			Date 3/2/12	Time 1625	4. Laboratory Received by [Signature]			Date 3/2/12	Time 1625			
Note: All samples are retained for six weeks from receipt unless other arrangements are made.						LAB USE ONLY			Receipt Temp. 10 °C			
						Received on Ice (Check) ☐ Yes ☐ No ☐ Ice Pack			Temp. Blank ☐ Y ☐ N			

Sample Receipt Checklist (SRC)

Client: SCDHCC Cooler Inspected by/date: an 1/7/2/12 Lot #: N 62058

Means of receipt: ☒ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other		
Yes ☐	No ☒	1. Were custody seals present on the cooler?
Yes ☐	No ☒	2. If custody seals were present, were they intact and unbroken?
Cooler ID/temperature upon receipt <u>1.0</u> °C / °C / °C / °C		
Method: ☒ Temperature Blank ☐ Against Bottles		
Method of coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None		
If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.		
Yes ☐	No ☐	NA ☒ 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.)
Yes ☐	No ☐	NA ☒ 4. Is the commercial courier's packing slip attached to this form?
Yes ☒	No ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☒ 5a Were samples relinquished by client to commercial courier?
Yes ☒	No ☐	6. Were sample IDs listed?
Yes ☒	No ☐	7. Was collection date & time listed?
Yes ☒	No ☐	8. Were tests to be performed listed on the COC?
Yes ☒	No ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☒	No ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☒	No ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☒	No ☐	12. Was adequate sample volume available?
Yes ☒	No ☐	13. Were all samples received within ½ the holding time or 48 hours, whichever comes first?
Yes ☐	No ☒	14. Were any samples containers missing?
Yes ☐	No ☒	15. Were there any excess samples not listed on COC?
Yes ☒	No ☐	NA ☐ 16. Were bubbles present > "pea-size" (¼" or 6mm in diameter) in any VOA vials?
Yes ☒	No ☐	NA ☐ 17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☒ 18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☒ 19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☒ 20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☒ 21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s) _____ were received incorrectly preserved and were adjusted accordingly in sample receiving with _____ (H₂SO₄, HNO₃, HCl, NaOH) with the SR # (number) _____

Sample(s) ~ 0.1 (2) were received with bubbles > 6 mm in diameter.

Sample(s) _____ were received with TRC > 0.2 mg/L for NH₃/TKN/cyanide/BNA/pest/PCB/herb.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐

Did client respond: Yes ☐ No ☐

SESI employee: _____

Date of response: _____

Comments: _____



Midlands Environmental Consultants, Inc.

March 16, 2012

Ms. Maia Milenkova, Hydrogeologist
Assessment Section
Underground Storage Tank Program
Bureau of Land and Waste Management
South Carolina Department of Health
and Environmental Control
2600 Bull Street
Columbia, South Carolina 29201



Subject: Report of Groundwater Sampling (Revisions)
Coastal 76 Truck Stop
2513 E. Palmetto Street
Florence, South Carolina
SCDHEC Site ID Number 03538; CA # 39814
MECI Project Number 12-3791
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Milenkova,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Revisions of the Report of Groundwater Sampling for the referenced site. These revisions include a copy of the attached Topographic Map and Site Activity Summary sheets which clarifies the status of the Free Phase Petroleum Product detected in monitoring well MW-3.

Please feel free to contact us at 803-808-2043 if you have any immediate questions or comments.

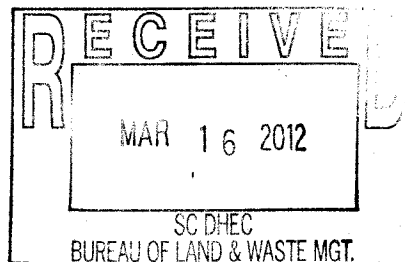
Sincerely,

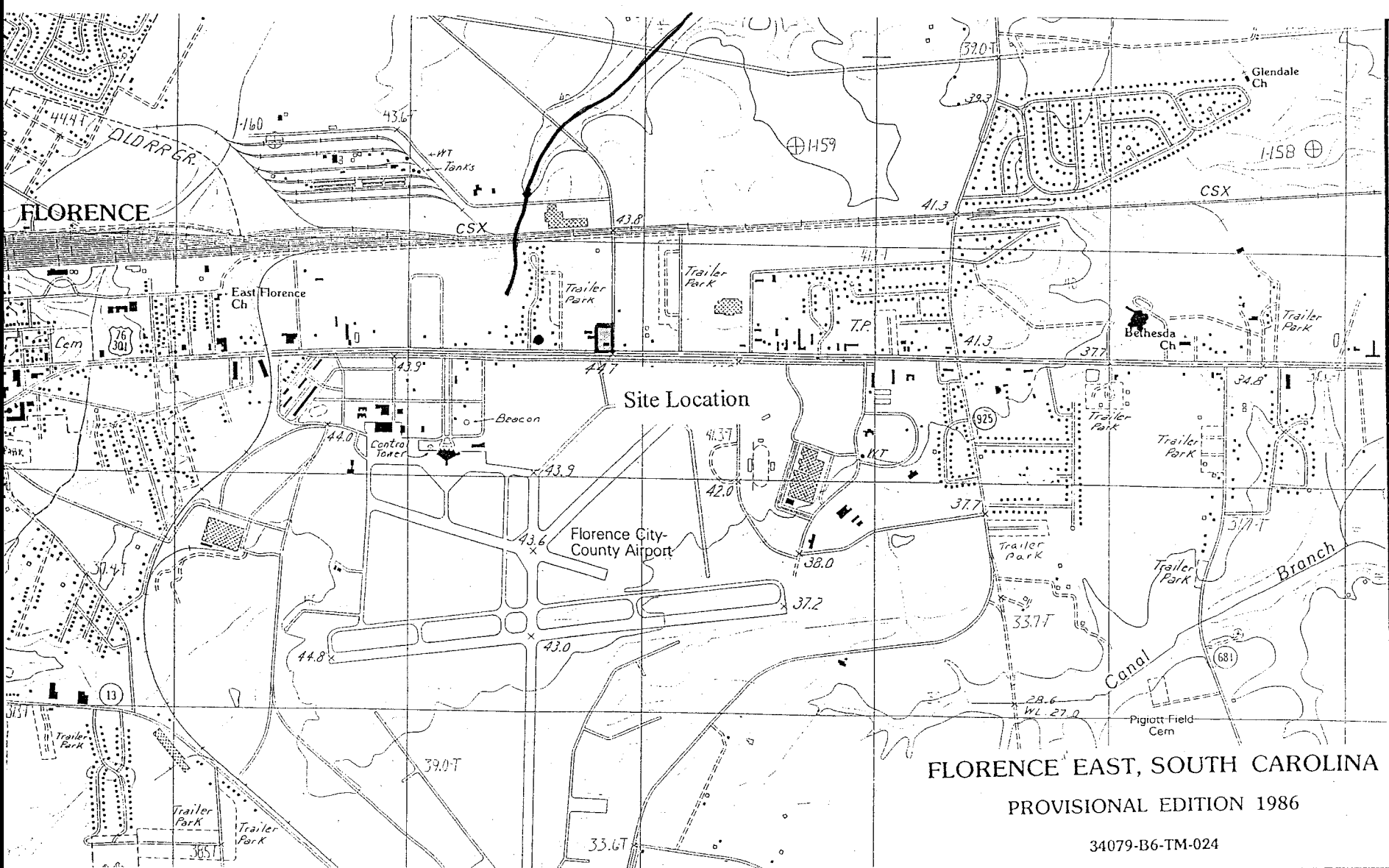
Midlands Environmental Consultants, Inc.



Jeff L. Coleman
Senior Scientist

Attachments:





**Southeastern
 Environmental, Inc.**

Author CB	Drawing 0	Layers 0	Date 9/20/99	Title Site Location Map Coastal 76 Truck Stop
Job No. 10308	Revision 000	Figure 1	Scale 1:24,000	Project 2513 E. Palmetto Street Florence, South Carolina

Figure 1

Site Activity Summary

UST Permit #: 03538
Facility Name: Coastal 76 Truck Stop
County: Florence
Field Personnel: K. Pudney, G. Globensky


 Midlands Environmental Consultants, Inc.
 235-B Dooley Road, Lexington, SC 29013
 (803) 808-2043 Fax: 808-2048

Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-1	N	***	***	TD=17.80	***	***	***	***	***	Gauged Dry
MW-2	N	***	***	TD=18.30	***	***	***	***	***	Gauged Dry
MW-3	N	***	***	TD=18.20	17.80	N/A	N/A	***	***	Free Phase Petroleum Product, however product thickness was not obtained due to groundwater not being encountered in the well.
MW-4	N	***	***	TD=18.35	17.56	17.58	0.02	***	***	Free Phase Petroleum Product
MW-5	Y	2/20/12	15:10	TD=18.20	***	17.05	***	0.20	0.50	Slight Odor
MW-6	N	***	***	TD=17.78	***	***	***	***	***	Gauged Dry
MW-7	Y	2/20/12	15:20	TD=18.10	***	16.54	***	0.15	0.50	Slight Odor
MW-8	Y	2/20/12	14:30	TD=18.00	***	15.59	***	0.45	1.50	Slight Odor / 3 Bolts Added
MW-9	N	***	***	***	***	***	***	***	***	Not Located
MW-10	Y	2/20/12	15:40	TD=18.25	***	15.65	***	6.90	1.0	No Odor
MW-11	N	***	***	TD=18.40	***	17.85	***	***	***	Insufficient water for field measurements or purging
MW-12	N	***	***	***	***	***	***	***	***	Not on Map provided by SCDHEC
MW-13	N	***	***	***	***	***	***	***	***	Not on Map provided by SCDHEC
MW-14	Y	2/20/12	14:40	TD=18.14	***	16.35	***	0.16	0.75	Odor
MW-IGWA	N	***	***	TD=16.40	***	***	***	***	***	Gauged Dry
									4.25	TOTAL GALLONS PURGED

Site Activity Summary

UST Permit #: 03538
Facility Name: Coastal 76 Truck Stop
County: Florence
Field Personnel: K. Pudney, G. Globensky


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

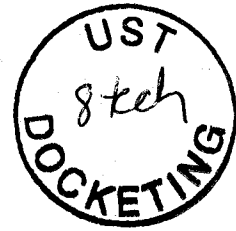
Sample ID	Sampled?	Date	Time	Screened Interval	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Initial Dissolved Oxygen (mg/l)	# Gals. Purged	Comments
MW-TW	Y	3/1/12	13:35	31-36	***	17.75	***	4.23	12.00	No Odor / Well Cap Added
MW-7 Duplicate	Y	3/1/12	15:20	***	***	***	***	***	***	MW-7 Duplicate Sample
Field Blank	Y	3/1/12	16:00	***	***	***	***	***	***	Field Blank
Trip Blank	Y	3/1/12	14:00	***	***	***	***	***	***	Trip Blank
									16.25	TOTAL GALLONS PURGED



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

APR 30 2012



BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS INC
PO BOX 854
LEXINGTON SC 29071

Re: QAPP Contractor Addendum Directive for Small Scope Contract
Solicitation # 5400003229; PO# 4600117789

Dear Mr. Shane:

Based on the award of the referenced bid package, enclosed are the information packets to conduct assessments at several facilities. Please submit the Site-specific Quality Assurance Project Plan for an IGWA, Tier I or Assessment Plan, and Assessment Component Cost Agreement as necessary, to my attention **within fifteen (15) days from the date of this correspondence**. Plan implementation shall not commence prior to receipt of written technical and financial approval from the Department. The facilities will be assigned a Cost Agreement (CA) numbers once the QAPP Contractor Addendum has been approved by the project manager. Please reference the CA numbers and Purchase Order # 4600117789 on the appropriate invoices submitted for payment. As specified in the referenced bid, **the completed invoice forms and associated reports (include contract certification number) are expected on or before the designated due date (see below) after the technical and cost approval from the project manager.**

UST Permit #	Facility	ARRA	County	Project Manager	Work Scope	Due Date*
03538	Coastal 76 Truck Stop	No	Florence	Milenkova	Monitoring Well Installation	60 Days

*From receipt of Notice to Proceed letter

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

IGWA, Tier I or Assessment Plan, Implementation and Report submittal shall be performed in accordance with the referenced contract. Per Section 3.4.2., a late fee of \$50.00/day (not to exceed 20% of the cost agreement total) may be levied for each report submitted after the deadline established in the Notice to Proceed.

Please provide this office with a schedule of drilling dates and coordinate all work with me before commencing work at the facility. In accordance with the bid specification, a bi-monthly status report of the project should be provided by the 5th and 20th of each month via e-mail to my attention. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. If you have any questions or need further assistance, please contact me at (803) 896-6629.

Sincerely,

A handwritten signature in black ink, reading "Minda Hornosky". The signature is fluid and cursive, with the first name "Minda" being more prominent than the last name "Hornosky".

Minda Hornosky, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land and Waste Management

enc: Information Packet

cc: Maia Milenkova, UST Management Division (w/enc)
Technical File (w/enc)



UNDERGROUND STORAGE TANK DIVISION
BUREAU OF LAND AND WASTE MANAGEMENT
2600 Bull Street, Columbia, South Carolina 29201
Telephone: 803-896-6240

MEMORANDUM

TO: Bryan Shane, Midlands Environmental Consultants, Inc.

FROM: Maia Milenkova

RE: NOTICE TO PROCEED

Facility Name: Coastal 76 Truck Stop

Permit Number: 03538

County: Florence

Work To Be Completed: Replace IGWA, MW-1, MW-2, MW-3 and MW-4 (dry wells or wells w/FP) and install additional four shallow and one deep well. See enclosed map for locations. Conduct slug test in the deep well and have grain size/hydrometer for the same well. Provide tax map information and two cross sections. Sample all wells for BTEXNM, 1,2 DCA, EDB, 8 Oxy and lead.

CA# _____

* Note that there is no wells MW-12 and MW-13 installed currently.

SCDHEC UST Management Tracking

BOTH billable and unbillable tanks

Site Information for N-03538 Facility: COASTAL 76 TRUCK STOP

Bus.	2513 E PALMETTO ST	Phone		District	Florence EQC Office
Address	FLORENCE SC 29506-3809	County	Florence		
Category	Retail Sales	Last Inspection	02/28/95	Trans. of Ownership	
Tank Owner	MCEACHIN, DAN			Financial Responsibility	
Bus.	1007 WENTWORTH DR			Financial Mechanism	Expiration Date
Address	FLORENCE SC 29501	Phone	803-651-8835		
Operator				None	
Bus.					
Address		Phone			
Land Owner	MCEACHIN, DAN				
Bus.	1007 WENTWORTH DR				
Address	FLORENCE SC 29501	Phone	803-651-8835		
Tanks	4	Billable	0	Aband.	4
		Other	0		
	Compliance Operator(s)		ID	Training Date	

Rel. No.	1	Reported	09/27/95	Status	Confirmed - Active	Product	Petroleum	Compl Required	Y
Active Tnks		NFA		Fin. Type	DHEC SUPERB	RBCA / Score	3BA 300200	Compliance Met	N
		Confirmed	08/19/97	Emer. Resp.		Superb Qualified	Y	Compliance Met Dt	
		CU Init.	07/23/98	Abate. Met	08/30/95	Superb Determ. Dt	08/19/97	Fin Res Mechanism	
		CU Compl.		Transferred		Project Manager	MILENKOVA, MAIA P		
		CU > MCL		Source	UST	Responsible Party	MCEACHIN, DAN M		

Ranking		SCRBCA:	3BA - Free product > 0.01 foot thick	FP Thick:	2 Inches to 1 Foot
Rel. No.	1				
Analyticals		Contaminant	ug/L	RBSL	Score
		Benzene	640	5	128
		Toluene	5100	1000	5
		Ethylbenzene	990	700	1
		Xylene	5800	10000	1
		Naphthalene	210	25	8
		MTBE	5	40	0
		Total Score:			144
Receptor Ttype:		NONE		Ground Water Flow:	SE
Distancd to Receptor:		1		Seepage Velocity:	44.8
GW Depth:		17			
		Other Contaminants	ug/L	SSTL's	
		EDB	.45		
		FP-0.21' IN IGWA			
		WELL(9/99)			
		Lead	670		
		MW-1,2,6,IGWA -			
		DRY(3/12)			
		MW-3 FP-0.4' MW-4			
		FP-0.02(3/12)			
		MW-9 NL(3/12)			
		ON CITY WATER			
		WORST CASE WELL			
		IS MW-5			

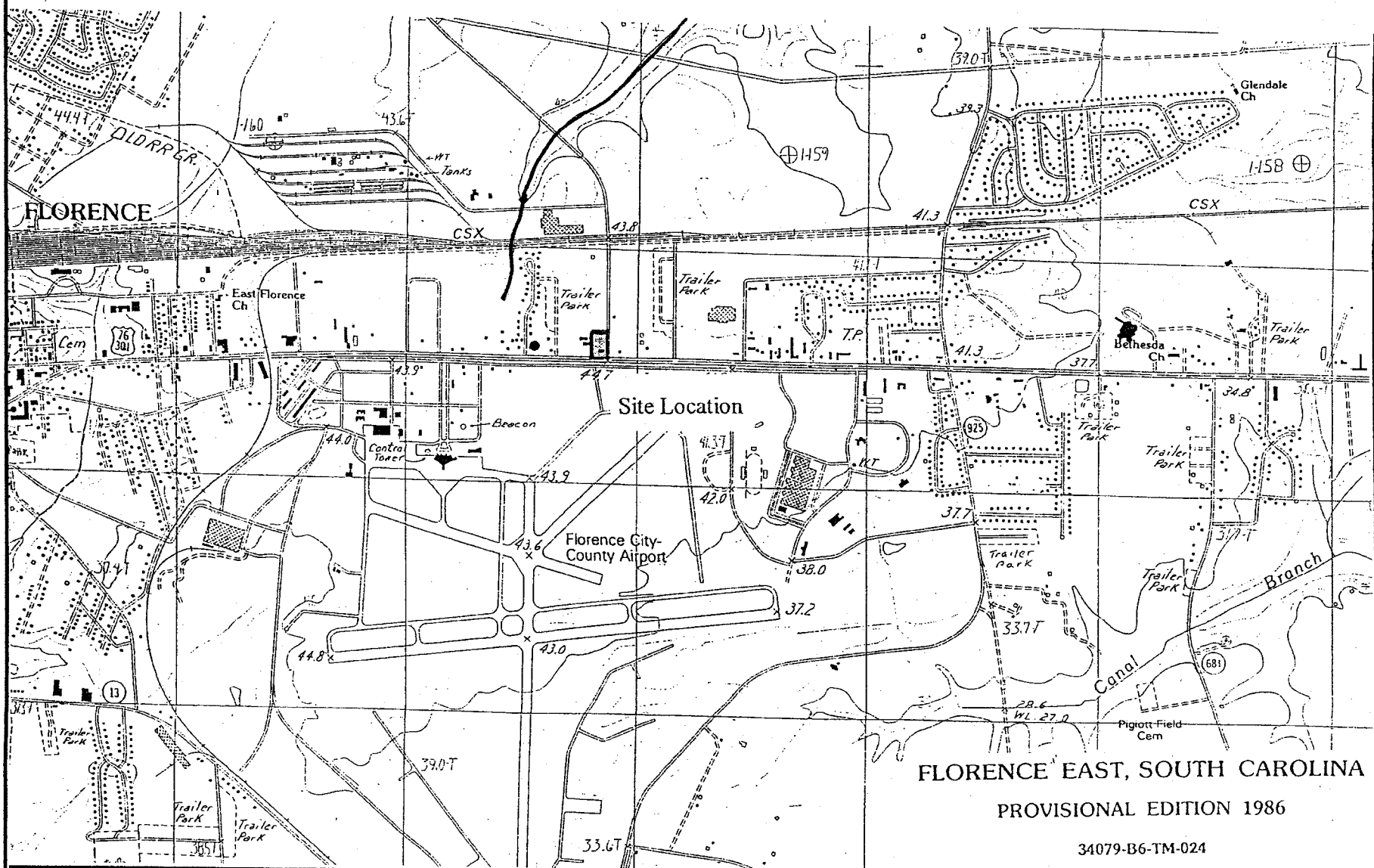
SuperB		Original Qualified Date:	19-AUG-97
Check List		Release Reported:	09/27/95
Rel. No.	1	Deductible Group from Release Report Date:	25K
	Y	All tanks Registered? Tanks must be registered Before eligible.	
	Y	Fees Paid to date?	
	N	Contamination requiring Remediation confirmed?	
		Enviro Company	
	N	Enviro Insurance?	
		A written statement of No Insurance dated:	09/27/95
		Abatement Met:	08/30/95
		Abatement Method:	Permanently closed
		Approved by:	WRIGHT, JOHN W
		Approved date:	08/19/97
		Qualified?	Y
		Deductible	
		Limit Amount	

SCDHEC UST Management Tracking

BOTH billable and unbillable tanks

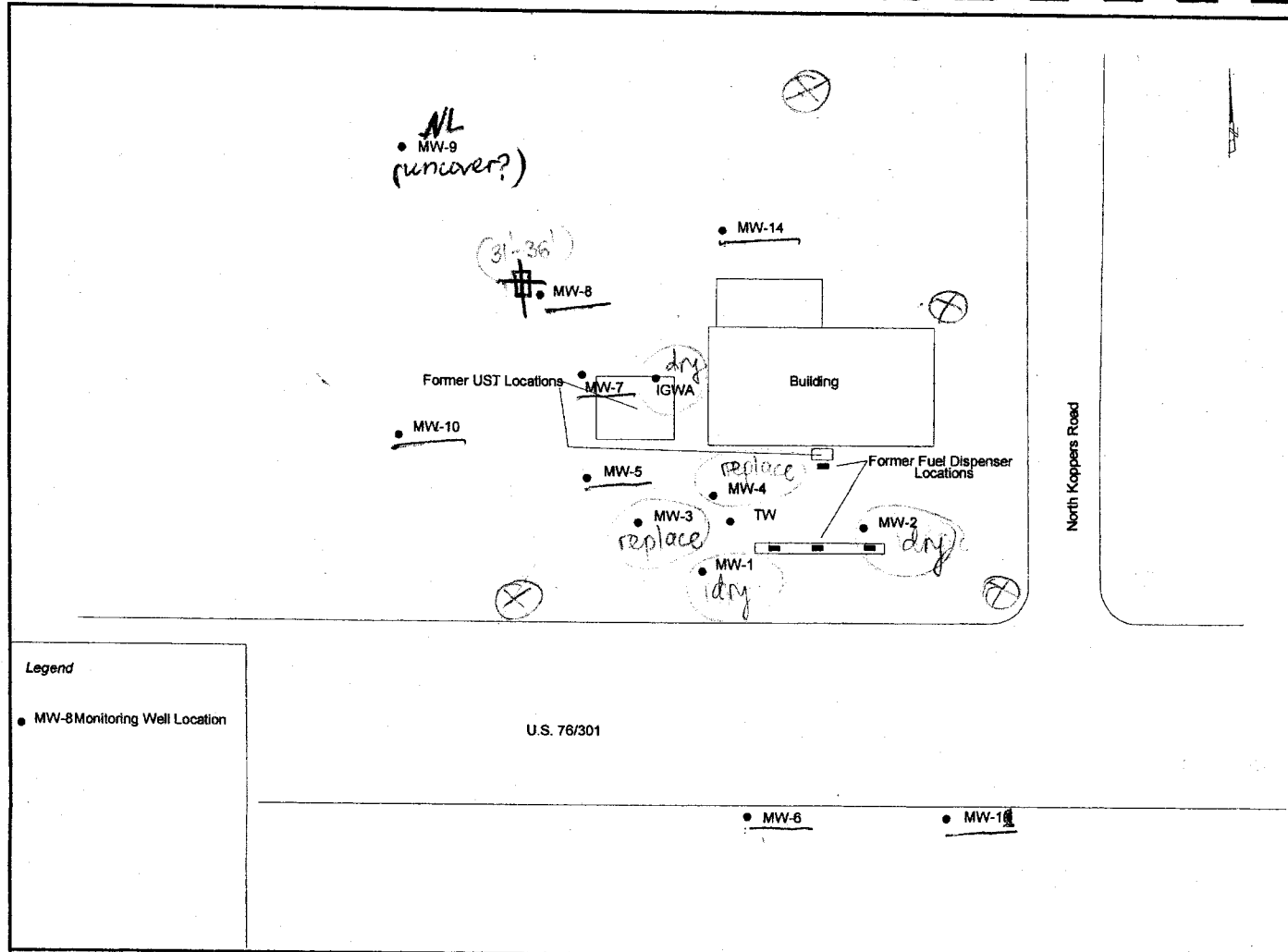
Site Information for N-03538 Facility: COASTAL 76 TRUCK STOP

<u>Tank No.</u>	1	<u>Const.</u>	<u>Class</u>	R	<u>Tank Const. Mat.</u>	SL	<u>Pipe Const. Mat.</u>	SL	
		<u>Operate</u>	<u>T Status</u>	ABD	<u>Tank Protect.</u>	CP CP	<u>Pipe Protect.</u>	CP CP	
		<u>Notify</u>	05/28/87	<u>Capacity</u>	2,000	<u>Tank Cont. Meth.</u>	SW	<u>Pipe Cont. Meth.</u>	SW
		<u>Variance</u>		<u>Product</u>	DL	<u>Overfill Type</u>	Ver	<u>Piping Type</u>	
		<u>Compl.</u>		<u>C Status</u>		<u>Age @ Notif.</u>	25	<u>Dist. to Well</u>	
		<u>Spill Det.</u>		<u>Left Gal.</u>		<u>Owner @ ABD</u>	MCEACHIN, DAN	<u>Last Use</u>	
		<u>Aband.</u>	08/30/95	<u>Method</u>	RG	<u>CAS No.</u>	<u>Chem.</u>		
		<u>Under Dispenser Cont.</u>	N	<u>Drop Tube</u>	N	<u>Tank Leak Det.</u>		<u>Pipe Leak Det.</u>	
<u>Tank No.</u>	2	<u>Const.</u>	<u>Class</u>	R	<u>Tank Const. Mat.</u>	SL	<u>Pipe Const. Mat.</u>	SL	
		<u>Operate</u>	<u>T Status</u>	ABD	<u>Tank Protect.</u>	CP CP	<u>Pipe Protect.</u>	CP CP	
		<u>Notify</u>	05/28/87	<u>Capacity</u>	1,000	<u>Tank Cont. Meth.</u>	SW	<u>Pipe Cont. Meth.</u>	SW
		<u>Variance</u>		<u>Product</u>	GN	<u>Overfill Type</u>	Ver	<u>Piping Type</u>	
		<u>Compl.</u>		<u>C Status</u>		<u>Age @ Notif.</u>	25	<u>Dist. to Well</u>	
		<u>Spill Det.</u>		<u>Left Gal.</u>		<u>Owner @ ABD</u>	MCEACHIN, DAN	<u>Last Use</u>	
		<u>Aband.</u>	08/30/95	<u>Method</u>	RG	<u>CAS No.</u>	<u>Chem.</u>		
		<u>Under Dispenser Cont.</u>	N	<u>Drop Tube</u>	N	<u>Tank Leak Det.</u>		<u>Pipe Leak Det.</u>	
<u>Tank No.</u>	3	<u>Const.</u>	<u>Class</u>	R	<u>Tank Const. Mat.</u>	SL	<u>Pipe Const. Mat.</u>	SL	
		<u>Operate</u>	<u>T Status</u>	ABD	<u>Tank Protect.</u>	CP CP	<u>Pipe Protect.</u>	CP CP	
		<u>Notify</u>	05/28/87	<u>Capacity</u>	3,000	<u>Tank Cont. Meth.</u>	SW	<u>Pipe Cont. Meth.</u>	SW
		<u>Variance</u>		<u>Product</u>	GN	<u>Overfill Type</u>	Ver	<u>Piping Type</u>	
		<u>Compl.</u>		<u>C Status</u>		<u>Age @ Notif.</u>	25	<u>Dist. to Well</u>	
		<u>Spill Det.</u>		<u>Left Gal.</u>		<u>Owner @ ABD</u>	MCEACHIN, DAN	<u>Last Use</u>	
		<u>Aband.</u>	08/30/95	<u>Method</u>	RG	<u>CAS No.</u>	<u>Chem.</u>		
		<u>Under Dispenser Cont.</u>	N	<u>Drop Tube</u>	N	<u>Tank Leak Det.</u>		<u>Pipe Leak Det.</u>	
<u>Tank No.</u>	4	<u>Const.</u>	<u>Class</u>	N	<u>Tank Const. Mat.</u>	SL	<u>Pipe Const. Mat.</u>	SL	
		<u>Operate</u>	<u>T Status</u>	ABD	<u>Tank Protect.</u>	CP	<u>Pipe Protect.</u>	CP	
		<u>Notify</u>	09/12/95	<u>Capacity</u>	2,000	<u>Tank Cont. Meth.</u>	SW	<u>Pipe Cont. Meth.</u>	SW
		<u>Variance</u>		<u>Product</u>	GN	<u>Overfill Type</u>	Ver	<u>Piping Type</u>	
		<u>Compl.</u>		<u>C Status</u>		<u>Age @ Notif.</u>	20	<u>Dist. to Well</u>	
		<u>Spill Det.</u>		<u>Left Gal.</u>		<u>Owner @ ABD</u>	MCEACHIN, DAN	<u>Last Use</u>	01/01/65
		<u>Aband.</u>	08/30/95	<u>Method</u>	RG	<u>CAS No.</u>	<u>Chem.</u>		
		<u>Under Dispenser Cont.</u>	N	<u>Drop Tube</u>	N	<u>Tank Leak Det.</u>		<u>Pipe Leak Det.</u>	



Southeastern Environmental, Inc.	Author	Drawing	Layers	Date	Title
	CB	0	0	9/20/99	Site Location Map Coastal 76 Truck Stop
	Job No.	Revision	Figure	Scale	Project
	10308	000	1	1:24,000	2513 E. Palmetto Street Florence, South Carolina

Figure 1



Legend

- MW-8 Monitoring Well Location

U.S. 76/301

⊗ shallow well
⊕ deep well

Southeastern
Environmental, Inc.

0 50

Author	Drawing	Layers	Date	Title
CB	0	0	10/27/99	Site Plan
Job No.	Revision	Figure	Scale	Project
10308	000	2	1"=50'	Southeastern Truck Stop
				Site ID #03538 Florence, South Carolina



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal Truck Stop
ID #: D3538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES:

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description

Thickness
of
Stratum

Depth to
Bottom of
Stratum

greyish sandy topsoil 1'-2.5'

lt. tan sand 3'-3.5'

lt. brown sand 4'-4.5'

orange brown sand 5'-8.5'

lt. brown sand (pebbles) 9'-11'

red clayish sand 11.5'-15'

lt. orange moist sandy clay 15.5'-19'

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Don McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-14-99

18.76 ft.

Date Completed: 7-14-99

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

0.29 in. to

8.29 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: 0.010

Length: 10'

Set Between: 8.29 ft. and

18.29 ft.

ft. and _____ ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

13.28

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 _____ ft. to _____ ft.

Effective size _____

Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement

☐ Sand Cement

☐ Concrete

☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes

Type: _____

upon completion ☐ No

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.

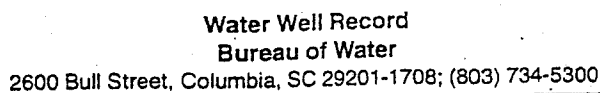
Registered Business Name: Southeastern Environmental, Inc.

Address: 323 Main St. Conway

Signed: _____

Authorized Representative

Cert. No.: 880

DHEC : 503 (10/96)



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

MWH 7

County: Florence

System Name: Coastal
Truck Stop
ID # 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES:

☐ Yes ☐ No

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description

Thickness
of
Stratum

Depth to
Bottom of
Stratum

1 ft. tan sand

1'-2.5'

1 ft. brown sand

3'-4.5'

1 ft. brown clayish
sand (pebbles)

5'-8.5'

1 ft. brown sandy
clay (pebbles)

9'-10.5'

reddish pink
sandy clay

11'-12.5'

red clayish sand

13'-19.5'

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL:

Dan McEachin

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-1177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29520

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-15-99

18.85 ft.

Date Completed: 7-15-99

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"

Height: Above/Below

Type: ☒ PVC ☐ Galvanized

Surface _____ ft.

☐ Steel ☐ Other

Weight _____ lb./ft.

0.38 in. to 8.38 ft. depth

Drive Shoe? ☐ Yes ☐ No

9. SCREEN

Type: PVC

Diam.: 2"

Slot/Gauge: 0.010

Length: 10'

Set Between: 8.38 ft. and 18.38 ft. NOTE: MULTIPLE SCREENS

____ ft. and ____ ft. USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

12.93

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 ____ ft. to ____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED?

☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From ____ ft. to ____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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: Southeastern Environmental, Inc.

Address: 323 Main St. Conway

Signed: _____ Cert. No.: 220

Authorized Representative



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal
Truck Stop
ID #: 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

see attached sheets

Street Address & City of Well Location:

Sketch Map:

see attached sheets

2. CUTTING SAMPLES:

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
<u>white tan sand</u>	<u>1'-2.5'</u>	
<u>light tan orange sand</u>	<u>3'-4.5'</u>	
<u>tan clayish sand (pebble)</u>	<u>5'-10.5'</u>	
<u>pinkish sandy clay (pebbles)</u>	<u>11'-12.5'</u>	
<u>orange clayish sand</u>	<u>13'-19'</u>	

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Dan McEachin
Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-1177

Engineer: Bruce G. Newell

Address: 323 Main Street

Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-15-99

18.76 ft.

Date Completed: 7-15-99

6. ☐ Mud Rotary ☐ Jetted

☐ Air Rotary ☐ Driven

☒ Bored

☐ Dug

☐ 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"

Height: Above/Below

Type: ☒ PVC ☐ Galvanized

Surface _____ ft.

☐ Steel ☐ Other

Weight _____ lb./ft.

0.29 in. to 1.29 ft. depth

Drive Shoe? ☐ Yes ☐ No

_____ in. to _____ ft. depth

9. SCREEN

Type: PVC

Diam.: 2"

Slot/Gauge: 0.010

Length: 10'

Set Between: 8.29 ft. and 18.29 ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

_____ ft. below land surface after 24 hours

21.19

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 _____ ft. to _____ ft.

Effective size _____

Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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: Southeastern Environmental, Inc.

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 880

Authorized Representative



Water Well Record

Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence

System Name: Coastal Truck Stop
ID #: 03538

Latitude:

Longitude:

Distance and Direction from Road Intersections:

see attached sheets

Street Address & City of Well Location:

Sketch Map:

see attached sheets

2. CUTTING SAMPLES:

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description	Thickness of Stratum	Depth to Bottom of Stratum
1. tan sandy loam	1'-4.5'	
1. brown sandy loam	5'-6.5'	
orange brown sandy loam	7'-7.5'	
orange brown sandy clay	7.5'-13'	
tan/orange wet sandy clay	13.5'-19.5'	

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL:

Dan McEachin
Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-1177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 7-13-99

18.8 ft.

Date Completed: 7-13-99

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

Height: Above/Below

Surface _____ ft.

Weight _____ lb./ft.

Drive Shoe? ☐ Yes ☐ No

0.33 in. to 8.33 ft. depth

_____ in. to _____ ft. depth

9. SCREEN

Type: PVC

Diam.: 2"

Slot/Gauge: 0.010

Length: 10'

Set Between: 8.33 ft. and 18.33 ft.

_____ ft. and _____ ft.

NOTE: MULTIPLE SCREENS
USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

13.48 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 _____ ft. to _____ ft.

Effective size _____

Uniformity Coefficient _____

14. WELL GROUTED: ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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: Southeastern Environmental, Inc.

Address: 323 Main St. Conway

Signed: [Signature] Cert. No.: 870

Authorized Representative



Water Well Record Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL:

County: Florence System Name: Coastal Truck Stop
ID #: 03538

Latitude: Longitude:

Distance and Direction from Road Intersections:

See attached sheets

Street Address & City of Well Location:

Sketch Map:

See attached sheets

2. CUTTING SAMPLES:

Geophysical Logs: ☐ Yes (please enclose) ☐ No

Formation Description

Thickness
of
Stratum

Depth to
Bottom of
Stratum

gray brown sand 1'-1.5'

lt tan sand 2'-2.5'

tan sand some brown 3'-4.5'

fine lt. tan/orange sand 5'-7'

fine lt. brown sand 7.5'-9.5'

sandy clay (marble) 10'-11'

lt. red sandy clay 11.5'-19'

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Dan McEadman

Address: 1007 Wentworth Drive
Florence, SC 29501

Telephone No.: 843-669-6177

Engineer: Bruce G. Newell

Address: 323 Main Street
Conway, SC 29526

Telephone No.: 843-248-3533

5. WELL DEPTH (completed)

Date Started: 8-4-99

18.89 ft.

Date Completed: 8-4-99

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

0.42 in. to 8.42 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: 0.010 Length: 10'

Set Between: 8.42 ft. and 18.42 ft. NOTE: MULTIPLE SCREENS

ft. and _____ ft. USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☐ No

10. STATIC WATER LEVEL

15.03 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 _____ ft. to _____ ft.

Effective size _____ Uniformity Coefficient _____

14. WELL GROUTED? ☒ Yes ☐ No

☒ Neat Cement ☐ Sand Cement ☐ Concrete ☒ Other Bentonite

Depth: From _____ ft. to _____ ft.

15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type well disinfected ☐ Yes Type: _____

upon completion ☐ No 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: Southeastern Environmental Inc.

Address: 323 Main St. Conway

Signed: B. G. Newell Cert. No.: 880

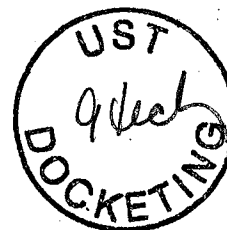
Authorized Representative

Case No: 880



May 17, 2012

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



Subject: QAPP Contractor Addendum – Revision 0
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID Number 03538
MECI Project Number 12-3980
Certified Site Rehabilitation Contractor UCC-0009

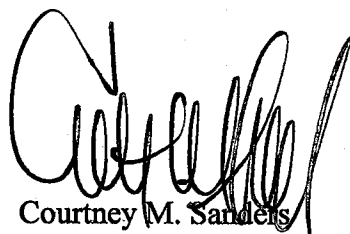
Dear Ms. Milenkova,

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

On May 15, 2012, MECI personnel performed a site visit to the subject site to evaluate site conditions, attempt to locate monitoring wells and identify potential problems for future assessment activities.

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

Sincerely,
Midlands Environmental Consultants, Inc.



Courtney M. Sanders
Staff Biologist



Jeff L. Coleman
Senior Scientist

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Coastal 76 Truck Stop, SCDHEC Site ID# 03538

2513 East Palmetto Street, Florence, South Carolina

Prepared by:
Jeff L. Coleman
Senior Scientist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: May 17, 2012

Approvals

Maia Milenkova
SC DHEC Project Manager

Signature Date _____

Brendon P. Kelly *BPK*
Contractor QA Manager

BPK
Signature Date 5/17/12

Bryan T. Shane, P.G.
Site Rehabilitation Contractor

B. Shane
Signature Date 5-17-12

Michael Woodrum
Laboratory Director

Michael A. Woodrum
Signature Date May 17, 2012

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Maia Milenkova	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6664	803-896-6245	milenkmp@dhec.sc.gov
Bryan T. Shane, P.G.	Site Rehabilitation Contractor	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bts@meci.net
Brendon P. Kelly	Quality Assurance Officer	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bpk@meci.net
Jeff L. Coleman	Field Manager	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Michael Woodrum	Laboratory Director	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Tommy Bolyard	Well Services/Driller	Environmental Probing and Drilling Services 17538 Greenhill Road Charlotte, NC 28278	704-607-7529	803-548-2233	EDPS@comporium.net

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Project Manager	Maia Milenkova	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6664	803-896-6245	milenkmp@dhec.sc.gov
Site Rehabilitation Contractor	Bryan T. Shane, P.G.	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bts@meci.net
Quality Assurance Officer	Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bpk@meci.net
Field Manager	Jeff L. Coleman	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Soil Boring and Monitoring Well Driller	Tommy Bolyard	Environmental Probing and Drilling Services 17538 Greenhill Road Charlotte, NC 28278	704-607-7529	803-548-2233	EDPS@comporium.net

Role from the UST Master QAPP	Person In this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Registered Land Surveyor	Jay S. Joshi	Construction Support Services, Inc. 1318 RL Coward Road Hopkins, SC 29061	803-776-9909	803-776-2688	jsjoshi@constructionssupportsc.com
Disposal Facility	Carol Weldon	Waste Management, Inc. Richland Landfill 1047 Highway Church Road Elgin, SC 29045	803-744-3346	866-904-7194	Not Available
Project Verifier	Courtney M. Sanders or Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@mecl.net

Table 2A Addendum Role Identification and Contact Information

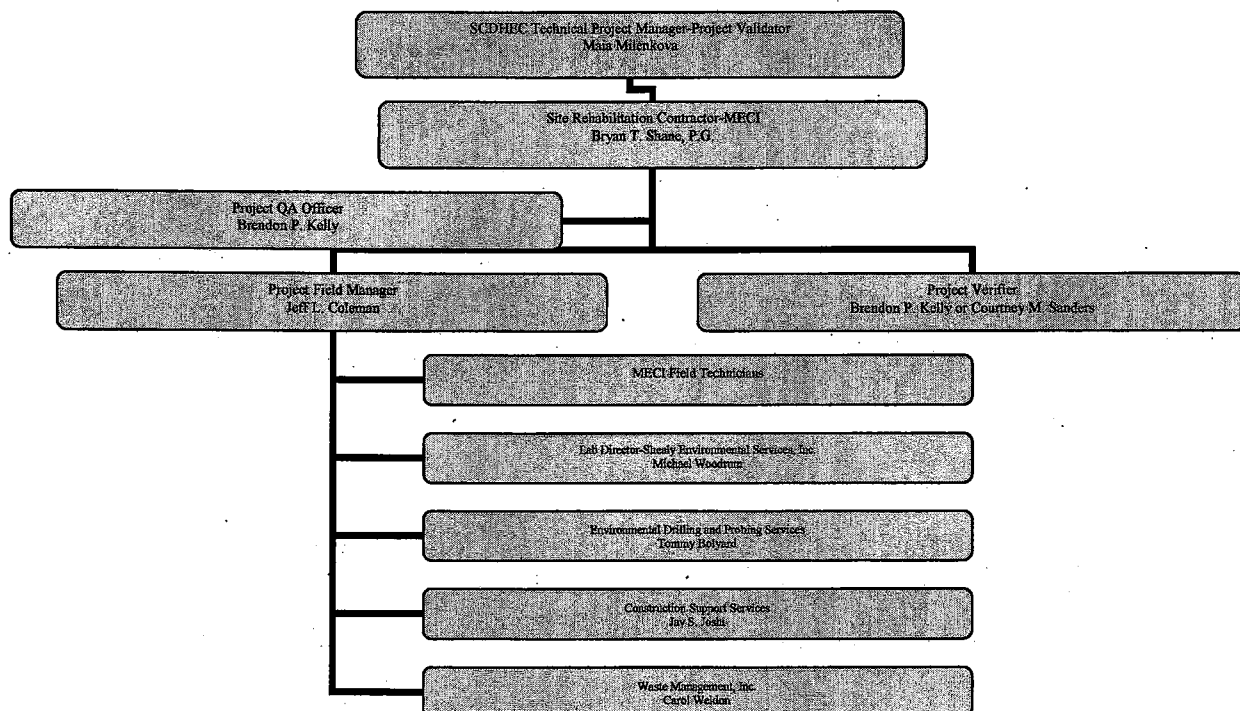


Figure 1A Organizational Chart

Project Manager (Maia Milenkova) – The project manager is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites.

Site Rehabilitation Contractor (Bryan T. Shane, P.G.) – The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for assessments or cleanup.

-Final Review of all work produced for a scope of work.

-Final say on technical interpretation of data.

Quality Assurance Officer (Brendon P. Kelly) – The Quality Assurance Officer is responsible for the oversight of all quality assurance activities associated with projects performed by the Site Rehabilitation Contractor.

- In charge of producing and maintaining the QAPPA for MECI.
- Reviews (and Audits, if necessary) all work produced in conjunction with a scope of work.
- Quality control of data entry and report preparation.

Field Manager (Jeff L. Coleman) – The field manager will oversee all work done on any given project.

- Assign, direct and oversee all field personnel working on each project.
- Responsible for coordinating with the SCDHEC project manager, should any problems or clarifications arise.
- Responsible for all reporting done in conjunction with field work.

Project Verifier (Courtney M. Sanders) – The project verifier is responsible for verifying the quality of data produced during a scope of work. This includes review of field work and laboratory reports for potential quality issues.

Well Driller (Tommy Bolyard) – The well driller is responsible for installing monitoring wells according to South Carolina Well Standards, R.61-71. The well driller is a subcontractor for MECI.

Field Technicians (various employees) – Responsible for all field activities for a given scope of work.

- Conduct all initial site visit, and record findings
- Conduct all field activities associated with a scope of work. All work will be conducted according to the MECI SOP. Will be responsible for reporting any potential problems or 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 (Costal 76 Truck Stop) is located at 2513 East Palmetto Street, Florence, Florence County, South Carolina. The subject site formally maintained four underground storage tanks (UST's), including 1-2,000 gallon gasoline UST, 1-3,000 gallon gasoline UST, 1-1,000 gallon gasoline UST, and 1-2,000 gallon diesel UST. These UST's were abandoned by removal from ground in August of 1995. The South Carolina Department of Health and Environmental Control reported a release of petroleum product for the subject UST's in September of 1995 and confirmed this release in August of 1997. The subject site is currently rated a Class 3BA.

The site is being assessed in conjunction with the SCDHEC Small Scope Assessment Contract (Solicitation # IFB-5400003229, PO# 4600117789).

Please answer the following: Does this project fall under UST or Brownfields area?

Underground Storage Tank Division

A6 Project/Task Description

- 1. Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).**

The scope of this assessment will be to install eight (8) watertable bracketing monitoring wells and one double cased "Deep" monitoring well. During the installation of the "Deep" monitoring well, a grain size/hydrometer sample will be collected from within the screened interval and associated slug test performed. Following the well installation, the entire monitoring well network will be sampled for BTEX, Napth, MTBE, 1,2-DCA, 8-oxygenates, ethanol (8260-B), EDB (8011), and Total Lead (EPA Method 6010).

A subsequent survey will be conducted by MECI personnel to locate the vertical and horizontal positions of the newly installed monitoring wells.

- 2. The work will begin within fourteen (14) days of receipt of approved QAPP contractors addendum after cost approval and the scope of work should be complete by sixty (60) days of receipt of approved QAPP contractors addendum.**

- 3. Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.**

Factors that may prevent schedule work will be, but not limited to, inclement weather, equipment malfunction, and machine failure.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

The subject site is located at 2513 East Palmetto Street, Florence, Florence County, South Carolina. The site is currently an abandoned gas station. All work will be conducted on the subject property.

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	7/27/2011	N/A	N/A

Title/Job	Name	Training Required	Date training received	Type of License	License Number
		HAZWOPER refresher			
Project Scientist	Brendon Kelly	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Staff Geologist	John Bryant	OSHA 40 hr HAZWOPER	4/17/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Field Technician	Brian Owen	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Staff Biologist	Courtney Sanders	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
Staff Biologist	Kyle Pudney	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
Staff Biologist	Chris Lashley	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
Staff Biologist	Gavin Globensky	OSHA 40 hr HAZWOPER	7/29/2011	N/A	N/A
Staff Biologist	Ryan Ariail	OSHA 40 hr HAZWOPER	9/23/2011	N/A	N/A
Lab Manager	Michael Woodrum	***	***	Lab Certification	SC 32010
Surveying Services	Jay S. Joshi	Tier A Land Surveyor Certification	6/1/1992	PLS	14811
Drilling Services	Tommy Bolyard - EDPS	SC Drillers Certification	8/24/2004	B	01846

Table 3A Required Training and Licenses

Brendon P. Kelly of Midlands Environmental Consultants, Inc. is responsible for ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: 235-B Dooley Road, Lexington, SC 29073.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory Shealy Environmental Services, Inc.

Name of Lab Director Michael Woodrum
 SC DHEC Certification Number 32010
 Parameters this Lab will analyze for this project:

- The entire monitoring well network will be sampled for BTEX, Napth, MTBE, 1,2-DCA, 8-oxygenates, ethanol (8260-B), EDB (8011), and Total Lead (EPA Method 6010).

Full Name of the Laboratory Schnabel Engineering
 Name of Lab Director Mickey Edwards
 SC DHEC Certification Number N/A
 Parameters this Lab will analyze for this project:

Grain size distribution test will be performed by Schnabel Engineering in accordance with ASTM Method D-1140.

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 ☒ Hand delivered

Other (please specify): E-mailed electronic copies

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target, Thermospec, or Iteva software	Hardcopy and Electronic	Hardcopy: Offsite storage for 7 yrs Electronic: Two external storage device backups – one offsite, one onsite storage for 10 yrs	Yes
Final Reports	LIMS	Electronic	Electronic: Two external storage device backups – one offsite, one onsite storage for 10 years	Yes
Field Work	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Chain of Custody	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
QAPP Addendum	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Brendon Kelly	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
1903 Water Well Record Form	EDPS	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
Site Reconnaissance	5/15/2012	5/15/2012	Already Completed
QAPP preparation	5/15/2012	5/17/2012	In progress
QAPP approval	5/17/2012	6/7/2012	Assuming three week turnaround
PUPs Request	6/7/2012	6/11/2012	Give 72 hours until PUPs ticket active
Monitoring Well Installation	6/11/2012	6/25/2012	2 Weeks to mobilize Drill Rig.
Monitoring well Sampling	6/25/2012	7/2/2012	1 Week to mobilize sampling crew. Standard 5 Day Turn Around Time on analytical (2 Weeks)
Report Preparation	7/2/2012	7/23/12	Three weeks to prepare/submit report

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP:

Estimate the number of samples of each matrix that are expected to be collected:

Soil _____1_____

Ground Water from monitoring wells _____18_____

From Drinking/Irrigation water wells _____

Field Duplicate Collection _____1_____

Field Blank Collection _____1_____

Trip Blank _____1_____

From surface water features _____

Total number of samples _____22_____

The samples will be (check as many as apply): _____Homogenized_____Split

Notes:

-Eighteen (18) water samples will be collected from monitoring well network and be analyzed for BTEX, Napth, MTBE, 1,2-DCA, 8-oxygenates, ethanol (8260-B), EDB (8011), and Total Lead (EPA Method 6010).

-It is anticipated that one (1) field duplicate will be sampled. One duplicate will be collected during the monitoring well sampling event.

-It is anticipated that one (1) field blank will be collected. One field blank will be collected during the monitoring well sampling event.

- It is anticipated that one (1) trip blank will be analyzed (1 per cooler utilized during Assessment activities). One cooler will be collected during the monitoring well sampling event.

Environmental Drilling and Probing Services (EDPS) will mobilize a Canterra CT-450 drilling rig to the subject site. All drilling activities will be performed under the supervision of a South Carolina Certified Well Driller and MECI field personnel (Tommy Bolyard, #B 01846).

Wells and temporary borings will be installed according to MECI Standard Operating Procedures (4.1.1, 4.1.5, 4.2.1, 4.2.2, & 4.2.4) and in accordance with South Carolina Well Standards, R.61-71.

Monitoring wells will be purged/sampled in accordance with MECI SOP # 4.3.1 through 4.3.5.

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

Please see MECI SOP 4.1.1 (Soil Screening and Sampling), 4.2 (Monitoring Well Installation), 4.3 (Monitoring Well Sampling) for field procedures that we be utilized during the subject assessment.

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All equipment, excluding electronic water level indicators and field probes, is disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

Prior to usage of non-disposable equipment, it is decontaminated with isopropanol applied by a Teflon squeeze bottle and rinsed with analyte free water. This rinse water 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.

Environmental Drilling and Probing Services (EDPS) will mobilize a Canterra CT-450 drilling rig to the subject site. All drilling activities will be performed under the supervision of a South Carolina Certified Well Driller and MECI field personnel (Tommy Bolyard, #B 01846).

Wells will be installed according to MECI Standard Operating Procedures (4.2., 4.2.2, 4.2.3 & 4.2.4) and in accordance with South Carolina Well Standards, R.61-71.

Drill cuttings will be disposed of by MECI personnel at Waste Management Richland County Landfill in Elgin, SC.

All samples (if needed) will be shipped to the lab via lab courier or delivered directly to the lab by MECI personnel.

Following monitoring well installation a subsequent survey will be conducted by MECI personnel.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Unable to gain access to drilling location	Attempt to create path to well location through vegetation. Utilize plywood boards to cross soft ground, contact SCDHEC project manager to discuss a potential change to the well location.	Record on field sheets, notify SCDHEC and Office.	Field Staff, Field Manager
Hitting a Utility Line while Drilling	Contact PUPS (Palmetto Utilities Protection Service), contact appropriate utility (if gas line is hit, notify fire department)	Record in field sheets, on PUPS ticket in office. Contact SCDHEC project manager to inform them of problem.	Field Staff, Field Manager
Drilling rig breaks down	Attempt to correct problem. If the problem cannot be determined, or cannot be fixed, discontinue drilling for the day. Drilling can continue once drill rig has been fixed, or new drill rig is mobilized to the site	Record on field sheet, notify office staff.	Field Staff, Drill rig operator
Property Owner will not allow access onto property for drilling activities	Stop drilling. Attempt to discuss with property owner the need for the work. Inform SCDHEC project manager of the access issue. If no resolution can be made, discontinue drilling on the disputed property until access can be obtained or new well location is determined.	Document on field sheets (or QAPP, if access denied during QAPP site visit). Inform SCDHEC project manager immediately if any disputes arise.	Field Staff, Field Manager

Table 6A Field Corrective Action

B3 Sample Handling and Custody

1. How will the samples get from the Site to the Lab to ensure holding requirements are met?

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	Standard	MECI SOP 4.3.6	YSI 63	Place probe in sample and allow to equilibrate before recording reading
Conductivity	Standard	MECI SOP 4.3.6	YSI 63	
Dissolved Oxygen	Standard	MECI SOP 4.3.6	YSI 550A	
Temperature	Standard	MECI SOP 4.3.6	YSI 550A	
PID reading	MECI SOP 4.2.2			Use MiniRae PID to obtain reading. Place probe into soil sample bag and record the highest reading.

Table 7A Analytical SOPs and Referenced Methods

- This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
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 4.2.2	MECI SOP 4.2.2	Drilling Standard operating procedures
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 – Michael Woodrum mwoodrum@shealylab.com
QA/QC Failure	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director – Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com
On time delivery	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director – Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com
PID not functioning properly	Attempt to clean PID, recalibrate.	Record on field sheets, notify office staff. PID taken rotation until problem identified and corrected.	Field Staff, Field Manager

Table 9A Corrective Action Procedures

3. Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
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
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Table 10A Disposal Procedures

- 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

- Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts:

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Volatiles Mass Spec	Shealy SOP S-SV-021 Page 7	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Semivolatile Mass Specc	Shealy SOP S-SV-021 Page 7	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	Shealy SOP S-SV-012 Page 5	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Dionex IC	Shealy SOP S-IN-010 Page 6	Replace auto sampler filter, tubing, line filter, sample Line and Waste Line, as needed. Check Reagent levels, flow rate, waste line.	Periodic	Laboratory	IC Analyst
ICP	Shealy SOP S-IM-005 Page 6 & 7	Clean Sample introduction system, auto sampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst
Leeman Mercury Analyzer	Shealy SOP S-IM-006 Page 5	Clean GLS, Change Pump tubing, Nafion Dryer, Lamp	Periodic	Laboratory	Mercury Analyst

Flow Injection Analysis – Lachat 8000	Shealy SOP S-IN-042 Page 5	Replace sample and reagent lines, replace light source, re-wrap heating coil, replace column	Periodic/As Needed	Laboratory	Nitrate Analyst
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace probe tip	Yearly	Order from YSI	B. Kelly
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace batteries	As Needed	In stock at office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	Check buffer solutions for expiration	Weekly	In stock at office	B. Kelly
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace membrane	4 to 8 weeks	In stock at office	Field Staff
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace batteries	As Needed	In stock at office	Field Staff
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
Electronic Water Level Indicator	WLI-1, WLI-2, WLI-3	Inspection	Weekly	N/A	Field Staff
Oil/Water Interface probe	PLI-1, PLI-2, PLI-3, PLI-4	Inspection	Weekly	N/A	Field Staff
MiniRae 3000	592-902491	Cleaning	Weekly	N/A	B. Kelly
MiniRae 3000	592-902491	Parts Inspection	As Needed	In stock at 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	Daily calibration check	Method Requirements	IC Analyst	Recalibration or instrument

6				maintenance
ICP Shealy SOP S-IM-005 Page 6 & 7	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance
Leeman Mercury Analyzer Shealy SOP S-IM-006 Page 5	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance
Flow Injection Analysis – Lachat 8000 Shealy SOP S-IN-042 Page 5	Daily and continuing calibration check	See calibration criteria	Nitrate Analyst	Recalibration or instrument maintenance
YSI 63 - 09C 101302, 10K 101895, 07M 100905	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
YSI 550A - 04L 2026AK, 08B 101407, 04A 0912AI	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
MiniRae 3000 – 592-902491	Weekly calibration check	Within 5 ppm of 100 ppm standard. MiniRae 3000 does not need daily calibration according to Manufacturers guidelines	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
Electronic Water Level Indicator	Monthly	Checked vs. Standard - +/- 0.01 foot per 10 foot length	Field Staff	Ship off for service by manufacturer
Oil/Water Interface probe	Monthly	Checked vs. Standard - +/- 0.01 foot per 10 foot length	Field Staff	Ship off for service by manufacturer

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	Minimum of 5 calibration	When indicated by continuous	Method Criteria	Detailed in SOP	MSV Analyst	S-VO-002

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
	standards for all compounds	calibration verification standard				
Semi-volatile Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	MSSV Analyst	S-SV-021
GC ECD	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-SV-012
Dionex IC	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	IC Analyst	S-IN-010
ICP	Minimum of 3 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-IM-022
Cetac Mercury Analyzer	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	Mercury Analyst	S-IM-006
Lacaht QuickChem 8000	Minimum of 5 calibration standards	Daily or when indicated by calibration verification standard	Method Criteria	Detailed in SOP	Nitrate Analyst	S-IN-042
YSI 63	pH Calibration	Daily	+/- 0.2 pH units	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 63	Conductivity 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
MiniRae 3000	PID Calibration	Weekly	+/- 5 ppm	clean, recalibrate	Field Staff	***
Electronic Water Level Indicator	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***
Oil/Water Interface probe	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***

Table 13A Instrument Calibration Criteria and Corrective Action

* This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Laboratory Chemicals	Fisher, VWR	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory standards	O2Si, Restek, High Purity, VHG, Supelco	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, QEC	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel
Clear, Disposable polyethylene Bailers	Preferred Pump	Individual sleeves intact, ball valve operational	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nylon Rope	Preferred Pump	Covered with plastic	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nitrile Gloves	Preferred Pump	Unopened box, no holes	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
40 mL HCL preserved amber vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
250 mL HNO3 preserved metals vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Coolers	Shealy Environmental Services	Intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
pH Buffer	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
Conductivity Standard	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
DO Membranes	YSI, Enviroequipment	Clean, in box	Stored in calibration room	B. Kelly, Field Staff
Batteries	Any Store	Not previously used	Stored in calibration room	B. Kelly, Field Staff
PID Calibration Gas – Isobutylene	Enviroequipment	Not Depleted, within expiration date	Stored in calibration room	B. Kelly, Field Staff

Table 14A List of Consumables and Acceptance Criteria

B9 Data Acquisition Requirements (Non-Direct Measurements)

1. Identify data sources, for example, computer databases or literature files, or models that should be accessed or used.
2. Describe the intended use of this information and the rationale for their selection, i.e., its relevance to project.
3. Indicate the acceptance criteria for these data sources and/or models.

Data Source	Used for	Justification for use in this project	Comments
IGWA Report or information pertaining to nearby LUST Sites.	Historic groundwater and CoC concentration data. Lithology and well construction data from previous MWI's	Establish the type of drilling rig required, time for sampling and any other potential problems that may be encountered.	1903 forms from previous monitoring well installations will be used to estimate depth of the newly installed monitoring wells installed in conjunction with the Tier I Assessment.

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

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 used 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 Manager, who will be responsible for ensuring that field personnel adhere to the QAPP. If during a random field audit, severe problems are found, work will be stopped by the field manager and the QA officer contacted to determine corrective action. All problems must be corrected prior to any additional work being performed. Should it be requested, an On-site Field Audit can be scheduled with the SCDHEC project manager.

2. *The SCDHEC UST QAPP states that the Lab will receive an Offsite Technical System Audit. For this project, what assessments will be done on the Commercial Lab(s) that are being used—other than their certification audit? When or how often are these done? Who will the results be given to and who has the ability to stop work if problems are severe?*

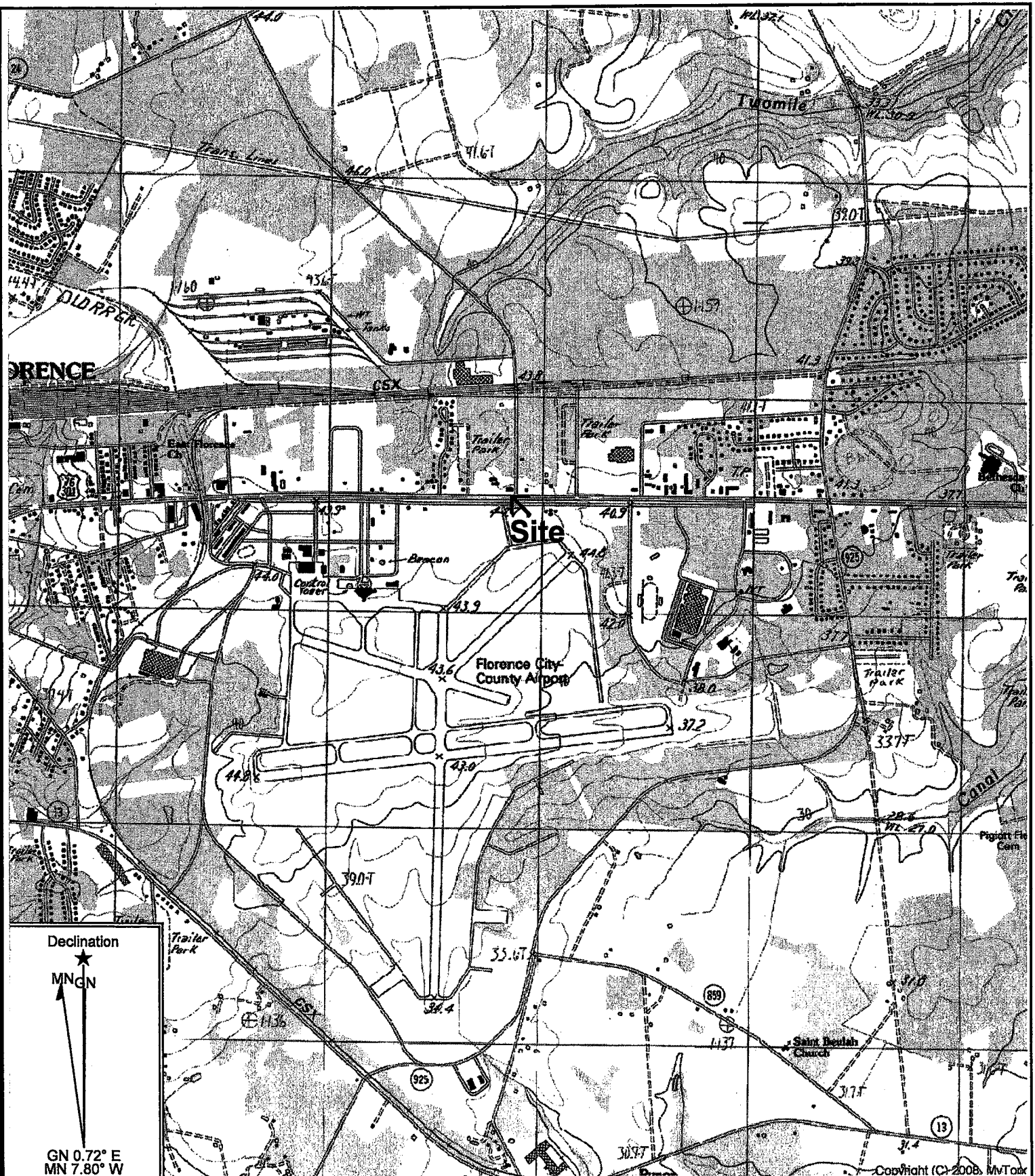
The laboratory participates in annual Proficiency Testing through an approved vendor, Wibby Environmental. Proficiency Testing results are provided to the Office of Environmental Laboratory Certification.

C2 Reports to Management

See the SC DHEC UST Programmatic QAPP (UST Master QAPP).

Section D Data Validation and Usability

All field and laboratory data will be checked and verified by the project verifier (Brendon Kelly) prior to submission to SCDHEC.



Midlands
Environmental
Consultants, Inc.

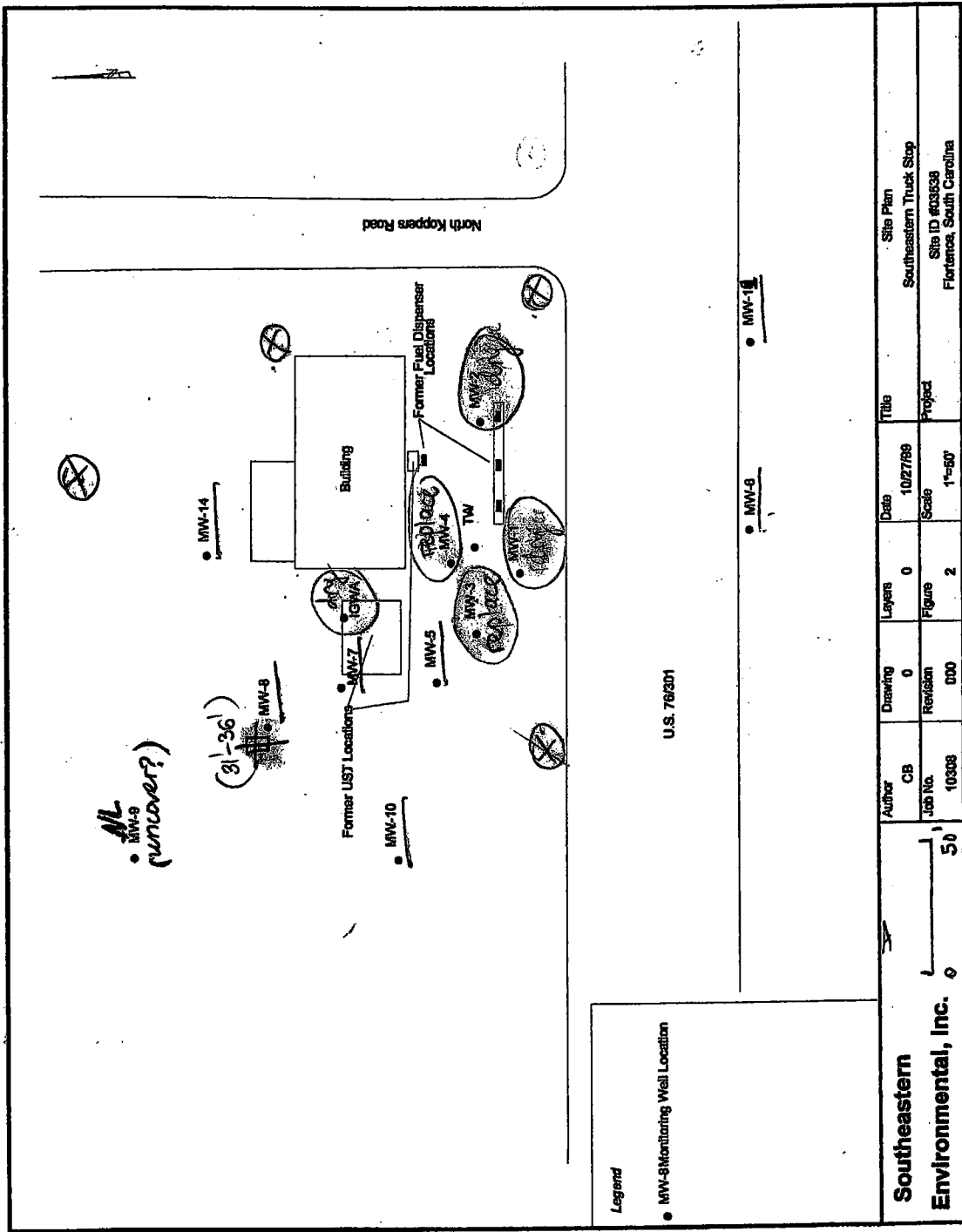
Site Location

Coastal 76 Truck Stop
2513 East Palmetto Street, Florence, SC
SCDHEC Site ID# 03538

Figure 1

MECI 12-3980

Shallow well
deep well



Southeastern Environmental, Inc.



Shealy Environmental Services, Inc.

106 Vantage Point Drive

West Columbia, South Carolina 29172

Telephone No. (803) 791-9700 Fax No. (803) 791-9111

www.shealylab.com

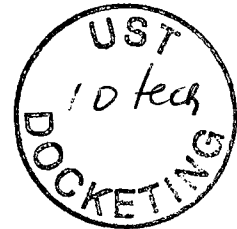
Number 11725

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May 25, 2012

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



Subject: QAPP Contractor Addendum – Revision 1
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID Number 03538
MECI Project Number 12-3980
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Milenkova,

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

On May 15, 2012, MECI personnel performed a site visit to the subject site to evaluate site conditions, attempt to locate monitoring wells and identify potential problems for future assessment activities.

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

Sincerely,
Midlands Environmental Consultants, Inc.

Courtney M. Sanders
Staff Biologist

Jeff L. Coleman
Senior Scientist

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Coastal 76 Truck Stop, SCDHEC Site ID# 03538

2513 East Palmetto Street, Florence, South Carolina

Prepared by:
Jeff L. Coleman
Senior Scientist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

Date: May 25, 2012

Approvals

Maia Milenkova
SC DHEC Project Manager

Signature _____ Date _____

Brendon P. Kelly
Contractor QA Manager

Signature _____ Date 5/30/12

Bryan T. Shane, P.G.
Site Rehabilitation Contractor

Signature _____ Date 5-25-12

Michael Woodrum
Laboratory Director

Signature _____ Date May 25, 2012

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A3 Distribution List

Name	Title	Organization/Address	Telephone Number	Fax Number	Email Address
Maia Milenkova	SC DHEC Technical Project Manager	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6664	803-896-6245	milenkmp@dhec.sc.gov
Bryan T. Shane, P.G.	Site Rehabilitation Contractor	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bts@meci.net
Brendon P. Kelly	Quality Assurance Officer	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bpk@meci.net
Jeff L. Coleman	Field Manager	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Michael Woodrum	Laboratory Director	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Tommy Bolyard	Well Services/Driller	Environmental Probing and Drilling Services 17538 Greenhill Road Charlotte, NC 28278	704-607-7529	803-548-2233	EDPS@comporium.net

Table 1A Addendum Distribution List

A4 Project Organization

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Project Manager	Maia Milenkova	SCDHEC, UST Management Division, 2600 Bull St., Columbia, SC, 29201	803-896-6664	803-896-6245	milenkmp@dhec.sc.gov
Site Rehabilitation Contractor	Bryan T. Shane, P.G.	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bts@meci.net
Quality Assurance Officer	Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	bpk@meci.net
Field Manager	Jeff L. Coleman	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	jlc@meci.net
Analytical Laboratory Director	Michael Woodrum	Shealy Environmental Services, Inc. 106 Vantage Point Dr. West Columbia, SC 29172	803-791-9700	803-791-9111	mwoodrum@shealylab.com
Soil Boring and Monitoring Well Driller	Tommy Bolyard	Environmental Probing and Drilling Services 17538 Greenhill Road Charlotte, NC 28278	704-607-7529	803-548-2233	EDPS@comporium.net

Role from the UST Master QAPP	Person in this Role for Project	Organization/Address	Telephone Number	Fax Number	Email Address
Registered Land Surveyor	Jay S. Joshi	Construction Support Services, Inc. 1318 RL Coward Road Hopkins, SC 29061	803-776-9909	803-776-2688	jsjoshi@constructionssupportsc.com
Disposal Facility	Carol Weldon	Waste Management, Inc. Richland Landfill 1047 Highway Church Road Elgin, SC 29045	803-744-3346	866-904-7194	Not Available
Project Verifier	Courtney M. Sanders or Brendon P. Kelly	Midlands Environmental Consultants, Inc. 235-B Dooley Road Lexington, SC 29073	803-808-2043	803-808-2048	cms@meci.net

Table 2A Addendum Role Identification and Contact Information

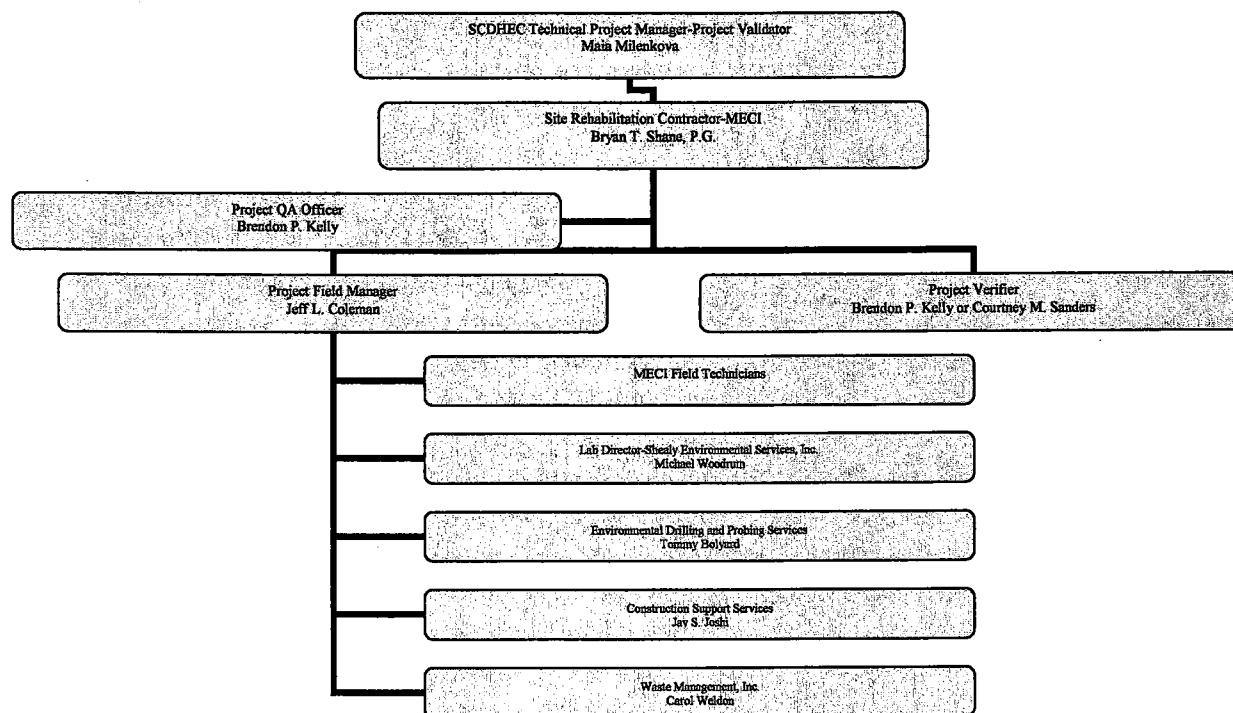


Figure 1A Organizational Chart

Project Manager (Maia Milenkova) – The project manager is responsible for direct oversight of contractors conducting assessment and site rehabilitation of releases at UST sites.

Site Rehabilitation Contractor (Bryan T. Shane, P.G.) – The Site Rehabilitation Contractor is an independent contractor responsible for managing and coordinating field and office activities needed for assessments or cleanup.

-Final Review of all work produced for a scope of work.

-Final say on technical interpretation of data.

Quality Assurance Officer (Brendon P. Kelly) – The Quality Assurance Officer is responsible for the oversight of all quality assurance activities associated with projects performed by the Site Rehabilitation Contractor.

- In charge of producing and maintaining the QAPPA for MECI.
- Reviews (and Audits, if necessary) all work produced in conjunction with a scope of work.
- Quality control of data entry and report preparation.

Field Manager (Jeff L. Coleman) – The field manager will oversee all work done on any given project.

- Assign, direct and oversee all field personnel working on each project.
- Responsible for coordinating with the SCDHEC project manager, should any problems or clarifications arise.
- Responsible for all reporting done in conjunction with field work.

Project Verifier (Courtney M. Sanders) – The project verifier is responsible for verifying the quality of data produced during a scope of work. This includes review of field work and laboratory reports for potential quality issues.

Well Driller (Tommy Bolyard) – The well driller is responsible for installing monitoring wells according to South Carolina Well Standards, R.61-71. The well driller is a subcontractor for MECI.

Field Technicians (various employees) – Responsible for all field activities for a given scope of work.

- Conduct all initial site visit, and record findings
- Conduct all field activities associated with a scope of work. All work will be conducted according to the MECI SOP. Will be responsible for reporting any potential problems or 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 (Costal 76 Truck Stop) is located at 2513 East Palmetto Street, Florence, Florence County, South Carolina. The subject site formally maintained four underground storage tanks (UST's), including 1-2,000 gallon gasoline UST, 1-3,000 gallon gasoline UST, 1-1,000 gallon gasoline UST, and 1-2,000 gallon diesel UST. These UST's were abandoned by removal from ground in August of 1995. The South Carolina Department of Health and Environmental Control reported a release of petroleum product for the subject UST's in September of 1995 and confirmed this release in August of 1997. The subject site is currently rated a Class 3BA.

The site is being assessed in conjunction with the SCDHEC Small Scope Assessment Contract (Solicitation # IFB-5400003229, PO# 4600117789).

Please answer the following: Does this project fall under UST or Brownfields area?

Underground Storage Tank Division

A6 Project/Task Description

- 1. Summarize what is known about the work to be done. This can be a short sentence indicating what the Scope of this project is (see Master QAPP Section A6).**

The scope of this assessment will be to install nine (9) watertable bracketing monitoring wells and one (1) double cased "Deep" monitoring well (Total of 10 Monitoring Wells). During the installation of the "Deep" monitoring well, a grain size/hydrometer sample will be collected from within the screened interval and associated slug test performed. Following the well installation, the entire monitoring well network will be sampled for BTEX, Napth, MTBE, 1,2-DCA, 8-oxygenates, ethanol (8260-B), EDB (8011), and Total Lead (EPA Method 6010).

A comprehensive survey will be conducted by Construction Support Services to locate the vertical and horizontal positions of the newly installed monitoring wells.

Reporting will include tax map data and geologic cross sections.

- 2. The work will begin within fourteen (14) days of receipt of approved QAPP contractors addendum after cost approval and the scope of work should be complete by sixty (60) days of receipt of approved QAPP contractors addendum.**
- 3. Are there are time or resource constraints? Include those factors that may interfere with the tentative schedule.**

Factors that may prevent schedule work will be, but not limited to, inclement weather, equipment malfunction, and machine failure.

A7 Data Quality Objectives (DQOs) and Data Quality Indicators (DQIs)

The subject site is located at 2513 East Palmetto Street, Florence, Florence County, South Carolina. The site is currently an abandoned gas station. All work will be conducted on the subject property.

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

Title/Job	Name	Training Required	Date training received	Type of License	License Number
Senior Scientist	Jeff Coleman	OSHA 40 hr HAZWOPER	7/27/2007	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	7/27/2011	N/A	N/A
Project Scientist	Brendon Kelly	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Staff Geologist	John Bryant	OSHA 40 hr HAZWOPER	4/17/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Field Technician	Brian Owen	OSHA 40 hr HAZWOPER	8/21/2009	N/A	N/A
		OSHA 8 hr HAZWOPER refresher	12/14/2010	N/A	N/A
Staff Biologist	Courtney Sanders	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
Staff Biologist	Kyle Pudney	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
Staff Biologist	Chris Lashley	OSHA 40 hr HAZWOPER	12/10/2010	N/A	N/A
Staff Biologist	Gavin Globensky	OSHA 40 hr HAZWOPER	7/29/2011	N/A	N/A
Staff Biologist	Ryan Ariail	OSHA 40 hr HAZWOPER	9/23/2011	N/A	N/A
Lab Manager	Michael Woodrum	***	***	Lab Certification	SC 32010
Surveying Services	Jay S. Joshi	Tier A Land Surveyor Certification	6/1/1992	PLS	14811
Drilling Services	Tommy Bolyard - EDPS	SC Drillers Certification	8/24/2004	B	01846

Table 3A Required Training and Licenses

Brendon P. Kelly of Midlands Environmental Consultants, Inc. is responsible to ensuring that personnel participating in this project receive the proper training. All training records will be stored in the following location: 235-B Dooley Road, Lexington, SC 29073.

It is understood that training records will be produced if requested by SC DHEC.

The Following Laboratory(ies) will be used for this Project:

Commercial Lab(s)

Full Name of the Laboratory Shealy Environmental Services, Inc.
 Name of Lab Director Michael Woodrum
 SC DHEC Certification Number 32010
 Parameters this Lab will analyze for this project:

- The entire monitoring well network will be sampled for BTEX, Napth, MTBE, 1,2-DCA, 8-oxygenates, ethanol (8260-B), EDB (8011), and Total Lead (EPA Method 6010).

Full Name of the Laboratory Schnabel Engineering
 Name of Lab Director Mickey Edwards
 SC DHEC Certification Number N/A
 Parameters this Lab will analyze for this project:

Grain size distribution test will be performed by Schnabel Engineering in accordance with ASTM Method D-1140.

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 ☒ Hand delivered

Other (please specify): E-mailed electronic copies

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
Instrument Raw Data	Target, Thermospec, or Iteva software	Hardcopy and Electronic	Hardcopy: Offsite storage for 7 yrs Electronic: Two external storage device backups – one offsite, one onsite storage for 10 yrs	Yes
Final Reports	LIMS	Electronic	Electronic: Two external storage device backups – one offsite, one onsite storage for 10 years	Yes
Field Work	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Chain of Custody	Field Staff	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
QAPP Addendum	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes
Internal QC record	Brendon Kelly	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes
Sampling Report	Brendon Kelly	Hardcopy & Electronic	MECI office: 235B Dooley Road / Min. 5 years	Yes

Record	Produced By	Hardcopy/ Electronic	Storage Location For how long?	Archival
1903 Water Well Record Form	EDPS	Hardcopy	MECI office: 235B Dooley Road / Min. 5 years	Yes

Table 4A Record Identification, Storage, and Disposal

Section B Measurement/Data Acquisition

B1 Sampling Process/Experimental Design

Item	Start Date	End Date	Comments
Site Reconnaissance	5/15/2012	5/15/2012	Already Completed
QAPP preparation	5/15/2012	5/17/2012	In progress
QAPP approval	5/17/2012	6/7/2012	Assuming three week turnaround
PUPs Request	6/7/2012	6/11/2012	Give 72 hours until PUPs ticket active
Monitoring Well Installation	6/11/2012	6/25/2012	2 Weeks to mobilize Drill Rig.
Monitoring well Sampling	6/25/2012	7/2/2012	1 Week to mobilize sampling crew. Standard 5 Day Turn Around Time on analytical (2 Weeks)
Report Preparation	7/2/2012	7/23/12	Three weeks to prepare/submit report

Table 5A Sampling Activities

B2 Sampling Methods

Please note: The contractor must follow sampling protocols as given in the UST QAPP.

Estimate the number of samples of each matrix that are expected to be collected:

Soil	___1___
Ground Water from monitoring wells	___19___
From Drinking/Irrigation water wells	_____
Field Duplicate Collection	___1___
Field Blank Collection	___1___
Trip Blank	___1___
From surface water features	_____
Total number of samples	___23___

The samples will be (check as many as apply): ☐ Homogenized ☐ Split

Notes:

-Nineteen (19) water samples will be collected from monitoring well network and be analyzed for BTEX, Napth, MTBE, 1,2-DCA, 8-oxygenates, ethanol (8260-B), EDB (8011), and Total Lead (EPA Method 6010).

-It is anticipated that one (1) field duplicate will be sampled. One duplicate will be collected during the monitoring well sampling event.

-It is anticipated that one (1) field blank will be collected. One field blank will be collected during the monitoring well sampling event.

- It is anticipated that one (1) trip blank will be analyzed (1 per cooler utilized during Assessment activities). One cooler will be collected during the monitoring well sampling event.

Environmental Drilling and Probing Services (EDPS) will mobilize a Canterra CT-450 drilling rig to the subject site. All drilling activities will be performed under the supervision of a South Carolina Certified Well Driller and MECI field personnel (Tommy Bolyard, #B 01846).

Wells and temporary borings will be installed according to MECI Standard Operating Procedures (4.1.1, 4.1.5, 4.2.1, 4.2.2, & 4.2.4) and in accordance with South Carolina Well Standards, R.61-71.

Monitoring wells will be purged/sampled in accordance with MECI SOP # 4.3.1 through 4.3.5.

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

Please see MECI SOP 4.1.1 (Soil Screening and Sampling), 4.2 (Monitoring Well Installation), 4.3 (Monitoring Well Sampling) for field procedures that we be utilized during the subject assessment.

Will Sampling Equipment have to be cleaned and decontaminated or is everything disposable?

All equipment, excluding electronic water level indicators and field probes, is disposable.

If sampling equipment must be cleaned please give a detailed description of how this is done and the disposal of by-products from the cleaning and decontamination.

Prior to usage of non-disposable equipment, it is decontaminated with isopropanol applied by a Teflon squeeze bottle and rinsed with analyte free water. This rinse water 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.

Environmental Drilling and Probing Services (EDPS) will mobilize a Canterra CT-450 drilling rig to the subject site. All drilling activities will be performed under the supervision of a South Carolina Certified Well Driller and MECI field personnel (Tommy Bolyard, #B 01846).

Wells will be installed according to MECI Standard Operating Procedures (4.2., 4.2.2, 4.2.3 & 4.2.4) and in accordance with South Carolina Well Standards, R.61-71.

Drill cuttings will be disposed of by MECI personnel at Waste Management Richland County Landfill in Elgin, SC.

All samples (if needed) will be shipped to the lab via lab courier or delivered directly to the lab by MECI personnel.

Following monitoring well installation a subsequent survey will be conducted by MECI personnel.

Address the actions to be taken when problems occur in the field, and the person responsible for taking corrective action and how the corrective action will be documented.

Failure	Response	Documentation	Individual Responsible
Unable to gain access to drilling location	Attempt to create path to well location through vegetation, Utilize plywood boards to cross soft ground, contact SCDHEC project manager to discuss a potential change to the well location.	Record on field sheets, notify SCDHEC and Office.	Field Staff, Field Manager
Hitting a Utility Line while Drilling	Contact PUPS (Palmetto Utilities Protection Service), contact appropriate utility (if gas line is hit, notify fire department)	Record in field sheets, on PUPS ticket in office. Contact SCDHEC project manager to inform them of problem.	Field Staff, Field Manager
Drilling rig breaks down	Attempt to correct problem. If the problem cannot be determined, or cannot be fixed, discontinue drilling for the day. Drilling can continue once drill rig has been fixed, or new drill rig is mobilized to the site	Record on field sheet, notify office staff.	Field Staff, Drill rig operator
Property Owner will not allow access onto property for drilling activities	Stop drilling. Attempt to discuss with property owner the need for the work. Inform SCDHEC project manager of the access issue. If no resolution can be made, discontinue drilling on the disputed property until access can be obtained or new well location is determined.	Document on field sheets (or QAPP, if access denied during QAPP site visit). Inform SCDHEC project manager immediately if any disputes arise.	Field Staff, Field Manager

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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	Standard	MECI SOP 4.3.6	YSI 63	Place probe in sample and allow to equilibrate before recording reading
Conductivity	Standard	MECI SOP 4.3.6	YSI 63	
Dissolved Oxygen	Standard	MECI SOP 4.3.6	YSI 550A	
Temperature	Standard	MECI SOP 4.3.6	YSI 550A	
PID reading	MECI SOP 4.2.2			Use MiniRae PID to obtain reading. Place probe into soil sample bag and record the highest reading.

Table 7A Analytical SOPs and Referenced Methods

- This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

Abbreviation	Lab Identification of this SOP	Full Name of the SOP
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 4.2.2	MECI SOP 4.2.2	Drilling Standard operating procedures
MECI SOP 4.3.6	MECI SOP 4.3.6	Sampling Standard operating procedures

Table 8A SOP Abbreviation Key

- 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 –Michael Woodrum mwoodrum@shealylab.com
QA/QC Failure	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com
On time delivery	Corrective Action Form (CAF)	CAF filled out by PM	Lab Director –Michael Woodrum mwoodrum@shealylab.com QA/QC Officer – Jami Savje Jsavje@shealylab.com
PID not functioning properly	Attempt to clean PID, recalibrate.	Record on field sheets, notify office staff. PID taken rotation until problem identified and corrected.	Field Staff, Field Manager

Table 9A Corrective Action Procedures

- Identify sample disposal procedures.

Analysis	Matrix	Schedule for disposal	Method for disposal	Comments
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BTEX+Naph+MTBE+Oxygenates	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
PAH's	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
EDB	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Lead	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Ferrous Iron	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Nitrate,Sulfate	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	
Methane	Waters/Soils	Six Weeks	Tested for Hazardous Constituents and disposed as Hazardous or non-Hazardous waste.	

All	Water	On-Site	Portable Granulated Activated Carbon (GAC) Unit	All waste water produced from sampling and decontamination activities will be run through a GAC unit
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Table 10A Disposal Procedures

4. Provide SOPs for the Kerr Method or the Ferrous Iron Method if these are parameters for this study. This can be attached or written here. If attached please note that it is an attachment and where it is located (if applicable).

B5 Quality Control Requirements:

All QC will follow the requirements laid out in Section B5 of the UST Programmatic QAPP.

B6 Field Instrument and Equipment Testing, Inspection and Maintenance

1. Identify all field and laboratory equipment needing periodic maintenance, the schedule for this, and the person responsible. Note the availability and location of spare parts.

Instrument	Serial Number	Type of Maintenance	Frequency	Parts needed/Location	Person responsible
Volatiles Mass Spec	Shealy SOP S-SV-021 Page 7	Change traps, clean ion source, replace filaments	Periodic	Laboratory	MSV Analyst
Semivolatile Mass Specc	Shealy SOP S-SV-021 Page 7	Injection port maintenance, ion source maintenance, column replacement	Periodic	Laboratory	MSSV Analyst
ECD GC	Shealy SOP S-SV-012 Page 5	Injection port maintenance, column replacement	Periodic	Laboratory	GC Analyst
Dionex IC	Shealy SOP S-IN-010 Page 6	Replace auto sampler filter, tubing, line filter, sample Line and Waste Line, as needed. Check Reagent levels, flow rate, waste line.	Periodic	Laboratory	IC Analyst
ICP	Shealy SOP S-IM-005 Page 6 & 7	Clean Sample introduction system, auto sampler, torch, Change spray chamber, torch tubing, tubing	Periodic	Laboratory	ICP Analyst

Leeman Mercury Analyzer	Shealy SOP S-IM-006 Page 5	Clean GLS, Change Pump tubing, Nafion Dryer, Lamp	Periodic	Laboratory	Mercury Analyst
Flow Injection Analysis – Lachat 8000	Shealy SOP S-IN-042 Page 5	Replace sample and reagent lines, replace light source, re-wrap heating coil, replace column	Periodic/As Needed	Laboratory	Nitrate Analyst
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace probe tip	Yearly	Order from YSI	B. Kelly
YSI 63	09C 101302, 10K 101895, 07M 100905	Replace batteries	As Needed	In stock at office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
YSI 63	09C 101302, 10K 101895, 07M 100905	Check buffer solutions for expiration	Weekly	In stock at office	B. Kelly
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace membrane	4 to 8 weeks	In stock at office	Field Staff
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	Replace batteries	As Needed	In stock at office	Field Staff
YSI 550A	04L 2026AK, 08B 101407, 04A 0912AI	General inspection for wear and tear on equipment	Daily	Major fixes will be done out of office	Field Staff
Electronic Water Level Indicator	WLI-1, WLI-2, WLI-3	Inspection	Weekly	N/A	Field Staff
Oil/Water Interface probe	PLI-1, PLI-2, PLI-3, PLI-4	Inspection	Weekly	N/A	Field Staff
MiniRae 3000	592-902491	Cleaning	Weekly	N/A	B. Kelly
MiniRae 3000	592-902491	Parts Inspection	As Needed	In stock at 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	Daily calibration check	Method Requirements	GC Analyst	Recalibration or instrument

5				maintenance
Dionex IC Shealy SOP S-IN-010 Page 6	Daily calibration check	Method Requirements	IC Analyst	Recalibration or instrument maintenance
ICP Shealy SOP S-IM-005 Page 6 & 7	Daily calibration check	Method Requirements	ICP Analyst	Recalibration or instrument maintenance
Leeman Mercury Analyzer Shealy SOP S-IM-006 Page 5	Daily calibration check	Method Requirements	Mercury Analyst	Recalibration or instrument maintenance
Flow Injection Analysis – Lachat 8000 Shealy SOP S-IN-042 Page 5	Daily and continuing calibration check	See calibration criteria	Nitrate Analyst	Recalibration or instrument maintenance
YSI 63 - 09C 101302, 10K 101895, 07M 100905	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
YSI 550A - 04L 2026AK, 08B 101407, 04A 0912AI	Daily calibration check	See calibration criteria	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
MiniRae 3000 – 592-902491	Weekly calibration check	Within 5 ppm of 100 ppm standard. MiniRae 3000 does not need daily calibration according to Manufacturers guidelines	Field Staff	Recalibrate, general maintenance then recalibrate. Ship off for service by manufacturer
Electronic Water Level Indicator	Monthly	Checked vs. Standard - +/- 0.01 foot per 10 foot length	Field Staff	Ship off for service by manufacturer
Oil/Water Interface probe	Monthly	Checked vs. Standard - +/- 0.01 foot per 10 foot length	Field Staff	Ship off for service by manufacturer

Table 12A Instrument and Equipment Inspection

B7 Instrument Calibration and Frequency

1. Identify equipment, tools, and instruments for field or lab work that should be calibrated and the frequency.
2. Describe how the calibrations should be performed and documented, indicating test criteria and standards or certified equipment.
3. Identify how deficiencies should be resolved and documented. Identify the person responsible for corrective action.

Instrument	Calibration Procedure	Frequency of Calibration	Acceptance Criteria	Corrective Action (CA)	Person Responsible for CA	SOP Reference*
Volatiles Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by continuous calibration verification standard	Method Criteria	Detailed in SOP	MSV Analyst	S-VO-002
Semi-volatile Mass Spec	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	MSSV Analyst	S-SV-021
GC ECD	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	GC Analyst	S-SV-012
Dionex IC	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	IC Analyst	S-IN-010
ICP	Minimum of 3 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	ICP Analyst	S-IM-022
Cetac Mercury Analyzer	Minimum of 5 calibration standards for all compounds	When indicated by calibration verification standard	Method Criteria	Detailed in SOP	Mercury Analyst	S-IM-006
Lacaht QuickChem 8000	Minimum of 5 calibration standards	Daily or when indicated by calibration verification standard	Method Criteria	Detailed in SOP	Nitrate Analyst	S-IN-042
YSI 63	pH Calibration	Daily	+/- 0.2 pH units	clean/replace probe tip, recalibrate	Field Staff	4.3.6
YSI 63	Conductivity 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
MiniRae 3000	PID Calibration	Weekly	+/- 5 ppm	clean, recalibrate	Field Staff	***
Electronic Water Level Indicator	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***
Oil/Water Interface probe	Checked vs. Standard	Monthly	+/- 0.01 foot per 10 foot length	Replace probe tape	Field Staff	***

Table 13A Instrument Calibration Criteria and Corrective Action

* This can be a full name of a SOP, an abbreviation, or a number. In the latter two cases, the abbreviation or number must be associated with the full name of the SOP. See also Table 8A SOP Abbreviation Key.

B8 Inspection/Acceptance Requirements for Supplies and Consumables

1. Identify critical supplies and consumables for field and laboratory, noting supply source, acceptance criteria, and procedures for tracking, storing and retrieving these materials.
2. Identify the individual(s) responsible for this.

Item	Vendor	Acceptance criteria	Handling/Storage Conditions	Person responsible for inspection and tracking.
Laboratory Chemicals	Fisher, VWR	Certificates of analysis and laboratory testing	Laboratory storage	Receiving and laboratory personnel
Laboratory standards	O2Si, Restek, High Purity, VHG, Supelco	Certificates of analysis and laboratory verifications	Vendor specific storage conditions	Laboratory Analysts
Sample Containers	Daniels Scientific, QEC	Certificates of analysis and laboratory testing	Bottle storage area	Sample receiving personnel
Clear, Disposable polyethylene Bailers	Preferred Pump	Individual sleeves intact, ball valve operational	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nylon Rope	Preferred Pump	Covered with plastic	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Nitrile Gloves	Preferred Pump	Unopened box, no holes	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
40 mL HCL preserved amber vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
250 mL HNO3 preserved metals vials	Shealy Environmental Services	Custody seal intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
Coolers	Shealy Environmental Services	Intact	Stored in Vehicle Bay, Off of the ground	B. Kelly, Field Staff
pH Buffer	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
Conductivity Standard	TRS Environmental, Enviroequipment	Within expiration date	Stored in calibration room	B. Kelly, Field Staff
DO Membranes	YSI, Enviroequipment	Clean, in box	Stored in calibration room	B. Kelly, Field Staff
Batteries	Any Store	Not previously used	Stored in calibration room	B. Kelly, Field Staff
PID Calibration	Enviroequipment	Not Depleted, within expiration	Stored in	B. Kelly, Field Staff

Gas -- Isobutylene		date	calibration room	
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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
IGWA Report or information pertaining to nearby LUST Sites.	Historic groundwater and CoC concentration data. Lithology and well construction data from previous MWI's	Establish the type of drilling rig required, time for sampling and any other potential problems that may be encountered.	1903 forms from previous monitoring well installations will be used to estimate depth of the newly installed monitoring wells installed in conjunction with the Tier I Assessment.

Table 15A Non-Direct Measurements

4. Identify key resources/support facilities needed.

B10 Data Management

1. Describe the data management scheme from field to final use and storage.

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.

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. 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

All field and laboratory data will be checked and verified by the project verifier (Brendon Kelly) prior to submission to SCDHEC.



ASSESSMENT COMPONENT INVOICE CONTRACT PO NUMBER 4600117789

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

Facility Name: Costal 76 Truck Stop

UST Permit #: 03538

Cost Agreement #:

NA

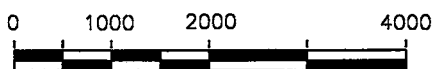
ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan*				
B. Tax Map	1	x	\$10.00	\$10.00
C. MW Installation or Comp. Plan/QAPP Appendix B	1	x	\$100.00	\$100.00
3. Survey (500 x 500 feet)				
A. Comprehensive Survey	1	x	\$1,000.00	\$1,000.00
4. Mob/Demob (Each)				
A. Equipment	1	x	\$100.00	\$100.00
B. Personnel	3	x	\$100.00	\$300.00
C. Adverse Terrain Vehicle to install wells		x	\$1.00	\$0.00
5. Soil Borings (hand auger)* (Feet)		feet x	\$2.00	\$0.00
6. Soil Borings (drilled)--Not to be used for Field Screening				
A. Standard		feet x	\$6.00	\$0.00
9. Well Installation* (per foot)				
A. Water Table (hand augered)		feet x	\$6.00	\$0.00
B. Water Table (drill rig)	225	feet x	\$14.00	\$3,150.00
C. Telescoping/ Pit Cased	40	feet x	\$28.00	\$1,120.00
D. Rock Drilling		feet x	\$23.00	\$0.00
G. Rock Multi-sampling ports/screens		feet x	\$7.00	\$0.00
H. Recovery Well (4 inch diameter)		each x	\$25.00	\$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product (Each)				
A. Groundwater Purge, Duplicate Sample	14	each x	\$5.00	\$70.00
C. Water Supply/Surface Water		samples x	\$5.00	\$0.00
D. Groundwater No Purge, Field Blank or Duplicate	7	samples x	\$5.00	\$35.00
E. Gauge Well only		per well x	\$5.00	\$0.00
F. Sample Below Product		wells x	\$5.00	\$0.00
G. Pasive Diffusion Bag		each x	\$25.00	\$0.00
11. Laboratory Analyses-Groundwater (Each Sample)				
A1. BTEXNM + Oxygenates + 1,2-DCA + Ethanol	22	samples x	\$48.00	\$1,056.00
AA. Lead, Filtered		samples x	\$12.00	\$0.00
D. PAH's		samples x	\$48.00	\$0.00
E. Lead, Unfiltered	21	samples x	\$12.00	\$252.00
F. EDB by EPA 8011	21	samples x	\$25.00	\$525.00
G. 8 RCRA Metals		samples x	\$50.00	\$0.00
H. TPH (9070)		samples x	\$35.00	\$0.00
P. 8 Oxygenates		samples x	\$1.00	\$0.00
P1. Ethanol		samples x	\$1.00	\$0.00
11. Analyses-Soil (Each Sample)				
Q. BTEX + Naphth.+ MTBE		samples x	\$32.00	\$0.00
R. PAH's		samples x	\$50.00	\$0.00
S. 8 RCRA Metals		samples x	\$50.00	\$0.00
U. TPH-DRO (3550B/8015B)		samples x	\$40.00	\$0.00
V. TPH- GRO (5030B/8015B)		samples x	\$40.00	\$0.00
W. Grain size/hydrometer	1	samples x	\$99.00	\$99.00
X. Total Organic Carbon		samples x	\$25.00	\$0.00
11. Analyses-Free Phase Product (Each Sample)				
Z. Hydrocarbon Fuel Identification (age and Type).		samples x	\$300.00	\$0.00

12. Aquifer Characterization*				
B. Slug Test*	1	tests x	\$35.00	\$35.00
13. Free Product Recovery Rate Test* (Each)		tests x	\$35.00	\$0.00
16. Subsequent Survey*		x	\$150.00	\$0.00
17. Disposal* (gallons or tons)				
A. Wastewater	60	gallons x	\$0.30	\$18.00
B1. Free Product		gallons x	\$0.30	\$0.00
C. Soil Treatment/Disposal	4	tons x	\$50.00	\$200.00
D. Drilling fluids		gallons x	\$0.10	\$0.00
18. Miscellaneous (attach receipts)				
A. Abandonment 4 inch well or smaller		feet x	\$2.75	\$0.00
B. Analyses-Soil Lead		each x	\$12.00	\$0.00
C. High-Strength Well Pad Replacement		each x	\$72.00	\$0.00
		each x	\$0.00	\$0.00
		each x	\$0.00	\$0.00
25. Well Repair				
A. Additional Copies of the Report Delivered		each x	\$0.00	\$0.00
B. Repair 2x2 MW pad		each x	\$50.00	\$0.00
C. Repair 4x4 MW pad		each x	\$72.00	\$0.00
D. Repair well vault		each x	\$50.00	\$0.00
F. Replace well cover bolts		each x	\$10.00	\$0.00
G. Replace locking well cap & lock		each x	\$4.00	\$0.00
H. Replace/Repair stick-up		each x	\$80.00	\$0.00
I. Convert Flush-mount to Stick-up		each x	\$90.00	\$0.00
J. Convert Stick-up to Flush-mount		each x	\$75.00	\$0.00
K. Replace missing/illegible well ID plate		each x	\$6.00	\$0.00
Report Prep & Project Management		x		
TOTAL				\$8,070.00

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



GRAPHIC SCALE



1IN = 2000FT

Reference: Florence East, South Carolina
USGS 7.5 Min. Quad
Countour Interval - 10 Feet

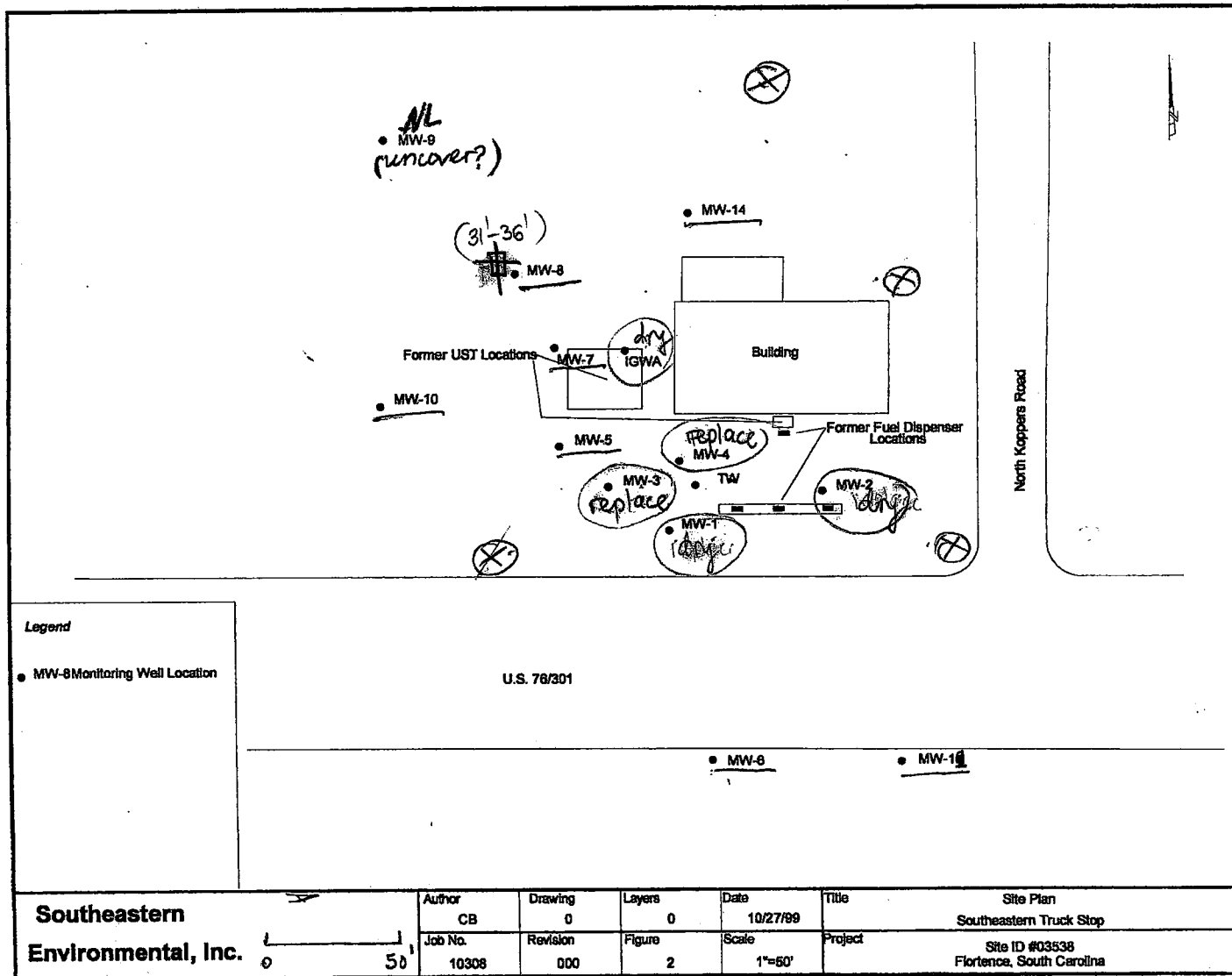
Midlands
Environmental
Consultants, Inc.

Site Location

Coastal 76 Truck Stop
2513 East Palmetto Street, Florence, SC
SCDHEC Site ID# 03538

Figure 1

MECI 12-3980



⊗ shallow well
deep well



www.shealylab.com

Number 11725

[illegible]



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

JUN 08 2012

BRYAN SHANE
MIDLANDS ENVIRONMENTAL CONSULTANTS
PO BOX 854
LEXINGTON SC 29071-0854

Re: Notice to Proceed for MW Installation/QAPP Contractor Addendum Approval
Solicitation # 5400003229, PO# 4600117789
Coastal 76 Truck Stop, 2513 E. Palmetto Street, Florence, SC
UST Permit #03538; CA# 43863; MWA#UMW-24603
QAPP Contractor Addendum received May 18, 2012
Florence County



Dear Mr. Shane:

In accordance with the referenced bid solicitation # IFB-5400003229 the UST Management Division Quality Assurance Program Plan (QAPP), the Site-Specific Contractor Addendum has been reviewed and approved. If any quality assurance problems arise, you must contact me within 24 hours via phone or e-mail. In addition, a discussion of the problem(s) encountered, including quality assurance problems, the actions taken and the results must be included in the final report submitted to the UST Management Division.

A report, contractor verification checklist and invoice are due sixty (60) days from the date of this letter. Monitoring well approval for ten monitoring wells is enclosed for your records. Please note that all applicable South Carolina certification requirements regarding laboratory analyses, well installation, and report preparation must be met in accordance with the referenced solicitation. All shallow wells are to be installed with screen intervals that bracket the water table. The final report should contain the requirements of Section 3.10 (IGWA), 3.11 (Tier I) or 3.12 (Well Installation) of the bid solicitation. The final report should be submitted to Minda Hornosky, the contract manager.

MECI will perform services at the site on behalf of the site's responsible party (RP); however, payment will be made from the SUPERB Account. The site's RP has no obligation for payment for this scope of work. Please coordinate access to the facility with the property owner. The Division grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. A copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included with the final report. The SUPERB Account will not reimburse for transportation or treatment of soil and/or groundwater with concentrations below RBSLs.

If you have any site-specific questions, please contact me at (803) 896-6664 or via e-mail at milenkmp@dhec.sc.gov. If you have any contract specific questions, please contact Minda Hornosky at (803) 896-6395 or via e-mail at hornosms@dhec.sc.gov.

Sincerely, 
Maia Milenkova
Assessment Section
UST Management Division
Bureau of Land & Waste Management

enc: Approved QAPP Contractor Addendum Signature Page
Approved Cost Agreement
Monitoring Well Approval
cc: Minda Hornosky, Assessment Section, UST Management Division
✓ Technical File (with enc)



Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

Monitoring Well Approval Form

Approval is hereby granted to: Midlands Environmental Consultants, Inc.
Facility: Coastal 76 Truck Stop, 2513 E. Palmetto Street, Florence, SC
UST Permit Number: 03538
County: Florence

This approval is for the installation of ten (nine shallow and one deep) monitoring wells. The monitoring wells are to be installed in the approved location. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Agency shall be completed and submitted to the Agency within 30 days after well completion or abandonment unless another schedule has been approved by the Agency. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Agency within 30 days of receipt of laboratory results unless another schedule has been approved by the Agency as required by R.61-71.H.1.d.
5. If any of the information provided to the Agency changes, notification to Maia Milenkova (tel: 803 896-6664 or e-mail: milenkmp@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Approval from the Agency is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

Date of Issuance: May 30, 2012

Approval #: UMW- 24603

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

Section A: Project Management

A1 Title and Approval Page

Quality Assurance Project Plan
Addendum to the SC DHEC UST Programmatic QAPP
For
Coastal 76 Truck Stop, SCDHEC Site ID# 03538

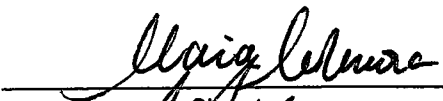
2513 East Palmetto Street, Florence, South Carolina

Prepared by:
Jeff L. Coleman
Senior Scientist
Midlands Environmental Consultants, Inc.
(Certified Site Rehabilitation Contractor UCC-0009)
235-B Dooley Road
Lexington, SC 29073
(803)808-2043

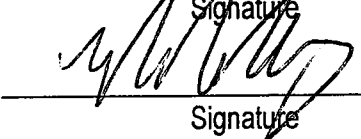
Date: May 25, 2012

Approvals

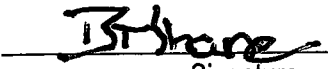
Maia Milenkova
SC DHEC Project Manager


Signature Date 5/31/12

Brendon P. Kelly
Contractor QA Manager


Signature Date 5/30/12

Bryan T. Shane, P.G.
Site Rehabilitation Contractor


Signature Date 5-25-12

Michael Woodrum
Laboratory Director


Signature Date May 25, 2012

Approved Cost Agreement 43863

Facility: 03538 COASTAL 76 TRUCK STOP

MILENKMP

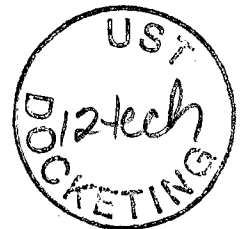
PO Number:

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		B TAX MAPS	1.0000	10.00	10.00
		C TIER II/COMP. PLAN/QAPP APP B	1.0000	100.00	100.00
03 COMPREHENSIVE SURVEY		COMPREHENSIVE SURVEY	1.0000	1,000.00	1,000.00
04 MOB/DEMOB		A EQUIPMENT	2.0000	100.00	200.00
		B PERSONNEL	4.0000	100.00	400.00
09 WELL INSTALLATION		B WATER TABLE (DRILLED)	225.0000	14.00	3,150.00
		C TELESCOPING	40.0000	28.00	1,120.00
10 SAMPLE COLLECTION		A GROUND WATER	12.0000	5.00	60.00
		D GROUNDWATER NO-PURGE	9.0000	5.00	45.00
11 ANALYSES					
	GW GROUNDWATER	A1 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	22.0000	48.00	1,056.00
		E LEAD	20.0000	12.00	240.00
		F EDB	22.0000	25.00	550.00
	SOIL SOIL	W GRAIN SIZE/HYDROMETER	1.0000	99.00	99.00
12 AQUIFER CHARACTERIZATION		B SLUG TEST	1.0000	35.00	35.00
17 DISPOSAL		A WASTEWATER	60.0000	0.30	18.00
		C SOIL (TREATMENT/DISPOSAL)	4.0000	50.00	200.00
Total Amount					8,283.00



July 17, 2012

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



Subject: Report of Monitoring Well Installation, Groundwater Sampling
and Chemical Analyses
Coastal 76 Truck Stop
2513 E. Palmetto Street
Florence, South Carolina
SCDHEC Site ID# 03538, CA # 43863
MECI Project Number 12-3980
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Milenkova,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Report of Monitoring Well Installation, 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

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	**Table 5 – SITE CONCEPTUAL MODEL
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	Figure 3 – SOIL COC SITE MAP
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APPENDIX A – SITE SURVEY
APPENDIX B – SAMPLING LOGS, LABORATORY DATA SHEETS AND CHAIN OF CUSTODY FORMS
APPENDIX C – TAX MAP DATA
**APPENDIX D – SOIL BORING/FIELD SCREENING LOGS & 1903 FORMS
APPENDIX E – WELL LOGS & 1903 FORMS
APPENDIX F – AQUIFER EVALUATION SUMMARY FORMS, DATA, GRAPHS, EQUATIONS
APPENDIX G – DISPOSAL MANIFESTS
**APPENDIX H – LOCAL ZONING REGULATIONS
**APPENDIX I – FATE & TRANSPORT MODELING
APPENDIX J – ACCESS AGREEMENTS
APPENDIX K – DATA VERIFICATION CHECKLIST

NOTE: ITEMS LISTED WITH AN ** BESIDE IT WERE NOT NEEDED AS A PART OF THIS SCOPE OF WORK

1.0 INTRODUCTION

A. Owner/Operator Information

Facility Name:	Coastal 76 Truck Stop	UST Permit #:	03538
Facility Address:	2513 E. Palmetto Street		
Name:	Dan McEachin		
Address:	1007 Wentworth Drive		
Telephone #:	Contact: Dan McEachin (803) 651-8835		

B. Property Owner Information

Name	Dan McEachin
Tax Map #:	Florence Co. Tax Map #: 90089-01-006
Address	1007 Wentworth Drive
Telephone #	Contact: Dan McEachin (803) 651-8835

C. Contractor Information

Name:	Midlands Environmental Consultants, Inc.
Certification #:	9
Address:	P. O. Box 854, Lexington, SC 29071
Telephone #:	(803) 808-2043

D. SCDHEC Certified Well Driller

Name:	Environmental Drilling & Probing Services, LLC.
Driller:	Joe Smith
Certification #:	B 01648
Address:	17538 Greenhill Road, Charlotte, NC 28278
Telephone #:	(704) 607-7529

E. SCDHEC Certified Laboratory

Name:	Shealy Environmental Services, Inc.
Certification #:	32010
Address:	106 Vantage Point Drive, West Columbia, SC 29172
Telephone #:	(803) 791-9700

1.1 QAPP STATEMENT

This report conforms to the SCDHEC UST Management Division Programmatic QAPP. The Report, Tables (Table 1-Soil Analytical Data, Table 2-Field Parameters, Table 3-Groundwater Analytical Results, Table 4-Aquifer Characteristics, and Table 5-Site Conceptual Model), Figures (Figure 1-Topographic Map, Figure 2-Site Features, Figure 3-Soil CoC Site Map, Figure 4-Groundwater CoC Site Map, Figure 5-Groundwater Contour Map, and Figure 6-Geologic Cross Section) , and Appendices are presented in accordance with formatting requirements set forth in section A9 of the UST Management Division Programmatic QAPP, Revision 1, June 2011. Some or all of the tables and figures in this report were not applicable to the scope of services presented, however have been included in order to conform to the SCDHEC UST Management Division Programmatic QAPP.

1.2 PROJECT INFORMATION

The subject site (Costal 76 Truck Stop) is located at 2513 East Palmetto Street, Florence, Florence County, South Carolina. The subject site formally maintained four underground storage tanks (UST's), including 1-2,000 gallon gasoline UST, 1-3,000 gallon gasoline UST, 1-1,000 gallon gasoline UST, and 1-2,000 gallon diesel UST. These UST's were abandoned by removal from ground in August of 1995. The South Carolina Department of Health and Environmental Control reported a release of petroleum product for the subject UST's in September of 1995 and confirmed this release in August of 1997. The subject site is currently rated a Class 3BA.

Prior to commencement of the field activities described in this document, a QAPP Contractors Addendum was completed by MECI personnel, submitted to SCDHEC and approved by the SCDHEC project manager.

The above project information is based on MECI field notes and SCDHEC files.

2.0 SURROUNDING PROPERTY USAGE

The subject site is located inside the city limits of Florence, Florence County, South Carolina. South East Palmetto Street (US Highway 76) forms the southern border of the site, beyond which is the Florence County Regional Airport. North Koppers Road (SC State Rd. S-21-176) forms the eastern border of the site, beyond which are commercial properties. Commercial properties border the site to the west. North of the site is wooded and undeveloped.

3.0 FIELD EXPLORATION

Field exploration conducted at the site included:

- construction of five (5) shallow monitoring wells;
- construction of one (1) deep monitoring well;
- collection of one soil sample;
- hydrologic testing of one selected monitoring well;
- sampling and chemical analyses of the entire monitoring well network;
- hydrologic testing of one selected monitoring well; and,
- a comprehensive survey of subject site.

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

3.1 MONITORING WELL INSTALLATION

From June 19 to June 21, 2012, five single cased watertable bracketing monitoring wells and one double cased telescoping monitoring well were installed at the subject site. The watertable bracketing monitoring wells (IGWA-R, MW-15, MW-16, MW-17, and MW-18) were installed by

Environmental Drilling and Probing Services, LLC. of Rock Hill, SC (S.C. Driller Certification: Joe Smith # B01648) using an Truck-mounted drilling rig employing 8.0-inch outer diameter hollow stem augers to construct the boreholes.

Monitoring well TW-2 was installed as a double cased telescoping monitoring well. During construction, a 6 1/4-inch outer diameter casing was advanced to the desired depth and grouted in-place. The grout was allowed to cure and the remainder of the depth of the borehole was achieved using mud-rotary techniques. Monitoring well TW-2 was cased to a depth of 25.0 feet below ground surface (BGS) and completed to a total depth of 36.0 feet BGS. This well utilizes a five foot screen.

The following table presents well installation details:

Well Number	Single Cased	Double Cased	Screened Interval (ft)	Total Depth (ft)
IGWA-R	X		11.0-21.0	21.0
MW-15	X		10.0-20.0	20.0
MW-16	X		11.0-21.0	21.0
MW-17	X		11.0-21.0	21.0
MW-18	X		11.0-21.0	21.0
TW-2		X	31.0-36.0	36.0

The soils encountered during drilling activities consisted of silty fine to medium grained sands of the Atlantic Coastal Plain Province. The soils encountered in this area are the product of successive advances and retreats of the ocean over the past several million years. Representative portions of soil samples were screened with a Photo Ionization Detector (PID) and classified by MECI personnel. Test boring records showing soil descriptions and screening result are attached in Appendix E.

Drill cuttings were containerized and transported to Waste Management/Richland County Landfill, Elgin, SC by MECI personnel. A total of 3.45 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Following completion of the monitoring wells, the wells were developed by purging until they were determined to be functioning properly and turbidity was reduced. These wells were developed utilizing a Whale-Mega Purger well pump. The drum of purge water was treated by MECI personnel using a granular activated carbon drum. A total of 32.0 gallons of purge/development water was disposed of in this manner. A disposal manifest for the treated purge water is presented in Appendix G.

3.2 SOIL SAMPLING AND CHEMICAL ANALYSES

As requested by SCDHEC, one soil sample was collected from within the screened interval of monitoring well TW-2 during installation. Soil sample TW-2 (36') was analyzed for grain-size/hydrometer (ASTM D1140). The soil was sampled in accordance with SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP, Dated June 2011) and MECI's Standard Operating Procedures (MECI SOP, Dated August, 2011). The results of the laboratory analyses are presented in the attached laboratory reports (Appendix B).

Soil samples obtained were sent to Shealy Environmental Services, Inc. of West Columbia, SC (SCDHEC Laboratory Certification #32010) for analysis.

3.3 MONITORING WELL SAMPLING AND CHEMICAL ANALYSES

On June 26, 2012, MECI personnel collected groundwater samples from sixteen (16) monitoring wells at the subject site. Monitoring wells MW-1 and MW-3 were gauged and contained free phase petroleum product. Monitoring well MW-1 contained 0.02 feet and MW-3 contained 0.01 feet of free phase petroleum product. Sampling/purging of all monitoring wells was completed utilizing a prepackaged, clear, disposable polyethylene bailer and nylon rope. All newly installed monitoring wells and pre-existing monitoring wells which did not bracket the watertable were purged prior to sample collection. Seven (7) monitoring wells were purged prior to sampling. Purging was completed by bailing three to five well volumes of water from the well, until pH, conductivity, dissolved oxygen, and turbidity stabilized to within 10%, 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 a turbidity tube 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, Dated June 2011) and MECI's Standard Operating Procedures (MECI SOP, Dated February 2012). Groundwater samples obtained were sent to Shealy Environmental Services, Inc. of West Columbia, SC (SCDHEC Laboratory Certification #32010) for analysis.

The following sampling matrix contains well development and requested analyses for each well:

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Filtered Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)
					Analyte Sampled									
IGWA-R	X				X	X	X	X	X					
MW-1			X											
MW-2		X			X	X	X	X	X					
MW-3			X											
MW-4		X			X	X	X	X	X					
MW-5		X			X	X	X	X	X					
MW-6		X			X	X	X	X	X					
MW-7		X			X	X	X	X	X					
MW-8		X			X	X	X	X	X					
MW-9				X										
MW-10		X			X	X	X	X	X					
MW-11		X			X	X	X	X	X					
MW-14		X			X	X	X	X	X					
MW-15	X				X	X	X	X	X					
Notes: BTEX = benzene, toluene, ethylbenzene, & total xylenes MTBE=methyl tertiary butyl ether 1,2 DCA = 1,2 dicloroethane PAH = polycyclic aromatic hydrocarbons														

Monitoring Well	Purge	No Purge	Gauge Only	Not Located	BTEX, Naphthalene, MTBE (EPA Method 8260-B)	EDB (EPA Method 8011)	1,2 DCA (EPA Method 8260-B)	8 Oxygenates (EPA Method 8260-B)	Total Lead (EPA Method 6010)	Filtered Lead (EPA Method 6010)	Sulfate (EPA Method 375.2)	Nitrate (EPA Method 335.2)	Methane (RSK Method)	PAH's (EPA Method 8270)
					Analyte Sampled									
MW-16	X				X	X	X	X	X					
MW-17	X				X	X	X	X	X					
MW-18	X				X	X	X	X	X					
TW-1	X				X	X	X	X	X					
TW-2	X				X	X	X	X	X					
**MW-5 Duplicate					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 30.5 gallons of purge water was disposed of in this manner. A disposal manifest for the referenced purge water is presented in Appendix G.

3.4 INFLOW PERMEABILITY TESTS

An inflow permeability test was performed on monitoring well TW-2 on June 26, 2012 to estimate the hydraulic conductivity of the formation materials exposed to the well screen at that location. Inflow test methodology and calculations are included in Appendix C.

3.5 SITE SURVEY

Following the well installation, a comprehensive survey was conducted by Construction Support Services of Columbia, SC (Jay S. Joshi PLS# 14811) dated June 25, 2012 to locate the vertical and horizontal positions of the monitoring wells and relevant structures. A signed/stamped copy of the comprehensive survey is attached in Appendix A. See Table 2 and Figure 5 for monitoring well elevation data.

4.0 AREA GEOLOGY AND HYDROGEOLOGY

The project site is located in the Atlantic Coastal Plain Physiographic Province. The soils in this province are generally interbedded silts, sands and clays that have been deposited during successive advances and retreats of the ocean over the past several million years. This interbedding can cause perched water and makes hydrogeological interpretation difficult.

In this geologic setting, the uppermost aquifer is the surficial aquifer of sands with lenses and layers of clays and silts. Water occupies the interstices between the formation particles and is in hydrostatic balance with the atmosphere at the water table surface.

Local precipitation is the source of freshwater recharge to the Coastal Plain formations. Groundwater recharge varies considerably over the region and is attributed to the differences in precipitation and to the variability in the infiltration rates.

Coastal Plain formations generally dip toward the Atlantic Ocean. Consequently, regional groundwater movement is to the southeast. On a regional scale, hydraulic gradients are relatively low.

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 northeast towards Twomile Creek.

4.1 LOCAL SUBSURFACE CONDITIONS

Coastal plain sediments were encountered during drilling activities conducted at the site. The soils encountered in our borings generally consisted silty and clayey fine to medium grained sands. Test Boring Records, which depict the materials encountered in each boring, are located in Appendix E.

On June 26, 2012, stabilized groundwater levels were measured in the monitoring wells. Depth to groundwater ranged from 12.41 to 14.65 feet below top of casing in the wells measured. The groundwater measurements are summarized in tabular form in Table 2 and on Figure 5. Groundwater levels may fluctuate several feet with seasonal and rainfall variations and with change in the water level of adjacent drainage features. Normally, the highest groundwater levels occur in late winter and spring. The lowest levels occur in late summer and fall.

The above descriptions provide a general summary of the subsurface conditions encountered. The attached Test Boring Records (Appendix E) contain detailed information recorded at each new monitoring well location. The Test Boring Records represent our interpretation of the field logs based on examination of the field samples. The lines designating the interfaces between various strata represent approximate boundaries, and the transition between strata may be gradational.

5.0 TEST RESULTS AND EVALUATION

The following sections discuss groundwater test results for the subject site.

5.1 GROUNDWATER ANALYTICAL RESULTS

As discussed in section 3.3, groundwater samples obtained from the monitoring well network were analyzed for dissolved phase petroleum constituents. Monitoring wells MW-1 and MW-3 were gauged and contained free phase petroleum product. Monitoring well MW-1 contained 0.02 feet and MW-3 contained 0.01 feet of free phase petroleum product. The analytical results indicate petroleum impact to the surficial aquifer, with the highest dissolved concentrations being detected in the area south of the former UST's. Dissolved total BTEX concentrations were detected at levels ranging from below detection limits (BDL) to 49,600 micrograms per liter in monitoring well MW-4. Dissolved Naphthalene concentrations were detected at levels ranging from below detection limits

(BDL) to 1,100 micrograms per liter in monitoring well MW-4. Dissolved MTBE concentrations were detected at levels ranging from below detection limits (BDL) to 1,100 micrograms per liter in monitoring well MW-2. Dissolved EDB concentrations were detected at levels ranging from below detection limits (BDL) to 65 ug/l in monitoring well MW-2. The results of the laboratory analyses are summarized in Table 3 & 3A, and presented in the attached Appendix B.

5.2 HYDRAULIC CONDUCTIVITY

Hydraulic gradient at the site was determined to be 2.66×10^{-3} ft/ft in the local aquifer based on data recorded during field testing. The hydraulic conductivity for TW-2 was 3.46×10^{-4} cm/sec. The test results are as follows:

Well Number	Type of Material Exposed to Screened Interval	Hydraulic Conductivity (K) (cm/sec)
TW-2	Clayey SAND	3.46×10^{-4}
Notes: Field tests were reduced and the hydraulic conductivities computed using Techniques described in NAVFAC Soil Mechanics Design Manual 7.1, May, 1982 TW-2 Condition C		

5.3 GROUNDWATER MOVEMENT

Groundwater movement is often related to topography, lithology, and elevation of recharge and discharge areas and man-made influences. Referenced groundwater elevations were determined by measuring the top of the monitoring well casing relative to a nearby datum elevation (see Figure 2) measuring the water level in the monitoring well, and computing the reference elevation of the groundwater at the time of measurement. Groundwater levels typically fluctuate with seasonal and rainfall variations.

Directions of groundwater flow were interpolated between monitoring wells by comparing the groundwater elevations at those locations considering the factors listed above. Locally, in the surficial aquifer, groundwater discharges into streams, lakes or springs where the groundwater table intersects lows occupied by these water bodies.

Groundwater elevation data from the June 26, 2012 gauging event was plotted and a groundwater contour map of the surficial aquifer was prepared. The data used to prepare the groundwater contour map (groundwater elevations in site monitoring wells) are summarized on Figure 5.

The average hydraulic gradient at the site was computed to be approximately 2.66×10^{-3} ft/ft for the “deep zone” aquifer. In addition to hydraulic gradients (i), the rates of groundwater movement (v) are a function of hydraulic conductivity (k) and effective porosity (ne), as indicated by the equation $v = ki/ne$. The effective porosity can be expected to be approximately twenty-five percent for Clayey SAND. Based on those parameters, the average lateral groundwater movement in the “deep zone” aquifer at the site can be expected to be approximately 3.82 feet per year. The rate of migration of the dissolved organic constituent(s), however, may be substantially slower than groundwater itself, due to retardation (Freeze and Cherry, 1979, pp. 402-408) and intrinsic aerobic biodegradation (Bucheck et. al., 1993). The hydraulic gradient and groundwater velocity calculations are provided in Appendix F.

6.0 ASSESSMENT SUMMARY & RECOMMENDATIONS

Based on the results of our assessment activities, it appears that impact to the surficial aquifer has occurred due to a release of petroleum hydrocarbons. The highest concentrations of dissolved phase contaminants are located in the area south of the former UST's. Groundwater appears to be moving in a northeastern direction towards Twomile Creek.

Monitoring well MW-1 contained 0.02 feet and MW-3 contained 0.01 feet of free phase petroleum product. Dissolved total BTEX concentrations were detected at levels ranging from below detection limits (BDL) to 49,600 micrograms per liter in monitoring well MW-4. Dissolved Naphthalene concentrations were detected at levels ranging from below detection limits (BDL) to 1,100 micrograms per liter in monitoring well MW-4. Dissolved MTBE concentrations were detected at levels ranging from below detection limits (BDL) to 1,100 micrograms per liter in monitoring well MW-2. Dissolved EDB concentrations were detected at levels ranging from below detection limits (BDL) to 65 ug/l in monitoring well MW-2. Analytical data is presented on Table 3 & 3A and in the attached Appendix B.

Figure 4 depicts graphically the concentrations of Total BTEX in the monitoring wells which bracket the watertable at the site. Figure 4A depicts graphically the concentrations of Naphthalene in the monitoring wells which bracket the watertable at the subject site. Figure 4B depicts graphically the concentrations of EDB in the monitoring wells which bracket the watertable at the subject site. Figure 4C presents the 8-Oxygenates in the groundwater at the subject site. MTBE concentrations were isolated to monitoring well MW-2 and an isopleth map was not produced.

Analytical results indicate that the contaminant plume is not currently defined. Additional assessment is required to define the extent of the dissolved phase contaminants to the northeast, north, and northwest. MECI recommends that a series of AFVR events be conducted to remove free phase petroleum product and to reduce dissolved CoC concentrations in the areas of monitoring wells MW-1, MW-2, MW-3 and MW-4.

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 SCDHEC under mutually agreed upon terms and conditions. If other parties wish to rely on this report please contact MECI prior to their use of this information so that a mutual understanding and agreement of the terms and conditions of our services can be established.

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TABLE 1
SOIL ANALYTICAL RESULTS
SITE NAME
SITE LOCATION, SOUTH CAROLINA
MECI PROJECT NUMBER ##-####
SCDHEC SITE ID NUMBER #####

Boring Number	Sample Date	Depth (feet BGS)	Benzene (µg/kg)	Toluene (µg/kg)	Ethylbenzene (µg/kg)	Total Xylenes (µg/kg)	MTBE (µg/kg)	Naphthalene (µg/kg)
---------------	-------------	------------------	-----------------	-----------------	----------------------	-----------------------	--------------	---------------------

Soil Samples for chemical analysis were not obtained during this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler table is included to provide report continuity.

Notes:	1. BGS = Below Ground Surface 2. µg/kg = micrograms per kilogram	3. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).	4. Soil Samples collected from discrete split samples during installation of Monitoring wells.
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Notes:	1. BGS = Below Ground Surface 2. µg/kg = micrograms per kilogram	3. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).	4. Soil Samples collected from discrete split samples during installation of Monitoring wells.
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Notes:	1. BGS = Below Ground Surface 2. µg/kg = micrograms per kilogram	3. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).	4. Soil Samples collected from discrete split samples during installation of Monitoring wells.
--------	---	--	--

Notes:	1. BGS = Below Ground Surface 2. µg/kg = micrograms per kilogram	3. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).	4. Soil Samples collected from discrete split samples during installation of Monitoring wells.
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**TABLE 2
JUNE 26, 2012 SAMPLING EVENT
POTENTIOMETRIC DATA
COASTAL 76 TRUCK STOP
FLORENCE, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3980
SCDHEC SITE ID NUMBER 03538**

Well Number	Sample Date	Screened Interval	Depth to Product (feet)	Depth to Water (feet)	Product Thickness (feet)	Well-head Elevation	Groundwater Elevation
IGWA'R'	6/26/2012	11-21	***	14.10	***	100.84	86.74
MW-1	6/26/2012	TD: 17.80	14.70	14.72	0.02	101.48	86.78
MW-2	6/26/2012	TD: 18.30	***	14.04	***	100.81	86.77
MW-3	6/26/2012	TD: 18.20	14.19	14.20	0.01	101.09	86.90
MW-4	6/26/2012	TD: 18.35	***	14.35	***	101.13	86.78
MW-5	6/26/2012	8.29-18.29	***	13.90	***	100.71	86.81
MW-6	6/26/2012	8.29-18.29	***	14.65	***	101.65	87.00
MW-7	6/26/2012	8.38-18.38	***	13.45	***	100.23	86.78
MW-8	6/26/2012	8.29-18.29	***	12.62	***	99.40	86.78
MW-9	6/26/2012	8.33-18.33	***	NL	***	NL	NL
MW-10	6/26/2012	TD: 18.25	***	12.41	***	99.44	87.03
MW-11	6/26/2012	8.42-18.42	***	14.39	***	101.25	86.86
MW-14	6/26/2012	8.29-18.29	***	13.42	***	99.96	86.54
MW-15	6/26/2012	10-20	***	12.78	***	99.19	86.41
MW-16	6/26/2012	11-21	***	13.43	***	99.94	86.51
MW-17	6/26/2012	11-21	***	13.96	***	100.64	86.68
MW-18	6/26/2012	11-21	***	14.44	***	101.38	86.94
TW-1	6/26/2012	31-36	***	14.65	***	101.17	86.52
TW-2	6/26/2012	31-36	***	13.95	***	99.65	85.70

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 6/26/2012.
4. NL = Not Located
5. TD = Total Depth
6. Groundwater elevation for MW-1 and MW-3 corrected for the presence of free phase petroleum product using a specific gravity for fuel of 0.85.

**TABLE 3
GROUNDWATER ANALYTICAL RESULTS
JUNE 26, 2012 SAMPLING EVENT
COASTAL 76 TRUCK STOP
FLORENCE, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3980
SCDHEC ID NUMBER 03538**

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)	Total Lead (ug/l)
IGWA'R'	6/26/12	130	790	180	980	2,080	160	<25	<25	0.71	0.0090J
MW-1	6/26/12	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2	6/26/12	9,800	17,000	1,300	11,000	39,100	370	1,100	240J	65	0.39
MW-3	6/26/12	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-4	6/26/12	8,500	22,000	2,100	17,000	49,600	1,100	<500	<500	14	0.44
MW-5	6/26/12	810	7,400	1,500	10,000	19,710	770	<200	<200	0.86	0.031
MW-6	6/26/12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.0097J
MW-7	6/26/12	390	3,000	1,700	7,500	12,590	600	<200	<200	0.063P	0.025
MW-8	6/26/12	<5.0	<5.0	6.9	29	35.9	20	<5.0	<5.0	<0.021	0.020
MW-9	6/26/12	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-10	6/26/12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.011
MW-11	6/26/12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.019
MW-14	6/26/12	13	16	73	49	151	46	<5.0	<5.0	<0.019	0.0030J
MW-15	6/26/12	92	280	140	380	892	67	<25	<25	0.050	0.0086J
MW-16	6/26/12	180	580	83	380	1,223	39	5.4J	<25	0.59	0.016
MW-17	6/26/12	880	1,500	1,500	5,700	9,580	980	20J	<100	2.8	0.035
MW-18	6/26/12	<5.0	<5.0	<5.0	14	14	<5.0	<5.0	<5.0	<0.020	0.011
TW-1	6/26/12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.0034BJ
TW-2	6/26/12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.011B
MW-5 (Duplicate)	6/26/12	990	9,100	1,600	11,000	22,690	570	<5.0	19	0.90	0.043B
Field Blank	6/26/12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	NT
Trp Blank	6/26/12	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT	NT

Notes:

1. BDL = Below Practical Quantitative Limits	6. NL = Not Located
2. ug/l = micrograms per liter	7. NT = Not Tested
3. MTBE = Methyl-Tertiary-Butyl Ether	8. PROD = Free Phase Petroleum Product
4. 1,2 DCA = 1,2-Dichloroethane	9. B = Detected in Method Blank
5. EDB = 1,2 - Dibromoethane	10. "J" Values Included in Total BTEX Calculations.

11. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).
12. "P" indicates the Relative Percent Difference (RPD) is greater than 40% between the two Gas Chromatograph columns.

TABLE 3A
GROUNDWATER ANALYTICAL RESULTS (OXYGENATES)
JUNE 26, 2012 SAMPLING EVENT
COASTAL 76 TRUCK STOP
FLORENCE, SOUTH CAROLINA
MECI PROJECT NUMBER 12-3980
SCDHEC SITE ID NUMBER 03538

Well Number	Sample Date	DIPE (µg/l)	Ethanol (µg/l)	3,3-Dimethyl-1-butanol (µg/l)	ETBE (µg/l)	TAA (µg/l)	TAME (µg/l)	TBA (µg/l)	TBF (µg/l)
IGWA'R'	6/26/12	<50	<5,000	<500	<500	460J	<50	<500	<500
MW-1	6/26/12	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2	6/26/12	<500	<50,000	<5,000	<5,000	16,000	15J	570J	<5,000
MW-3	6/26/12	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-4	6/26/12	<1,000	<100,000	<10,000	<10,000	10,000	<1,000	<10,000	<10,000
MW-5	6/26/12	<400	<40,000	<4,000	<4,000	700J	<400	<4,000	<4,000
MW-6	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-7	6/26/12	<400	<40,000	<4,000	<4,000	390J	<400	<4,000	<4,000
MW-8	6/26/12	<10	<1,000	<100	<100	41J	<10	130	<100
MW-9	6/26/12	NL	NL	NL	NL	NL	NL	NL	NL
MW-10	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-11	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-14	6/26/12	<10	<1,000	<100	<100	39J	<10	25J	<100
MW-15	6/26/12	<50	<5,000	<500	<500	140J	<50	<500	<500
MW-16	6/26/12	<50	<5,000	<500	<500	380J	<50	<500	<500
MW-17	6/26/12	<200	<20,000	<2,000	<2,000	2,300	<200	<2,000	<2,000
MW-18	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100
TW-1	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100
TW-2	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-5 (Duplicate)	6/26/12	<10	<1,000	<100	<100	760J	<10	17J	<100
Field Blank	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100
Trip Blank	6/26/12	<10	<1,000	<100	<100	<100	<10	<100	<100

Notes:

1. ug/l = micrograms per liter
2. DIPE = Diisopropyl Ether
3. ETBE = Ethyl ter-butyl Ether
4. TAA = tert-Amyl Alcohol

5. TAME = tert-Amyl Methyl Ether
6. TBA = ter-Butyl Alcohol
7. TBF = tert-Butyl Formate
8. NL = Not Located

9. "J" values report concentrations above the method detection limits (MDL) and below actual reporting limit (RL).

SUMMARY of SLUG TEST (Page 1 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 03538 COUNTY Florence
FACILITY NAME Coastal Mart 76 Truck Stop

SLUG DATA

See Appendix _____ Table _____ Figure _____ for a list of all data measurements.
(water level logs, etc.)(Complete as appropriate).

Water Level Recovery Data was measured by ORS Interface Probe.
(Hermit Data Logger, Manually with Water Level Indicator, etc.)(List Method)

Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Slug Test Conducted in well(s) number
Initial Rise/Drawdown in well (feet)
Radius of well casing (feet)
Effective Radius of Well (feet)
Static Saturated Aquifer Thickness (feet)
Length of Well Screen (feet)
Static Height of Water Column in Well (ft)

TW-2			
3.17			
0.083			
0.33			
23.01			
5			
23.01			

Calculations

See Appendix _____ Table _____ Figure _____ for calculations

The method for aquifer calculations was NAVFAC

Calculated values by well were as follows:

Slug Test Conducted in Well(s) number

Hydraulic Conductivity

TW-2			
3.46E-04			

 cm/sec

Thickness of the aquifer used to calculate hydraulic conductivity was N/A feet.

The aquifer is _____ confined _____ semi-confined _____ water table (Check as Appropriate).

SEE SHEET 3

The estimated seepage velocity is 3.82 feet per year based on a hydraulic conductivity of
1.73E-04 cm/sec, a hydraulic gradient of 2.67E-03 ft/ft, and a porosity of 25
percent for Clayey SAND soil.

SUMMARY of SLUG TEST

Groundwater Seepage Velocity Calculations (Page 2 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 03538 COUNTY Florence
FACILITY NAME Coastal Mart 76 Truck Stop

Hydraulic Conductivity (average)

Hydraulic Conductivity Average = 3.46E-04 cm/sec
(TW-2)
9.81E-01 ft./day
6.81E-04 ft./min

Groundwater Seepage Velocity

$V = (Ki)/(Ne)$ * Enter Values in Shaded Areas Only
(ft./day)

where:

K = Hydraulic Conductivity (ft./day)
I = Hydraulic Gradient (ft./ft.)
Ne = Effective Permeability

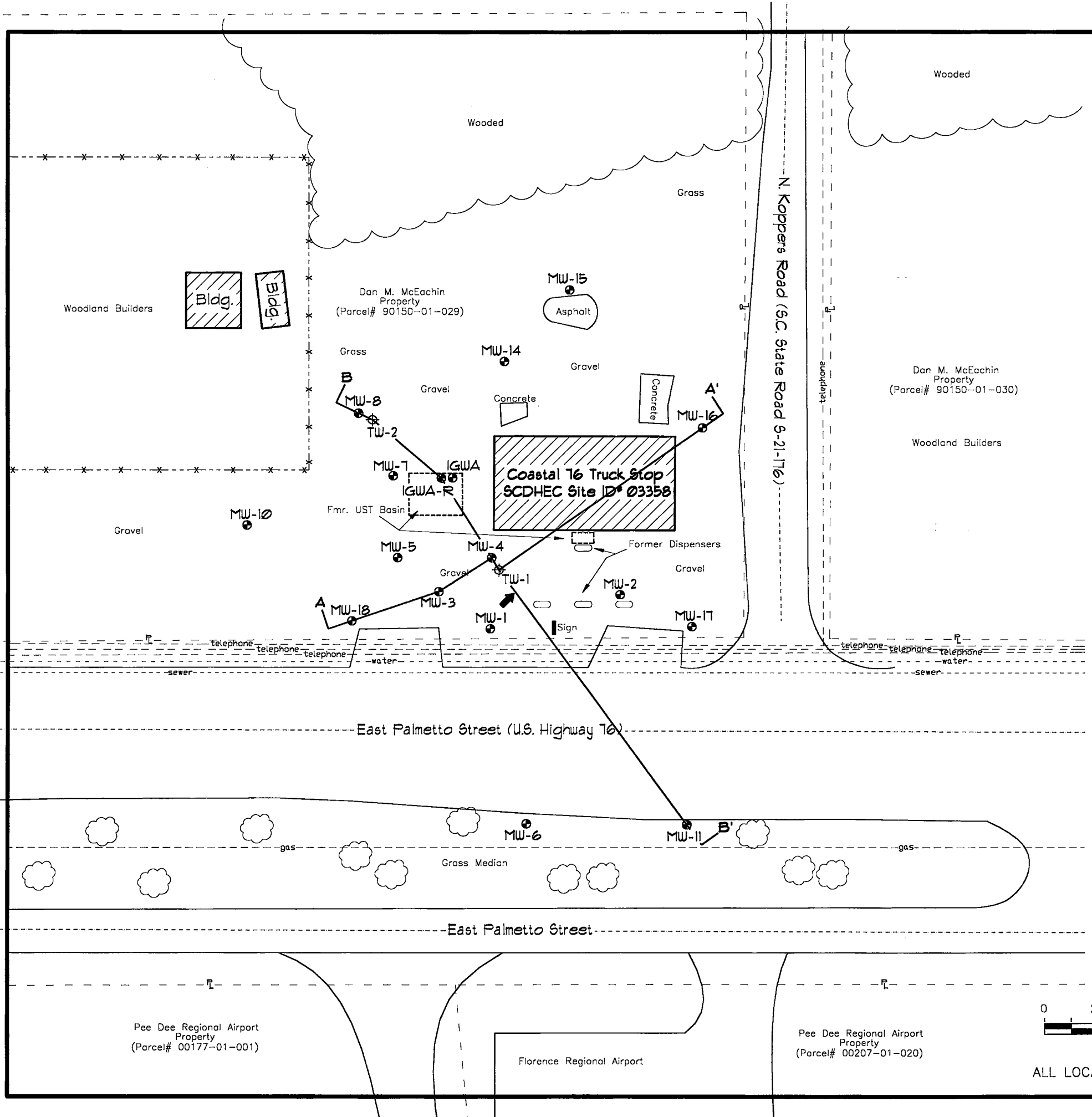
K = 9.81E-01 ft./day
I = 2.67E-03 ft./ft.
Ne = 0.25

V = 1.0E-02 ft./day 3.82 ft./year

Groundwater Seepage Velocity Calculations

TABLE 5
SITE CONCEPTUAL MODEL AND POSSIBLE EXPOSURE POINTS
(CURRENT LAND USE)

Potentially Exposed Population	Exposure Route, Medium, and Exposure Point	Pathway Selected for Evaluation?	Reason for Selection or Nonselection
Off-site Resident	Ingestion of groundwater from impacted water well Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors Dermal contact with surface water		<u>A Site Conceptual Model was not required as part of this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler table is included to provide report continuity.</u>
On-site Resident	Ingestion of groundwater Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors		
Worker	Ingestion of ground water Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors		
Visitor	Ingestion of ground water Direct contact with surface soil Inhalation while showering Dermal contact while showering Inhalation of volatiles Ignition of vapors Dermal contact with surface water		



Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Property Line
- Buried Gas Line
- Buried Water Line
- Buried Sewer
- Buried Telephone
- Fence
- Geologic Cross Section (Refer to Figures 6A & 6B)

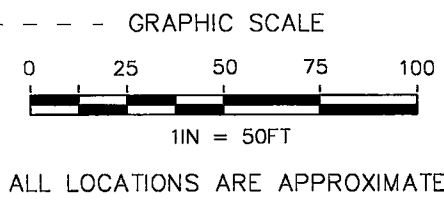
Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated June 25, 2012.

Site Base Map

Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03358

Midlands Environmental Consultants, Inc.

JOB NO. 12-3980
DATE July 17, 2012
FIGURE 2



Soil Samples for chemical analysis were not obtained during this assessment. In order to conform with formatting guidelines provided by the SCDHEC UST Management Division Programmatic Quality Assurance Program Plan (QAPP), this filler Figure is included to provide report continuity.

 Midlands Environmental Consultants, Inc.	Soil CoC Site Map
Site Name Site Location, South Carolina SCDHEC Site ID: ****	
Figure 3	MECI #_****

Explanation:

- Location of Watertable Bracketing Monitoring Well
- Estimated Groundwater Flow Direction
- Location of Double Cased "Deep" Monitoring Well
- Estimated Location of Removed Underground 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)	Total Lead (mg/l)
IGWA-R	130	790	180	980	2,080	160	<25	<25	0.71	0.0090J
MW-1	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2	9,800	17,000	1,300	11,000	39,100	370	1,100	240J	65	0.39
MW-3	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-4	8,500	22,000	2,100	17,000	49,600	1,100	<500	<500	14	0.44
MW-5	810	7,400	1,500	10,000	19,710	770	<200	<200	0.86	0.031
MW-6	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.0097J
MW-7	390	3,000	1,700	7,500	12,590	600	<200	<200	0.063P	0.025
MW-8	<5.0	<5.0	6.9	29	35.9	20	<5.0	<5.0	<0.021	0.020
MW-9	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-10	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.011
MW-11	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.019
MW-14	13	16	73	49	151	46	<5.0	<5.0	<0.019	0.0030J
MW-15	92	280	140	380	892	67	<25	<25	0.050	0.0086J
MW-16	180	580	83	380	1,223	39	5.4J	<25	0.59	0.016
MW-17	880	1,500	1,500	5,700	9,580	980	20J	<100	2.8	0.035
MW-18	<5.0	<5.0	<5.0	14	14	<5.0	<5.0	<5.0	<0.020	0.011
TW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.0034BJ
TW-2	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.011B
MW-5 (Duplicate)	990	9,100	1,600	11,000	22,690	570	<5.0	19	0.90	0.043B
Field Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	NT
Trip Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT	NT

Notes: Groundwater samples collected on June 26, 2012.
Isopleth Interval = 20,000 ug/l
BDL = Below Detection Limits
PROD = Free Phase Petroleum Product Detected
NL = Not Located
"J" Values included in Total BTEX Calculations
"Deep" monitoring wells TW-1 and TW-2 not used in Isopleth creation.
Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

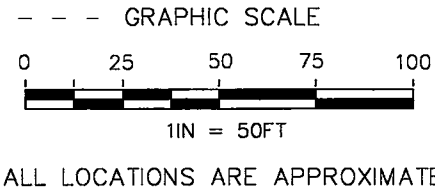
Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated June 25, 2012.

Groundwater CoC Site Map (Total BTEX Isopleth)

Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03538

Midlands Environmental Consultants, Inc.

JOB NO. 12-3980
DATE July 17, 2012
FIGURE 4



Explanation:

- Location of Watertable Bracketing Monitoring Well
- ⊕ Location of Double Cased "Deep" Monitoring Well
- ↑ Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Naphthalene Concentration Isopleth (ug/l)

Groundwater COC Concentration Data

Sample #	Benzene (ug/l)	Toluene (ug/l)	Ethylbenzene (ug/l)	Total Xylenes (ug/l)	Total BTEX (ug/l)	Naphthalene (ug/l)	MTBE (ug/l)	1,2 DCA (ug/l)	EDB (ug/l)	Total Lead (mg/l)
IGWA-R	130	790	180	980	2,080	160	<25	<25	0.71	0.0090J
MW-1	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2	9,800	17,000	1,300	11,000	39,100	370	1,100	240J	65	0.39
MW-3	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-4	8,500	22,000	2,100	17,000	49,600	1,100	<500	<500	14	0.44
MW-5	810	7,400	1,500	10,000	19,710	770	<200	<200	0.86	0.031
MW-6	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.0097J
MW-7	390	3,000	1,700	7,500	12,590	600	<200	<200	0.063P	0.025
MW-8	<5.0	<5.0	6.9	29	35.9	20	<5.0	<5.0	<0.021	0.020
MW-9	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-10	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.011
MW-11	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.019
MW-14	13	16	73	49	151	46	<5.0	<5.0	<0.019	0.0030J
MW-15	92	280	140	380	892	67	<25	<25	0.050	0.0086J
MW-16	180	580	83	380	1,223	39	5.4J	<25	0.59	0.016
MW-17	880	1,500	1,500	5,700	9,580	980	20J	<100	2.8	0.035
MW-18	<5.0	<5.0	<5.0	14	14	<5.0	<5.0	<5.0	<0.020	0.011
TW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.0034BJ
TW-2	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.011B
MW-5 (Duplicate)	990	9,100	1,600	11,000	22,690	570	<5.0	19	0.90	0.043B
Field Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	NT
Trip Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT	NT

Notes: Groundwater samples collected on June 26, 2012.

Isopleth Interval = 400 ug/l

BDL = Below Detection Limits

PROD = Free Phase Petroleum Product Detected

NL = Not Located

"J" Values included in Total BTEX Calculations

"Deep" monitoring wells TW-1 and TW-2 not used in isopleth creation.

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated June 25, 2012.

Groundwater CoC Site Map (Naphthalene Isopleth)

Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03538

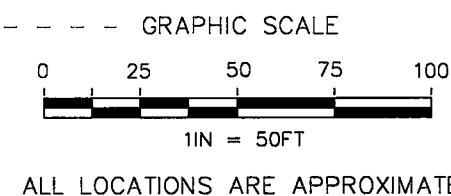
Midlands
Environmental
Consultants, Inc.

JOB NO. 12-3980

DATE July 17, 2012

FIGURE

4A



Explanation:

- Location of Watertable Bracketing Monitoring Well
- Location of Double Cased "Deep" Monitoring Well
- Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- EDB 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)	Total Lead (mg/l)
IGWA-R	130	790	180	980	2,080	160	<25	<25	0.71	0.0090J
MW-1	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2	9,800	17,000	1,300	11,000	39,100	370	1,100	240J	65	0.39
MW-3	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-4	8,500	22,000	2,100	17,000	49,600	1,100	<500	<500	14	0.44
MW-5	810	7,400	1,500	10,000	19,710	770	<200	<200	0.86	0.031
MW-6	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.0097J
MW-7	390	3,000	1,700	7,500	12,590	600	<200	<200	0.063P	0.025
MW-8	<5.0	<5.0	6.9	29	35.9	20	<5.0	<5.0	<0.021	0.020
MW-9	NL	NL	NL	NL	NL	NL	NL	NL	NL	NL
MW-10	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	0.011
MW-11	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.019
MW-14	13	16	73	49	151	46	<5.0	<5.0	<0.019	0.0030J
MW-15	92	280	140	380	892	67	<25	<25	0.050	0.0086J
MW-16	180	580	83	380	1,223	39	5.4J	<25	0.59	0.016
MW-17	880	1,500	1,500	5,700	9,580	980	20J	<100	2.8	0.035
MW-18	<5.0	<5.0	<5.0	14	14	<5.0	<5.0	<5.0	<0.020	0.011
TW-1	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.0034BJ
TW-2	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.020	0.011B
MW-5 (Duplicate)	990	9,100	1,600	11,000	22,690	570	<5.0	19	0.90	0.043B
Field Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	<0.019	NT
Trip Blank	<5.0	<5.0	<5.0	<5.0	BDL	<5.0	<5.0	<5.0	NT	NT

Notes: Groundwater samples collected on June 26, 2012.

Isopleth Interval = 25 ug/l

BDL = Below Detection Limits

PROD = Free Phase Petroleum Product Detected

NL = Not Located

"J" Values included in Total BTEX Calculations

"Deep" monitoring wells TW-1 and TW-2 not used in isopleth creation.

Isopleths Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

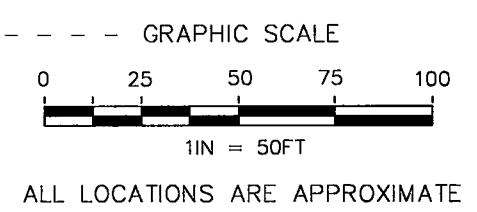
Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated June 25, 2012.

Groundwater CoC Site Map (EDB Isopleth)

Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03538

Midlands Environmental Consultants, Inc.

JOB NO. 12-3980
DATE July 17, 2012
FIGURE 4B



Explanation:

- Location of Watertable Bracketing Monitoring Well
- ⊕
- Location of Double Cased "Deep" Monitoring Well

↑

Estimated Groundwater Flow Direction

□

Estimated Location of Removed Underground Storage Tanks

Groundwater COC Concentration Data - Oxygenates

Sample #	DIPE (ug/l)	Ethanol (ug/l)	3,3-Dimethyl-1-butanol (ug/l)	ETBE (ug/l)	TAA (ug/l)	TAME (ug/l)	TBA (ug/l)	TBF (ug/l)
IGWA'R	<50	<5,000	<500	<500	460J	<50	<500	<500
MW-1	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-2	<500	<50,000	<5,000	<5,000	16,000	15J	570J	<5,000
MW-3	PROD	PROD	PROD	PROD	PROD	PROD	PROD	PROD
MW-4	<1,000	<100,000	<10,000	<10,000	10,000	<1,000	<10,000	<10,000
MW-5	<400	<40,000	<4,000	<4,000	700J	<400	<4,000	<4,000
MW-6	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-7	<400	<40,000	<4,000	<4,000	390J	<400	<4,000	<4,000
MW-8	<10	<1,000	<100	<100	41J	<10	130	<100
MW-9	NL	NL	NL	NL	NL	NL	NL	NL
MW-10	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-11	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-14	<10	<1,000	<100	<100	39J	<10	25J	<100
MW-15	<50	<5,000	<500	<500	140J	<50	<500	<500
MW-16	<50	<5,000	<500	<500	380J	<50	<500	<500
MW-17	<200	<20,000	<2,000	<2,000	2,300	<200	<2,000	<2,000
MW-18	<10	<1,000	<100	<100	<100	<10	<100	<100
TW-1	<10	<1,000	<100	<100	<100	<10	<100	<100
TW-2	<10	<1,000	<100	<100	<100	<10	<100	<100
MW-5 (Duplicate)	<10	<1,000	<100	<100	760J	<10	17J	<100
Field Blank	<10	<1,000	<100	<100	<100	<10	<100	<100
Trip Blank	<10	<1,000	<100	<100	<100	<10	<100	<100

Notes: Groundwater samples collected on June 26, 2012.
PROD = Free Phase Petroleum Product Detected
NL = Not Located
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 MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated June 25, 2012.

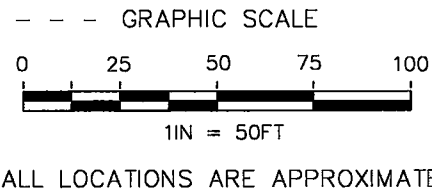
Groundwater CoC Site Map
(Oxygenates)

Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03538

Midlands
Environmental
Consultants, Inc.

JOB NO. 12-3980
DATE July 17, 2012
FIGURE

4C

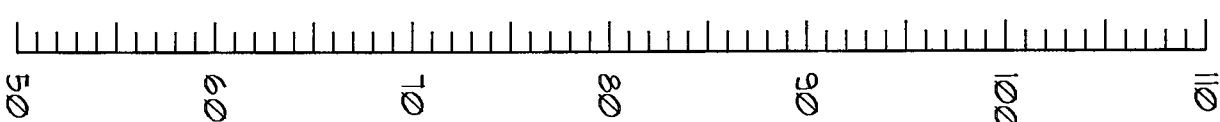
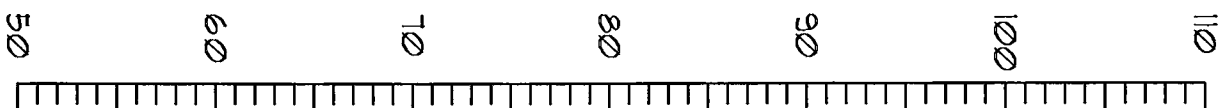


Elevation
Feet

A

A'

Elevation
Feet



MW-18

MW-3

MW-4 TW-1

MW-16

Free Phase Product
Thickness=0.01 Feet

Not Sampled

14

<0.020

49,600

1,100

14

BDL
<0.020

1,223

39

0.59

Approximate Extent of
Dissolved Phase Hydrocarbons

Explanation:

- SAND
- SANDY CLAY
- Clayey SAND
- SANDY SILT

Profile

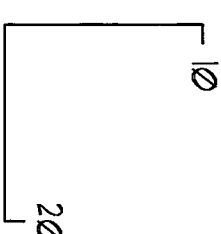
Screened
Interval

Groundwater
Elevation
6/26/2012

- 40,000 Total BTEX Concentration (ug/l)
- 40,000 Naphthalene Concentration (ug/l)
- 40,000 EDB Concentration (ug/l)

BDL = Below Detection Limits

Scale in Feet



Geologic Cross Section A - A'

Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03538

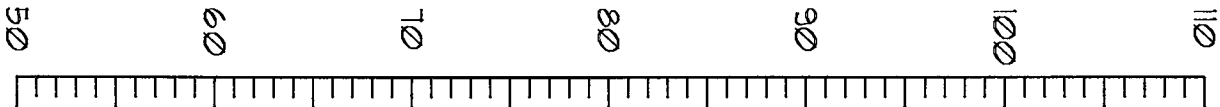
Midlands
Environmental
Consultants, Inc.

JOB NO. 12-3890
DATE July 17, 2012
FIGURE

6A

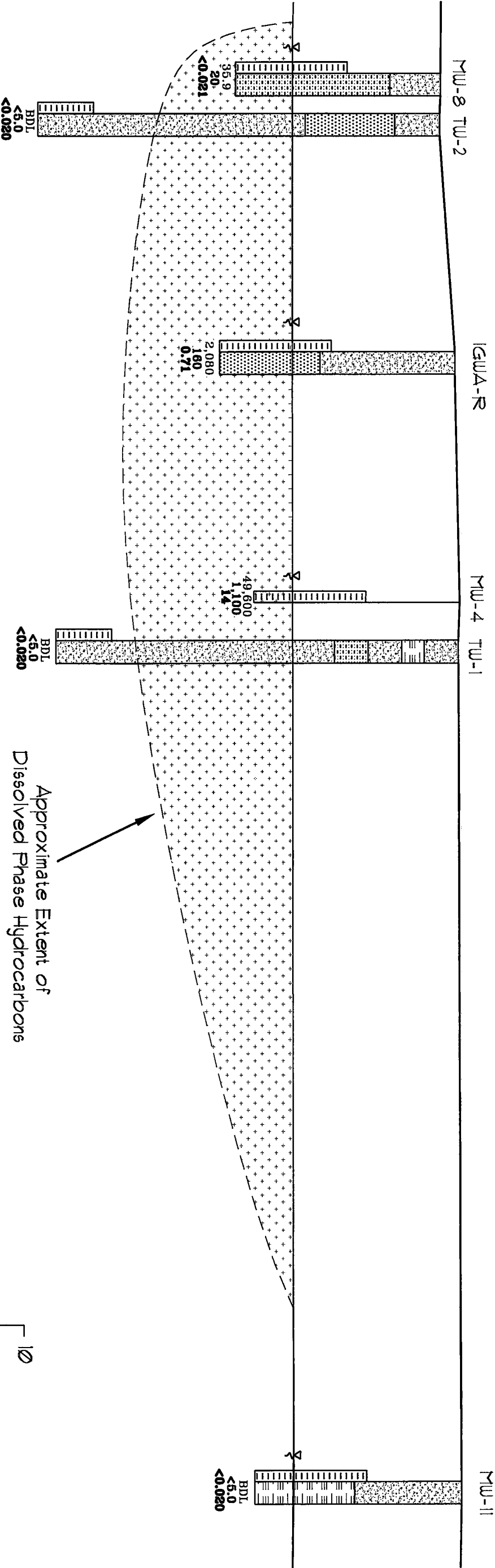
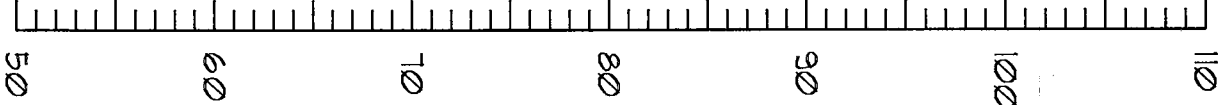
B

Elevation
Feet



B'

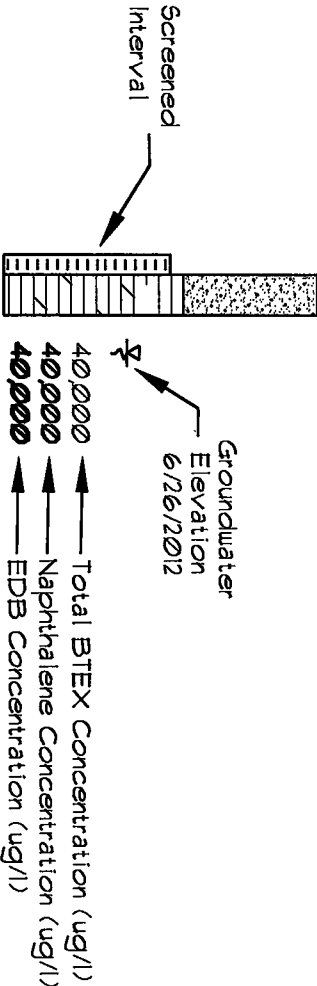
Elevation
Feet



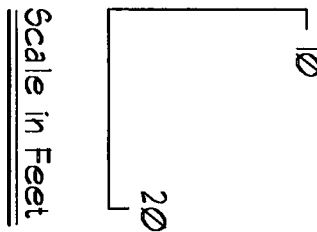
Approximate Extent of
Dissolved Phase Hydrocarbons

Profile

- Explanation:
- SAND
 - SANDY CLAY
 - Clayey SAND
 - SANDY SILT



BDL = Below Detection Limits



Geologic Cross Section B - B'

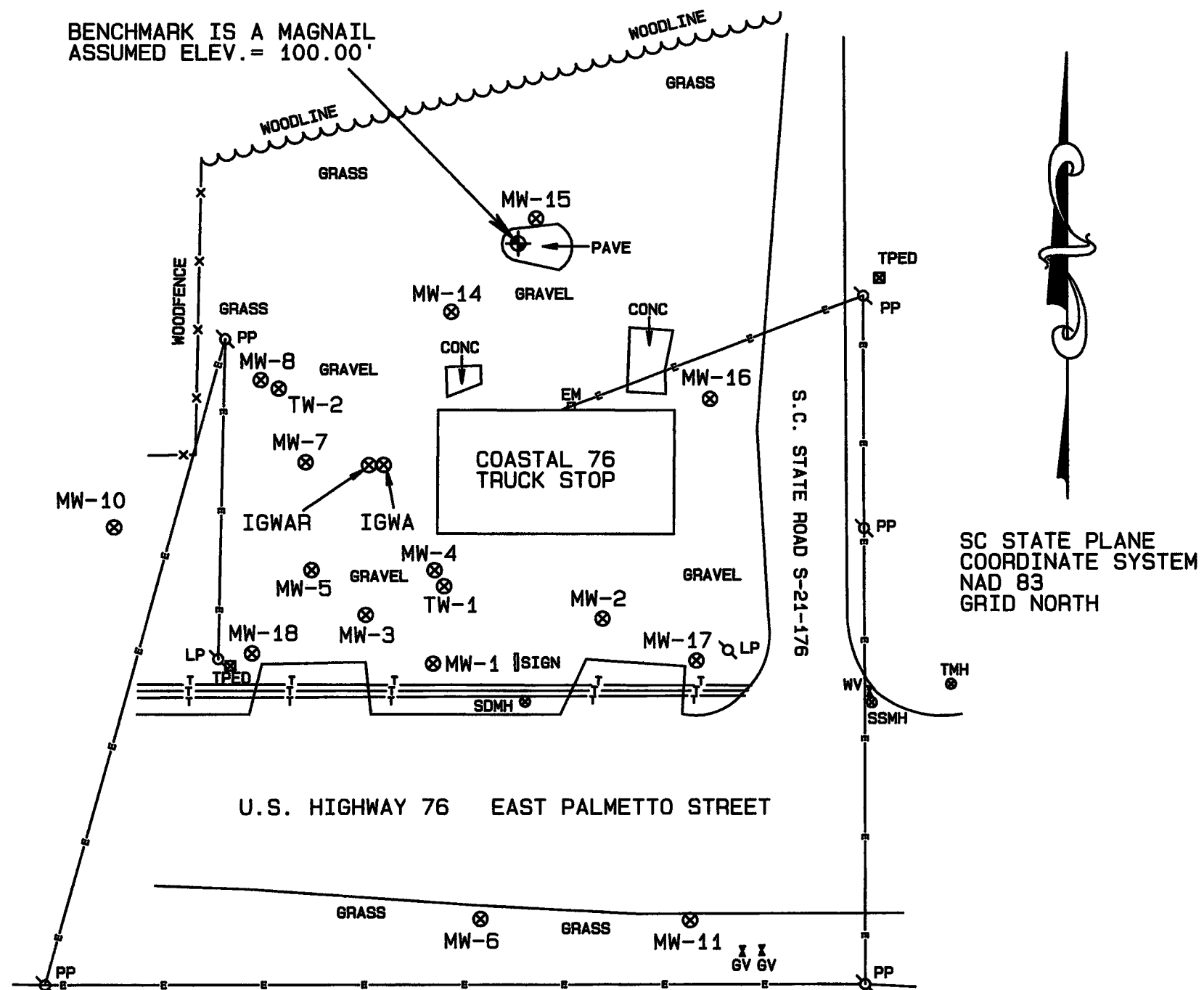
Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03538

Midlands
Environmental
Consultants, Inc.

JOB NO. 12-3890
DATE July 17, 2012
FIGURE 6B

APPENDIX A:

SITE SURVEY



MONITOR WELLS		
WELL	TOL ELEV.	TOC ELEV.
IGWA	101.26	100.86
IGWAR	101.22	100.84
MW-1	101.81	101.48
MW-2	101.31	100.81
MW-3	101.64	101.09
MW-4	101.66	101.13
MW-5	101.13	100.71
MW-6	102.05	101.65
MW-7	100.66	100.23
MW-8	99.94	99.40
MW-9	NOT FOUND	
MW-10	99.86	99.44
MW-11	101.80	101.25
MW-14	100.30	99.96
MW-15	99.67	99.19
MW-16	100.14	99.94
MW-17	101.08	100.64
MW-18	101.81	101.38
TW-1	101.53	101.17
TW-2	99.88	99.65

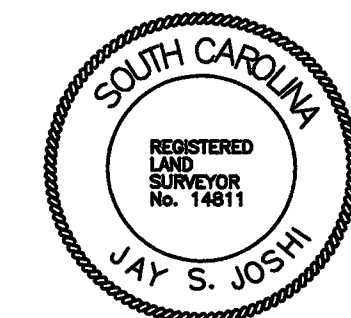
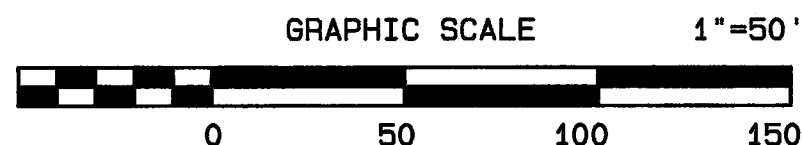
LEGEND AND ABBREVIATIONS:	
	MW = MONITORING WELL
	BM = BENCHMARK
	TPED = TELEPHONE PEDESTAL
	SDMH = STORM DRAIN MAN HOLE
	SSMH = SANITARY SEWER MAN HOLE
	TMH = TELEPHONE MAN HOLE
	EM = ELECTRIC METER
	WV = WATER VALVE
	PP = POWER POLE
	LP = LIGHT POLE
	GV = GAS VALVE
	SIGN = SIGN
	PAVE = ASPHALT PAVEMENT
	CONC = CONCRETE
	E = OVERHEAD POWER LINE
	T = UNDERGROUND TELEPHONE LINE
	WOOD LINE
	FENCE LINE

COMPREHENSIVE SITE SKETCH OF COASTAL 76 TRUCK STOP

2513 EAST PALMETTO STREET
FLORENCE, FLORENCE COUNTY, SC
SCDHEC SITE ID #03638
PREPARED FOR

MIDLANDS ENVIRONMENTAL CONSULTANTS, INC.

THIS PARCEL MAY BE SUBJECT
TO EASEMENT AND/OR
RIGHT-OF-WAYS NOT SHOWN.
FINAL RESULTS, CONCLUSIVE
OF TITLE SEARCH



NOTE:
NOT FOR THE PURPOSE
OF RECORDATION AT COUNTY,
COURTHOUSE OR THE CONVEYANCE
OF PROPERTY.



NOTE:
I HEREBY CERTIFY THAT THE
FIELD WORK, CALCULATIONS,
AND DRAFTING WERE DONE
UNDER MY DIRECT SUPERVISION.

Jay S. Joshi

JAY S. JOSHI PLS # 14811

P.O. BOX 90408, COLUMBIA, SC, 29290

DATE: JUNE 25, 2012

JOB #062512B

803-776-9909

APPENDIX B:
SAMPLING LOGS, LABORATORY DATA SHEETS, & CHAIN-OF-CUSTODY FORMS

**South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program
Field Data Information Sheet for Groundwater Sampling**

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

<u>Relinquished by</u>	<u>Date/Time</u>	<u>Received by</u>	<u>Date/Time</u>
------------------------	------------------	--------------------	------------------

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-1

Water Supply Well Public **Private**

Monitoring Well Diameter (D): 2 inches

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

*** Free Product Thickness:** 0.02 feet

Depth to Free Product (DFP) 14.70 feet

Depth to Ground Water (DGW) 14.72 feet

Total Well Depth (TWD) 17.80 feet

Length of the water column (LWC=TWD-DGW) 3.08 feet

1 casing volume (CV=LWC X C)= X 0.163 0.50 gallons

3 casing volume (3 X CV)= 3 1.51 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	N/S							
pH (s.u.)	PROD							
Specific Conductivity (µmhos/cm)	PROD							
Water Temperature (°C)	PROD							
Dissolved Oxygen	PROD							
Turbidity (NTU)	PROD							
PID readings, if required								

Remarks: Sample Time: **PROD = FREE PHASE PRODUCT DETECTED**
N/S = NOT SAMPLED

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
-----------------	-----------	-------------	-----------

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-2

Water Supply Well Public **Private**

Monitoring Well Diameter (D): 2 inches

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

for a 4 inch well C=0.652

*** Free Product Thickness:** _____ feet

Depth to Free Product (DFP) _____ feet

Depth to Ground Water (DGW) 14.04 feet

Total Well Depth (TWD) 18.30 feet

Length of the water column (LWC=TWD-DGW) 4.26 feet

1 casing volume (CV=LWC X C)= X 0.163 0.69 gallons

3 casing volume (3 X CV)= 3 2.08 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:18							
pH (s.u.)	Sheen							
Specific Conductivity (µmhos/cm)	Sheen							
Water Temperature (°C)	Sheen							
Dissolved Oxygen	Sheen							
Turbidity (NTU)	<5							
PID readings, if required								

Remarks: _____ **Sample Time:** 11:18

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-3

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: 0.01 feet

Depth to Free Product (DFP) 14.19 feet

Depth to Ground Water (DGW) 14.20 feet

Total Well Depth (TWD) 18.20 feet

Length of the water column (LWC=TWD-DGW) 4 feet

1 casing volume (CV=LWC X C)= 0.65 gallons

3 casing volume (3 X CV)= 1.96 gallons

Total Volume of Water Purged Before Sampling 0 gals.

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

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

Remarks: Sample Time:

PROD = FREE PHASE PRODUCT DETECTED

N/S = NOT SAMPLED

Field Data Information Sheet for Groundwater Sampling

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **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) 14.35 feet

Total Well Depth (TWD) 18.35 feet

Length of the water column (LWC=TWD-DGW) 4 feet

1 casing volume (CV=LWC X C)= 0.163

0.65

 gallons

3 casing volume (3 X CV)= 3

1.96

 gallons

Total Volume of Water Purged Before Sampling 0 gals.

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:18							
pH (s.u.)	Sheen							
Specific Conductivity (µmhos/cm)	Sheen							
Water Temperature (°C)	Sheen							
Dissolved Oxygen	Sheen							
Turbidity (NTU)	15							
PID readings, if required								

Remarks: Sample Time: 11:18

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

<u>Quality Assurance</u>	
pH/Conductivity Meter	DO Meter
YSI 63	YSI 550A
09C 101302	04L 2026AK
10K 101895	08B 101895
07M 100905	04A 0912AI
Calibration Buffer:	4, 7, & 10

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-5

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) 13.90 feet
Total Well Depth (TWD) 18.29 feet
Length of the water column (LWC=TWD-DGW) 4.39 feet
1 casing volume (CV=LWC X C)= 0.163 X 0.72 gallons
3 casing volume (3 X CV)= 3 X 2.15 gallons

Total Volume of Water Purged Before Sampling 0 gals.

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	11:53							
pH (s.u.)	5.33							
Specific Conductivity (µmhos/cm)	88.5							
Water Temperature (°C)	21.8							
Dissolved Oxygen	6.42							
Turbidity (NTU)	10							
PID readings, if required								

Remarks: _____ **Sample Time:** 11:53

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program
Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

<u>Relinquished by</u>	<u>Date/Time</u>	<u>Received by</u>	<u>Date/Time</u>
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-6

Water Supply Well Public **Private**

Monitoring Well Diameter (D): 2 inches

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

*** Free Product Thickness:** _____ feet

Depth to Free Product (DFP) _____ feet

Depth to Ground Water (DGW) 14.65 feet

Total Well Depth (TWD) 18.29 feet

Length of the water column (LWC=TWD-DGW) 3.64 feet

1 casing volume (CV=LWC X C)= _____ X 0.163 0.59 gallons

3 casing volume (3 X CV)= 3 1.78 gallons

Total Volume of Water Purged Before Sampling 0 gals.

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:37							
pH (s.u.)	2.64							
Specific Conductivity (µmhos/cm)	183.0							
Water Temperature (°C)	22.0							
Dissolved Oxygen	4.84							
Turbidity (NTU)	15							
PID readings, if required								

Remarks: _____ **Sample Time:** 13:37

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

<u>Quality Assurance</u>	
pH/Conductivity Meter	DO Meter
YSI 63	YSI 550A
09C 101302	04L 2026AK
10K 101895 <u>X</u>	08B 101895 <u>X</u>
07M 100905	04A 0912AI
Calibration Buffer: <u>4, 7, & 10</u>	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-7

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)	<u>13.45</u>	feet
Total Well Depth (TWD)	<u>18.38</u>	feet
Length of the water column (LWC=TWD-DGW)	<u>4.93</u>	feet
1 casing volume (CV=LWC X C)= <u> </u> X <u>0.163</u>	<u>0.80</u>	gallons
3 casing volume (3 X CV)= <u> </u> X <u>3</u>	<u>2.41</u>	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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:12							
pH (s.u.)	5.17							
Specific Conductivity (µmhos/cm)	130.9							
Water Temperature (°C)	21.2							
Dissolved Oxygen	3.74							
Turbidity (NTU)	75							
PID readings, if required								

Remarks: **Sample Time:** 13:12

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program
Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-8

Water Supply Well Public **Private**

Monitoring Well Diameter (D): 2 inches

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

*** Free Product Thickness:** _____ feet

Depth to Free Product (DFP) _____ feet

Depth to Ground Water (DGW) 12.62 feet

Total Well Depth (TWD) 18.29 feet

Length of the water column (LWC=TWD-DGW) 5.67 feet

1 casing volume (CV=LWC X C)= X 0.163 0.92 gallons

3 casing volume (3 X CV)= 3 2.77 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling
Time (military)	12:44						
pH (s.u.)	4.80						
Specific Conductivity (µmhos/cm)	103.3						
Water Temperature (°C)	21.4						
Dissolved Oxygen	4.53						
Turbidity (NTU)	240+						
PID readings, if required							

Remarks: _____ **Sample Time:** 12:44

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

<u>Quality Assurance</u>	
<u>pH/Conductivity Meter</u>	<u>DO Meter</u>
YSI 63	YSI 550A
09C 101302	04L 2026AK
10K 101895 <u>X</u>	08B 101895 <u>X</u>
07M 100905	04A 0912AI
Calibration Buffer: <u>4, 7, & 10</u>	

Chain of Custody

<u>Relinquished by</u>	<u>Date/Time</u>	<u>Received by</u>	<u>Date/Time</u>

Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-10

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)	<u>12.41</u>	feet
Total Well Depth (TWD)	<u>18.25</u>	feet
Length of the water column (LWC=TWD-DGW)	<u>5.84</u>	feet
1 casing volume (CV=LWC X C)= <u> </u> X <u>0.163</u>	<u>0.95</u>	gallons
3 casing volume (3 X CV)= <u> </u> X <u>3</u>	<u>2.86</u>	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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	12:54							
pH (s.u.)	4.53							
Specific Conductivity (µmhos/cm)	76.0							
Water Temperature (°C)	22.3							
Dissolved Oxygen	8.59							
Turbidity (NTU)	175							
PID readings, if required								

Remarks: **Sample Time:** 12:54

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-11

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) 14.39 feet

Total Well Depth (TWD) 18.42 feet

Length of the water column (LWC=TWD-DGW) 4.03 feet

1 casing volume (CV=LWC X C)= 0.163 X 0.66 gallons

3 casing volume (3 X CV)= 3 X 1.97 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:44							
pH (s.u.)	3.77							
Specific Conductivity (µmhos/cm)	43.8							
Water Temperature (°C)	21.5							
Dissolved Oxygen	3.66							
Turbidity (NTU)	240+							
PID readings, if required								

Remarks: Sample Time: 13:44

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program
Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

<u>Relinquished by</u>	<u>Date/Time</u>	<u>Received by</u>	<u>Date/Time</u>
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-14

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) 13.42 feet

Total Well Depth (TWD) 18.29 feet

Length of the water column (LWC=TWD-DGW) 4.87 feet

1 casing volume (CV=LWC X C)= X 0.163 0.79 gallons

3 casing volume (3 X CV)= 3 2.38 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:45							
pH (s.u.)	5.44							
Specific Conductivity (µmhos/cm)	293.0							
Water Temperature (°C)	22.2							
Dissolved Oxygen	4.04							
Turbidity (NTU)	<5							
PID readings, if required								

Remarks: **Sample Time:** 10:45

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): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

<u>Relinquished by</u>	<u>Date/Time</u>	<u>Received by</u>	<u>Date/Time</u>
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **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) 12.78 feet

Total Well Depth (TWD) 20.35 feet

Length of the water column (LWC=TWD-DGW) 7.57 feet

1 casing volume (CV=LWC X C)= _____ X 0.163 1.23 gallons

3 casing volume (3 X CV)= 3 3.70 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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:35	10:37						
pH (s.u.)	4.86	4.88						
Specific Conductivity (µmhos/cm)	93.5	60.0						
Water Temperature (°C)	21.6	22.5						
Dissolved Oxygen	8.80	9.04						
Turbidity (NTU)	15	240+						
PID readings, if required								

Remarks: _____ **Sample Time:** 10:37 **Dry @ 1.5 Gallons**

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

<u>Quality Assurance</u>	
pH/Conductivity Meter	DO Meter
YSI 63	YSI 550A
09C 101302	04L 2026AK
10K 101895 <u>X</u>	08B 101895 <u>X</u>
07M 100905	04A 0912AI
Calibration Buffer: <u>4, 7, & 10</u>	

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **Monitoring Well #** MW-16

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)	<u>13.43</u>	feet
Total Well Depth (TWD)	<u>21.10</u>	feet
Length of the water column (LWC=TWD-DGW)	<u>7.67</u>	feet
1 casing volume (CV=LWC X C)= <u>X</u>	<u>0.163</u>	<u>1.25</u> gallons
3 casing volume (3 X CV)=	<u>3</u>	<u>3.75</u> gallons

Total Volume of Water Purged Before Sampling: 3.0 gals.

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

Cumulative Volume Purged (gallons)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	10:54	10:56	10:58					
pH (s.u.)	5.97	5.95	5.69					
Specific Conductivity (µmhos/cm)	68.1	70.5	42.5					
Water Temperature (°C)	22.3	21.6	21.6					
Dissolved Oxygen	4.65	4.41	4.56					
Turbidity (NTU)	150	200	175					
PID readings, if required								

Remarks: Sample Time: 10:58 Dry @ 3.0 Gallons

**South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program
Field Data Information Sheet for Groundwater Sampling**

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

<u>Quality Assurance</u>	
<u>pH/Conductivity Meter</u>	<u>DO Meter</u>
YSI 63	YSI 550A
09C 101302	04L 2026AK
10K 101895 <u>X</u>	08B 101895 <u>X</u>
07M 100905	04A 0912AI
Calibration Buffer: <u>4, 7, & 10</u>	

Chain of Custody

<u>Relinquished by</u>	<u>Date/Time</u>	<u>Received by</u>	<u>Date/Time</u>
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **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:	<u></u> feet
Depth to Free Product (DFP)	<u></u> feet
Depth to Ground Water (DGW)	<u>13.96</u> feet
Total Well Depth (TWD)	<u>21.35</u> feet
Length of the water column (LWC=TWD-DGW)	<u>7.39</u> feet
1 casing volume (CV=LWC X C)= <u>X</u> <u>0.163</u>	<u>1.20</u> gallons
3 casing volume (3 X CV)= <u>3</u>	<u>3.61</u> gallons

Total Volume of Water Purged Before Sampling 1.0 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)	11:09	11:11						
pH (s.u.)	5.27	5.18						
Specific Conductivity (µmhos/cm)	63.2	52.4						
Water Temperature (°C)	21.9	22.0						
Dissolved Oxygen	4.96	5.54						
Turbidity (NTU)	10	240+						
PID readings, if required								

Remarks: Sample Time: 11:11 Dry @ 1.0 Gallons

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

Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 **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) 14.44 feet

Total Well Depth (TWD) 21.30 feet

Length of the water column (LWC=TWD-DGW) 6.86 feet

1 casing volume (CV=LWC X C)= X 0.163 1.12 gallons

3 casing volume (3 X CV)= 3 3.35 gallons

Total Volume of Water Purged Before Sampling 1.0 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)	13:20	13:22						
pH (s.u.)	5.44	4.74						
Specific Conductivity (µmhos/cm)	58.4	42.0						
Water Temperature (°C)	21.8	21.6						
Dissolved Oxygen	6.80	5.89						
Turbidity (NTU)	100	240+						
PID readings, if required								

Remarks: _____ **Sample Time:** 13:22 **Dry @ 1.0 Gallons**

Field Data Information Sheet for Groundwater Sampling

Remarks: Sample Time: 14:29

South Carolina Department of Health and Environmental Control
Bureau of Land and Waste Management Underground Storage Tank Program
Field Data Information Sheet for Groundwater Sampling

Date (mm/dd/yy): 6/26/2012

Field Personnel: Ryan Ariail, Darcie Odom

General Weather Conditions: Partly Cloudy

Ambient Air Temperature: 32.0 °C

Quality Assurance

pH/Conductivity Meter

YSI 63

09C 101302

10K 101895

07M 100905

Calibration Buffer: 4, 7, & 10

DO Meter

YSI 550A

04L 2026AK

08B 101895

04A 0912AI

X

Chain of Custody

Relinquished by	Date/Time	Received by	Date/Time
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Facility Name: Coastal 76 Truck Stop

Site ID#: 03538 Monitoring Well # TW-2

Water Supply Well Public Private 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) 13.95 feet

Total Well Depth (TWD) 33.65 feet

Length of the water column (LWC=TWD-DGW) 19.7 feet

1 casing volume (CV=LWC X C)= X 0.163 3.21 gallons

3 casing volume (3 X CV)= 3 9.63 gallons

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)	Initial	1st Vol	2nd Vol	3rd Vol	4th Vol	5th Vol	Post Sampling	
Time (military)	13:59	14:02	14:05	14:09				
pH (s.u.)	4.71	5.20	4.96	4.84				
Specific Conductivity (µmhos/cm)	32.3	52.3	24.5	43.5				
Water Temperature (°C)	21.5	20.3	20.1	20.1				
Dissolved Oxygen	7.90	7.33	6.98	7.52				
Turbidity (NTU)	150	240+	240+	240+				
PID readings, if required								

Remarks: _____ Sample Time: 14:09

Report of Analysis

Midlands Environmental Consultants, Inc.

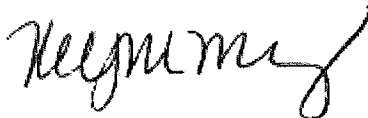
235 Dooley Rd
Lexington, SC 29073
Attention: Bryan Shane

Project Name: **Coastal Mart 76**

Project Number: **12-3980**

Lot Number: **NF21037**

Date Completed: **06/22/2012**



Kelly M. Maberry
Project Manager



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

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

*** NF 2 1 0 3 7 ***

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

Case Narrative

Midlands Environmental Consultants, Inc.

Lot Number: NF21037

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

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

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

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

Sample Receiving

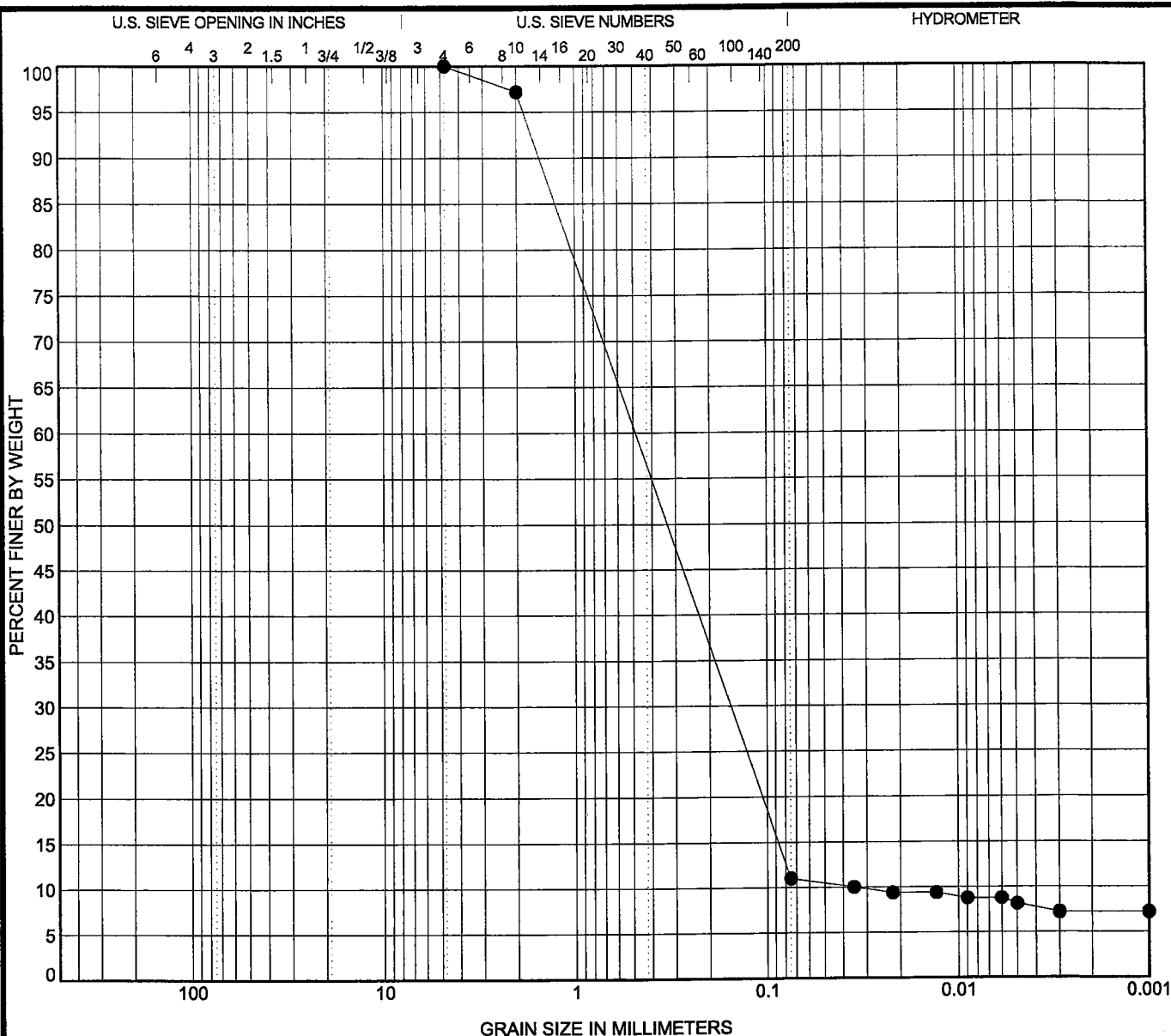
Collection time taken from sample container label.

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Midlands Environmental Consultants, Inc. Lot Number: NF21037

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	TW-2 (36")	Solid	06/20/2012 1030	06/21/2012
(1 sample)				

Subcontracted Data



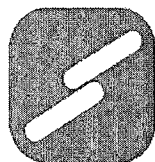
COBBLES	GRAVEL		SAND			SILT OR CLAY
	coarse	fine	coarse	medium	fine	

Specimen		Sample Description					LL	PL	PI		
●	TW-236.0 ft	Clayey Sand, brown (SC) (visual description)					--	--	--		
Test Method		D100	D60	D30	D10	%Gravel	%Sand	%Silt		%Clay	
ASTM D1140						0.0	89.0	3.8		7.2	

Percent Finer

Sieve Size	200	10	4
% Finer	11.0	97.2	100.0

Tested By	Tested Date	Reviewed By	Calc By
MDE	6/25/12	SRH	MDE



Schnabel
ENGINEERING

GRADATION CURVE

Project: Shealy Laboratory
NF21037

Contract: 08190058.00.133

CWA / NPDES
Chain of Custody Re

Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
Document Number: E-AD-915
Revision Number: 9

Page 1 of 1
Replaces Date: 03/06/11
Effective Date: 12/11/11

Sample Receipt Checklist (SRC)

Client: MEL Cooler Inspected by/date: WML 10/24/12 Lot #: NF21037

Means of receipt: ☒ SESE ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp ☐ Other		
Yes ☐	No ☒	1. Were custody seals present on the cooler?
Yes ☐	No ☒	2. If custody seals were present, were they intact and unbroken?
Cooler ID/temperature upon receipt: <u>10</u> °C / <u>1</u> °C / <u>1</u> °C / <u>1</u> °C		
Method: ☐ Temperature Blank ☒ Against Bottles		
Method of coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None		
If response is No (or Yes for 14, 15, 16), an explanation/resolution must be provided.		
Yes ☐	No ☐	NA ☒ 3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: <u> </u> . (For coolers received via commercial courier, PMs are to be notified immediately.
Yes ☐	No ☐	NA ☒ 4. Is the commercial courier's packing slip attached to this form?
Yes ☒	No ☐	5. Were proper custody procedures (relinquished/received) followed?
Yes ☐	No ☐	NA ☒ 5a. Were samples relinquished by client to commercial courier?
Yes ☒	No ☐	6. Were sample IDs listed?
Yes ☒	No ☐	7. Was collection date & time listed? <u>From Lab 10/22/12</u>
Yes ☒	No ☐	8. Were tests to be performed listed on the COC?
Yes ☒	No ☐	9. Did all samples arrive in the proper containers for each test?
Yes ☒	No ☐	10. Did all container label information (ID, date, time) agree with COC?
Yes ☒	No ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?
Yes ☒	No ☐	12. Was adequate sample volume available?
Yes ☒	No ☐	13. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?
Yes ☐	No ☒	14. Were any samples containers missing?
Yes ☐	No ☒	15. Were there any excess samples not listed on COC?
Yes ☐	No ☐	NA ☒ 16. Were bubbles present > "peta-size" (1/4" or 6mm in diameter) in any VOA vials?
Yes ☐	No ☐	NA ☒ 17. Were all metals/O&G/HEM/nutrient samples received at a pH of <2?
Yes ☐	No ☐	NA ☒ 18. Were all cyanide and/or sulfide samples received at a pH >12?
Yes ☐	No ☐	NA ☒ 19. Were all applicable NH3/TKN/cyanide/phenol/BNA/pest/PCB/herb (<0.2mg/L) samples free of residual chlorine?
Yes ☐	No ☐	NA ☐ 20. Were collection temperatures documented on the COC for NC samples?
Yes ☐	No ☐	NA ☒ 21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?
Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)		
Sample(s) <u> </u> were received incorrectly preserved and were adjusted accordingly in sample receiving with <u> </u> (H ₂ SO ₄ , HNO ₃ , HCl, NaOH) with the SR # (number) <u> </u>		
Sample(s) <u> </u> were received with bubbles > 6 mm in diameter.		
Sample(s) <u> </u> were received with TRC > 0.2 mg/L for NH3/TKN/cyanide/BNA/pest/PCB/herb.		

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐

Did client respond: Yes ☐ No ☐

SESI employee:

Date of response:

Comments:

SHEALY ENVIRONMENTAL SERVICES, INC.

Report of Analysis

Midlands Environmental Consultants, Inc.

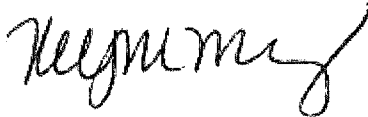
235 Dooley Rd
Lexington, SC 29073
Attention: Bryan Shane

Project Name: **Coastal 76 Truck Stop**

Project Number: **12-3980**

Lot Number: **NF27024**

Date Completed: **07/06/2012**



Kelly M. Maberry
Project Manager



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

*** NF27024 ***

SHEALY ENVIRONMENTAL SERVICES, INC.

SC DHEC No: 32010

NELAC No: E87653

NC DENR No: 329

Case Narrative Midlands Environmental Consultants, Inc. Lot Number: NF27024

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

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

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

Sample Receiving

Samples -003, -007, -018 and -019 for volatiles analysis contained vials with air bubbles greater than ¼" or 6mm in diameter. The laboratory uses these vials for screening and the vials without bubbles for analysis whenever possible. Condition of samples is documented on the Sample Receipt Checklist (SRC).

GC/MS Volatiles

The LCS/LCSD associated with batch 88444 had 3,3-dimethyl-1-butanol and ethanol recovered above the acceptance limits. This demonstrates a high bias on analytical results. There were no detections for these compounds in the samples associated with this batch; therefore, data quality is not impacted.

The LCS/LCSD associated with batch 88445 had tert-amyl alcohol, 3,3-dimethyl-1-butanol, ethanol and tert-butyl alcohol recovered above the acceptance limits. This demonstrates a high bias on analytical results. There were no detections for these compounds in the samples associated with this batch; therefore, data quality is not impacted.

The MS associated with sample -005 had several compounds recovered outside of the acceptance limits. This demonstrates a matrix effect and data quality is not impacted.

EDB/DBCP

The sample result for -006 has a P qualifier because the relative percent difference (RPD) between the two dissimilar phase GC columns exceeds 40%. Section 7.10.4 of SW-846 method 8000B states the higher of the two results is reported; however the lower result is reported for this sample. The higher result for sample -006 was 0.13 ug/L.

Due to high detections for target compounds, samples -002 and -003 were diluted 100X and 20X, respectively. As a result, the associated surrogates were recovered outside of the acceptance limits. No corrective action was required, as dilutions of 5X and greater may impact surrogate recoveries.

Inorganic Metals

The method blank associated with samples -015, -016 and -017 had lead detected at a concentration that was above the MDL but below ½ the PQL. All samples associated with this method blank that have detections for lead have been flagged with a "B".

SHEALY ENVIRONMENTAL SERVICES, INC.

Sample Summary Midlands Environmental Consultants, Inc. Lot Number: NF27024

Sample Number	Sample ID	Matrix	Date Sampled	Date Received
001	IGWA-R	Aqueous	06/26/2012 1305	06/27/2012
002	MW-2	Aqueous	06/26/2012 1118	06/27/2012
003	MW-4	Aqueous	06/26/2012 1138	06/27/2012
004	MW-5	Aqueous	06/26/2012 1153	06/27/2012
005	MW-6	Aqueous	06/26/2012 1337	06/27/2012
006	MW-7	Aqueous	06/26/2012 1312	06/27/2012
007	MW-8	Aqueous	06/26/2012 1244	06/27/2012
008	MW-10	Aqueous	06/26/2012 1254	06/27/2012
009	MW-11	Aqueous	06/26/2012 1344	06/27/2012
010	MW-14	Aqueous	06/26/2012 1045	06/27/2012
011	MW-15	Aqueous	06/26/2012 1037	06/27/2012
012	MW-16	Aqueous	06/26/2012 1058	06/27/2012
013	MW-17	Aqueous	06/26/2012 1111	06/27/2012
014	MW-18	Aqueous	06/26/2012 1322	06/27/2012
015	TW-1	Aqueous	06/26/2012 1429	06/27/2012
016	TW-2	Aqueous	06/26/2012 1409	06/27/2012
017	MW-5 Dup	Aqueous	06/26/2012 1153	06/27/2012
018	Field Blank	Aqueous	06/26/2012 1045	06/27/2012
019	Trip Blank	Aqueous	06/26/2012 1145	06/27/2012

(19 samples)

SHEALY ENVIRONMENTAL SERVICES, INC.

Executive Summary Midlands Environmental Consultants, Inc. Lot Number: NF27024

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
001	IGWA-R	Aqueous	Benzene	8260B	130		ug/L	7
001	IGWA-R	Aqueous	Ethylbenzene	8260B	180		ug/L	7
001	IGWA-R	Aqueous	Naphthalene	8260B	160		ug/L	7
001	IGWA-R	Aqueous	Toluene	8260B	790		ug/L	7
001	IGWA-R	Aqueous	Xylenes (total)	8260B	980		ug/L	7
001	IGWA-R	Aqueous	tert-Amyl alcohol (TAA)	8260B	460	J	ug/L	7
001	IGWA-R	Aqueous	1,2-Dibromoethane (EDB)	8011	0.71		ug/L	8
001	IGWA-R	Aqueous	Lead	6010C	0.0090	J	mg/L	8
002	MW-2	Aqueous	Benzene	8260B	9800		ug/L	9
002	MW-2	Aqueous	1,2-Dichloroethane	8260B	240	J	ug/L	9
002	MW-2	Aqueous	Ethylbenzene	8260B	1300		ug/L	9
002	MW-2	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	1100		ug/L	9
002	MW-2	Aqueous	Naphthalene	8260B	370		ug/L	9
002	MW-2	Aqueous	Toluene	8260B	17000		ug/L	9
002	MW-2	Aqueous	Xylenes (total)	8260B	11000		ug/L	9
002	MW-2	Aqueous	tert-Amyl alcohol (TAA)	8260B	16000		ug/L	9
002	MW-2	Aqueous	tert-Amyl methyl ether (TAME)	8260B	15	J	ug/L	9
002	MW-2	Aqueous	tert-butyl alcohol (TBA)	8260B	570	J	ug/L	9
002	MW-2	Aqueous	1,2-Dibromoethane (EDB)	8011	65		ug/L	10
002	MW-2	Aqueous	Lead	6010C	0.39		mg/L	10
003	MW-4	Aqueous	Benzene	8260B	8500		ug/L	11
003	MW-4	Aqueous	Ethylbenzene	8260B	2100		ug/L	11
003	MW-4	Aqueous	Naphthalene	8260B	1100		ug/L	11
003	MW-4	Aqueous	Toluene	8260B	22000		ug/L	11
003	MW-4	Aqueous	Xylenes (total)	8260B	17000		ug/L	11
003	MW-4	Aqueous	tert-Amyl alcohol (TAA)	8260B	10000		ug/L	11
003	MW-4	Aqueous	1,2-Dibromoethane (EDB)	8011	14		ug/L	12
003	MW-4	Aqueous	Lead	6010C	0.44		mg/L	12
004	MW-5	Aqueous	Benzene	8260B	810		ug/L	13
004	MW-5	Aqueous	Ethylbenzene	8260B	1500		ug/L	13
004	MW-5	Aqueous	Naphthalene	8260B	770		ug/L	13
004	MW-5	Aqueous	Toluene	8260B	7400		ug/L	13
004	MW-5	Aqueous	Xylenes (total)	8260B	10000		ug/L	13
004	MW-5	Aqueous	tert-Amyl alcohol (TAA)	8260B	700	J	ug/L	13
004	MW-5	Aqueous	1,2-Dibromoethane (EDB)	8011	0.86		ug/L	14
004	MW-5	Aqueous	Lead	6010C	0.031		mg/L	14
005	MW-6	Aqueous	Lead	6010C	0.0097	J	mg/L	16
006	MW-7	Aqueous	Benzene	8260B	390		ug/L	17
006	MW-7	Aqueous	Ethylbenzene	8260B	1700		ug/L	17
006	MW-7	Aqueous	Naphthalene	8260B	600		ug/L	17
006	MW-7	Aqueous	Toluene	8260B	3000		ug/L	17
006	MW-7	Aqueous	Xylenes (total)	8260B	7500		ug/L	17
006	MW-7	Aqueous	tert-Amyl alcohol (TAA)	8260B	390	J	ug/L	17
006	MW-7	Aqueous	1,2-Dibromoethane (EDB)	8011	0.063	P	ug/L	18
006	MW-7	Aqueous	Lead	6010C	0.025		mg/L	18

Executive Summary (Continued)

Lot Number: NF27024

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
007	MW-8	Aqueous	Ethylbenzene	8260B	6.9		ug/L	19
007	MW-8	Aqueous	Naphthalene	8260B	20		ug/L	19
007	MW-8	Aqueous	Xylenes (total)	8260B	29		ug/L	19
007	MW-8	Aqueous	tert-Amyl alcohol (TAA)	8260B	41	J	ug/L	19
007	MW-8	Aqueous	tert-butyl alcohol (TBA)	8260B	130		ug/L	19
007	MW-8	Aqueous	Lead	6010C	0.020		mg/L	20
008	MW-10	Aqueous	Lead	6010C	0.011		mg/L	22
009	MW-11	Aqueous	Lead	6010C	0.019		mg/L	24
010	MW-14	Aqueous	Benzene	8260B	13		ug/L	25
010	MW-14	Aqueous	Ethylbenzene	8260B	73		ug/L	25
010	MW-14	Aqueous	Naphthalene	8260B	46		ug/L	25
010	MW-14	Aqueous	Toluene	8260B	16		ug/L	25
010	MW-14	Aqueous	Xylenes (total)	8260B	49		ug/L	25
010	MW-14	Aqueous	tert-Amyl alcohol (TAA)	8260B	39	J	ug/L	25
010	MW-14	Aqueous	tert-butyl alcohol (TBA)	8260B	25	J	ug/L	25
010	MW-14	Aqueous	Lead	6010C	0.0030	J	mg/L	26
011	MW-15	Aqueous	Benzene	8260B	92		ug/L	27
011	MW-15	Aqueous	Ethylbenzene	8260B	140		ug/L	27
011	MW-15	Aqueous	Naphthalene	8260B	67		ug/L	27
011	MW-15	Aqueous	Toluene	8260B	280		ug/L	27
011	MW-15	Aqueous	Xylenes (total)	8260B	380		ug/L	27
011	MW-15	Aqueous	tert-Amyl alcohol (TAA)	8260B	140	J	ug/L	27
011	MW-15	Aqueous	1,2-Dibromoethane (EDB)	8011	0.050		ug/L	28
011	MW-15	Aqueous	Lead	6010C	0.0086	J	mg/L	28
012	MW-16	Aqueous	Benzene	8260B	180		ug/L	29
012	MW-16	Aqueous	Ethylbenzene	8260B	83		ug/L	29
012	MW-16	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	5.4	J	ug/L	29
012	MW-16	Aqueous	Naphthalene	8260B	39		ug/L	29
012	MW-16	Aqueous	Toluene	8260B	580		ug/L	29
012	MW-16	Aqueous	Xylenes (total)	8260B	380		ug/L	29
012	MW-16	Aqueous	tert-Amyl alcohol (TAA)	8260B	380	J	ug/L	29
012	MW-16	Aqueous	1,2-Dibromoethane (EDB)	8011	0.59		ug/L	30
012	MW-16	Aqueous	Lead	6010C	0.016		mg/L	30
013	MW-17	Aqueous	Benzene	8260B	880		ug/L	31
013	MW-17	Aqueous	Ethylbenzene	8260B	1500		ug/L	31
013	MW-17	Aqueous	Methyl tertiary butyl ether (MTBE)	8260B	20	J	ug/L	31
013	MW-17	Aqueous	Naphthalene	8260B	980		ug/L	31
013	MW-17	Aqueous	Toluene	8260B	1500		ug/L	31
013	MW-17	Aqueous	Xylenes (total)	8260B	5700		ug/L	31
013	MW-17	Aqueous	tert-Amyl alcohol (TAA)	8260B	2300		ug/L	31
013	MW-17	Aqueous	1,2-Dibromoethane (EDB)	8011	2.8		ug/L	32
013	MW-17	Aqueous	Lead	6010C	0.035		mg/L	32
014	MW-18	Aqueous	Xylenes (total)	8260B	14		ug/L	33
014	MW-18	Aqueous	Lead	6010C	0.011		mg/L	34
015	TW-1	Aqueous	Lead	6010C	0.0034	BJ	mg/L	36
016	TW-2	Aqueous	Lead	6010C	0.011	B	mg/L	38
017	MW-5 Dup	Aqueous	Benzene	8260B	990		ug/L	39
017	MW-5 Dup	Aqueous	1,2-Dichloroethane	8260B	19		ug/L	39

Executive Summary (Continued)

Lot Number: NF27024

Sample	Sample ID	Matrix	Parameter	Method	Result	Q	Units	Page
017	MW-5 Dup	Aqueous	Ethylbenzene	8260B	1600		ug/L	39
017	MW-5 Dup	Aqueous	Naphthalene	8260B	570		ug/L	39
017	MW-5 Dup	Aqueous	Toluene	8260B	9100		ug/L	39
017	MW-5 Dup	Aqueous	Xylenes (total)	8260B	11000		ug/L	39
017	MW-5 Dup	Aqueous	tert-Amyl alcohol (TAA)	8260B	760	J	ug/L	39
017	MW-5 Dup	Aqueous	tert-butyl alcohol (TBA)	8260B	17	J	ug/L	39
017	MW-5 Dup	Aqueous	1,2-Dibromoethane (EDB)	8011	0.90		ug/L	40
017	MW-5 Dup	Aqueous	Lead	6010C	0.043	B	mg/L	40

(101 detections)

Description: IGWA-R

Matrix: Aqueous

Date Sampled: 06/26/2012 1305

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/05/2012 1337	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	130		25	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Ethylbenzene	100-41-4	8260B	180		25	8.5	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	2.0	ug/L	1
Naphthalene	91-20-3	8260B	160		25	8.5	ug/L	1
Toluene	108-88-3	8260B	790		25	8.5	ug/L	1
Xylenes (total)	1330-20-7	8260B	980		25	8.5	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		88	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		102	70-130

Volatile Organic Compounds by GC/MS

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 5	Analysis Date 07/05/2012 1337	Analyst AAC	Prep Date	Batch 88450	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		50	2.0	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	170	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		500	5.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	460	J	500	34	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	1.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		500	34	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	5.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
Bromofluorobenzene		96	70-130					
1,2-Dichloroethane-d4		88	70-130					
Toluene-d8		102	70-130					

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0123	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: IGWA-R

Matrix: Aqueous

Date Sampled: 06/26/2012 1305

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0123	AMB	06/28/2012 1647	88021			
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run	
1,2-Dibromoethane (EDB)	106-93-4		8011	0.71		0.020	0.020	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		115	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1607	CDF	06/27/2012 1930	87912			
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run	
Lead	7439-92-1		6010C	0.0090	J	0.010	0.0019	mg/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-2

Matrix: Aqueous

Date Sampled: 06/26/2012 1118

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/05/2012 1644	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	9800		250	10	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	240	J	250	15	ug/L	1
Ethylbenzene	100-41-4	8260B	1300		250	85	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	1100		250	20	ug/L	1
Naphthalene	91-20-3	8260B	370		250	85	ug/L	1
Toluene	108-88-3	8260B	17000		250	85	ug/L	1
Xylenes (total)	1330-20-7	8260B	11000		250	85	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
1,2-Dichloroethane-d4		91	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	50	07/05/2012 1644	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		500	20	ug/L	1
Ethanol	64-17-5	8260B	ND		50000	1700	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		5000	50	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		5000	10	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	16000		5000	340	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	15	J	500	10	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	570	J	5000	340	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		5000	50	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-2

Matrix: Aqueous

Date Sampled: 06/26/2012 1118

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0144	AMB	06/28/2012 1647	88021
2	8011	8011	100	07/02/2012 1249	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	65		2.0	2.0	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,1,1,2-Tetrachloroethane		104	57-137	N	0.00	57-137

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	06/28/2012 1630	CDF	06/27/2012 1930	87912

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	0.39		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-4

Matrix: Aqueous

Date Sampled: 06/26/2012 1138

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	07/05/2012 1710	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	8500		500	20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		500	30	ug/L	1
Ethylbenzene	100-41-4	8260B	2100		500	170	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		500	40	ug/L	1
Naphthalene	91-20-3	8260B	1100		500	170	ug/L	1
Toluene	108-88-3	8260B	22000		500	170	ug/L	1
Xylenes (total)	1330-20-7	8260B	17000		500	170	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		99	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	100	07/05/2012 1710	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		1000	40	ug/L	1
Ethanol	64-17-5	8260B	ND		100000	3300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		10000	100	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		10000	20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	10000		10000	670	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		1000	20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		10000	670	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		10000	100	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		101	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-4

Matrix: Aqueous

Date Sampled: 06/26/2012 1138

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0205	AMB	06/28/2012 1647	88021
2	8011	8011	20	07/03/2012 0938	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)	106-93-4	8011	14		0.41	0.41	ug/L	2
Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits		
1,1,1,2-Tetrachloroethane		77	57-137	N	55	57-137		

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	06/28/2012 1637	CDF	06/27/2012 1930	87912

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	0.44		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-5

Matrix: Aqueous

Date Sampled: 06/26/2012 1153

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	40	07/05/2012 1551	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	810		200	8.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		200	12	ug/L	1
Ethylbenzene	100-41-4	8260B	1500		200	68	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		200	16	ug/L	1
Naphthalene	91-20-3	8260B	770		200	68	ug/L	1
Toluene	108-88-3	8260B	7400		200	68	ug/L	1
Xylenes (total)	1330-20-7	8260B	10000		200	68	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		90	70-130
Bromofluorobenzene		98	70-130
Toluene-d8		101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	40	07/05/2012 1551	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		400	16	ug/L	1
Ethanol	64-17-5	8260B	ND		40000	1300	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		4000	40	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		4000	8.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	700	J	4000	270	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		400	8.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		4000	270	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		4000	40	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0227	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-5

Matrix: Aqueous

Date Sampled: 06/26/2012 1153

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0227	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	0.86		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		107	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1641	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.031		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-6

Matrix: Aqueous

Date Sampled: 06/26/2012 1337

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1139	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		102	70-130
Toluene-d8		93	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1139	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		102	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		93	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0248	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-6

Matrix: Aqueous

Date Sampled: 06/26/2012 1337

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0248	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		91	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1645	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.0097	J	0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-7

Matrix: Aqueous

Date Sampled: 06/26/2012 1312

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260B	40	07/05/2012 1617	AAC		88450			
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Benzene		71-43-2	8260B	390		200	8.0	ug/L	1	
1,2-Dichloroethane		107-06-2	8260B	ND		200	12	ug/L	1	
Ethylbenzene		100-41-4	8260B	1700		200	68	ug/L	1	
Methyl tertiary butyl ether (MTBE)		1634-04-4	8260B	ND		200	16	ug/L	1	
Naphthalene		91-20-3	8260B	600		200	68	ug/L	1	
Toluene		108-88-3	8260B	3000		200	68	ug/L	1	
Xylenes (total)		1330-20-7	8260B	7500		200	68	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,2-Dichloroethane-d4		90	70-130							
Bromofluorobenzene		97	70-130							
Toluene-d8		101	70-130							

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	5030B	8260B	40	07/05/2012 1617	AAC		88450			
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run	
Diisopropyl ether (IPE)		108-20-3	8260B	ND		400	16	ug/L	1	
Ethanol		64-17-5	8260B	ND		40000	1300	ug/L	1	
3,3-Dimethyl-1-butanol		624-95-3	8260B	ND		4000	40	ug/L	1	
Ethyl-tert-butyl ether (ETBE)		637-92-3	8260B	ND		4000	8.0	ug/L	1	
tert-Amyl alcohol (TAA)		75-85-4	8260B	390	J	4000	270	ug/L	1	
tert-Amyl methyl ether (TAME)		994-05-8	8260B	ND		400	8.0	ug/L	1	
tert-butyl alcohol (TBA)		75-65-0	8260B	ND		4000	270	ug/L	1	
tert-Butyl formate (TBF)		762-75-4	8260B	ND		4000	40	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
Bromofluorobenzene		97	70-130							
1,2-Dichloroethane-d4		90	70-130							
Toluene-d8		101	70-130							

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0309	AMB	06/28/2012 1647	88021			
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run		

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-7

Matrix: Aqueous

Date Sampled: 06/26/2012 1312

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0309	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	0.063	P	0.020	0.020	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		105	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1649	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.025		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-8

Matrix: Aqueous

Date Sampled: 06/26/2012 1244

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1947	AAC		88444

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	6.9		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	20		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	29		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		104	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		109	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1947	AAC		88444
2	5030B	8260B	1	07/06/2012 0957	AAC		88561

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	41	J	100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	130		100	6.7	ug/L	2
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		104	70-130		103	70-130
1,2-Dichloroethane-d4		104	70-130		98	70-130
Toluene-d8		109	70-130		102	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-8

Matrix: Aqueous

Date Sampled: 06/26/2012 1244

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0330	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.021	0.021	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		85	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1653	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.020		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-10

Matrix: Aqueous

Date Sampled: 06/26/2012 1254

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1204	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1204	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	8011	8011	1	06/30/2012 0352	AMB	06/28/2012 1647	88021	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-10

Matrix: Aqueous

Date Sampled: 06/26/2012 1254

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run 1	Prep Method 8011	Analytical Method 8011	Dilution 1	Analysis Date 06/30/2012 0352	Analyst AMB	Prep Date 06/28/2012 1647	Batch 88021		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)		106-93-4	8011	ND		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,1,1,2-Tetrachloroethane		85	57-137						

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	06/28/2012 1704	CDF	06/27/2012 1930	87912

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	0.011		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-11

Matrix: Aqueous

Date Sampled: 06/26/2012 1344

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1229	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		98	70-130
Bromofluorobenzene		100	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1229	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0413	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-11

Matrix: Aqueous

Date Sampled: 06/26/2012 1344

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0413	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.020	0.020	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		90	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1708	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.019		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-14

Matrix: Aqueous

Date Sampled: 06/26/2012 1045

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1737	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	13		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	73		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	46		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	16		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	49		5.0	1.7	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery Limits
1,2-Dichloroethane-d4	91	70-130
Bromofluorobenzene	98	70-130
Toluene-d8	102	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1737	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	39	J	100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	25	J	100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		91	70-130
Toluene-d8		102	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0434	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-14

Matrix: Aqueous

Date Sampled: 06/26/2012 1045

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0434	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		94	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1712	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.0030	J	0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-15

Matrix: Aqueous

Date Sampled: 06/26/2012 1037

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/05/2012 1404	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	92		25	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Ethylbenzene	100-41-4	8260B	140		25	8.5	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		25	2.0	ug/L	1
Naphthalene	91-20-3	8260B	67		25	8.5	ug/L	1
Toluene	108-88-3	8260B	280		25	8.5	ug/L	1
Xylenes (total)	1330-20-7	8260B	380		25	8.5	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
1,2-Dichloroethane-d4		87	70-130
Bromofluorobenzene		96	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/05/2012 1404	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		50	2.0	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	170	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		500	5.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	140	J	500	34	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	1.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		500	34	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		96	70-130
1,2-Dichloroethane-d4		87	70-130
Toluene-d8		100	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	8011	8011	1	06/30/2012 0538	AMB	06/28/2012 1647	88021	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-15

Matrix: Aqueous

Date Sampled: 06/26/2012 1037

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0538	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	0.050		0.020	0.020	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		111	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1716	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.0086	J	0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-16

Matrix: Aqueous

Date Sampled: 06/26/2012 1058

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/05/2012 1431	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	180		25	1.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		25	1.5	ug/L	1
Ethylbenzene	100-41-4	8260B	83		25	8.5	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	5.4	J	25	2.0	ug/L	1
Naphthalene	91-20-3	8260B	39		25	8.5	ug/L	1
Toluene	108-88-3	8260B	580		25	8.5	ug/L	1
Xylenes (total)	1330-20-7	8260B	380		25	8.5	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery Limits
1,2-Dichloroethane-d4	90	70-130
Bromofluorobenzene	98	70-130
Toluene-d8	101	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	5	07/05/2012 1431	AAC		88450

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		50	2.0	ug/L	1
Ethanol	64-17-5	8260B	ND		5000	170	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		500	5.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		500	1.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	380	J	500	34	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		50	1.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		500	34	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		500	5.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		98	70-130
1,2-Dichloroethane-d4		90	70-130
Toluene-d8		101	70-130

EDB & DBCP by Microextraction

Run 1	Prep Method 8011	Analytical Method 8011	Dilution 1	Analysis Date 06/30/2012 0559	Analyst AMB	Prep Date 06/28/2012 1647	Batch 88021				
Parameter				CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-16

Matrix: Aqueous

Date Sampled: 06/26/2012 1058

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0559	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	0.59		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		100	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1720	CDF	06/27/2012 1930	87912			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.016		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-17

Matrix: Aqueous

Date Sampled: 06/26/2012 1111

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 20	Analysis Date 07/05/2012 1524	Analyst AAC	Prep Date	Batch 88450	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	880		100	4.0	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		100	6.0	ug/L	1
Ethylbenzene	100-41-4	8260B	1500		100	34	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	20	J	100	8.0	ug/L	1
Naphthalene	91-20-3	8260B	980		100	34	ug/L	1
Toluene	108-88-3	8260B	1500		100	34	ug/L	1
Xylenes (total)	1330-20-7	8260B	5700		100	34	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
1,2-Dichloroethane-d4		91	70-130					
Bromofluorobenzene		98	70-130					
Toluene-d8		101	70-130					

Volatile Organic Compounds by GC/MS

Run 1	Prep Method 5030B	Analytical Method 8260B	Dilution 20	Analysis Date 07/05/2012 1524	Analyst AAC	Prep Date	Batch 88450	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		200	8.0	ug/L	1
Ethanol	64-17-5	8260B	ND		20000	660	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		2000	20	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		2000	4.0	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	2300		2000	130	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		200	4.0	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		2000	130	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		2000	20	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
Bromofluorobenzene		98	70-130					
1,2-Dichloroethane-d4		91	70-130					
Toluene-d8		101	70-130					

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
2	8011	8011	5	07/02/2012 1332	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-17

Matrix: Aqueous

Date Sampled: 06/26/2012 1111

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
2	8011	8011	5	07/02/2012 1332	AMB	06/28/2012 1647	88021			
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run	
1,2-Dibromoethane (EDB)	106-93-4		8011	2.8		0.098	0.098	ug/L	2	
Surrogate	Q	Run 2 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		86	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/28/2012 1723	CDF	06/27/2012 1930	87912			
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run	
Lead	7439-92-1		6010C	0.035		0.010	0.0019	mg/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-18

Matrix: Aqueous

Date Sampled: 06/26/2012 1322

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1254	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	14		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		99	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		92	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1254	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		99	70-130
Toluene-d8		92	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0641	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-18

Matrix: Aqueous

Date Sampled: 06/26/2012 1322

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run 1	Prep Method 8011	Analytical Method 8011	Dilution 1	Analysis Date 06/30/2012 0641	Analyst AMB	Prep Date 06/28/2012 1647	Batch 88021		
Parameter		CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)		106-93-4	8011	ND		0.020	0.020	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits						
1,1,1,2-Tetrachloroethane		83	57-137						

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	3005A	6010C	1	06/28/2012 1727	CDF	06/27/2012 1930	87912

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead	7439-92-1	6010C	0.011		0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: TW-1

Matrix: Aqueous

Date Sampled: 06/26/2012 1429

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1319	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		93	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	5030B	8260B	1	07/05/2012 1319	AAC		88445	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits					
Bromofluorobenzene		103	70-130					
1,2-Dichloroethane-d4		96	70-130					
Toluene-d8		93	70-130					

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	8011	8011	1	06/30/2012 0702	AMB	06/28/2012 1647	88021	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: TW-1

Matrix: Aqueous

Date Sampled: 06/26/2012 1429

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0702	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.020	0.020	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		74	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/29/2012 2303	CDF	06/29/2012 1700	88108			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.0034	BJ	0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: TW-2

Matrix: Aqueous

Date Sampled: 06/26/2012 1409

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1344	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		94	70-130
Bromofluorobenzene		101	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1344	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		94	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	8011	8011	1	06/30/2012 0723	AMB	06/28/2012 1647	88021

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
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PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: TW-2

Matrix: Aqueous

Date Sampled: 06/26/2012 1409

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0723	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.020	0.020	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		99	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/29/2012 2326	CDF	06/29/2012 1700	88108			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Lead			7439-92-1	6010C	0.011	B	0.010	0.0019	mg/L	1

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-5 Dup

Matrix: Aqueous

Date Sampled: 06/26/2012 1153

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1409	AAC		88445
2	5030B	8260B	50	07/06/2012 0445	DD		88473

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	990		250	10	ug/L	2
1,2-Dichloroethane	107-06-2	8260B	19		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	1600		250	85	ug/L	2
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	570		250	85	ug/L	2
Toluene	108-88-3	8260B	9100		250	85	ug/L	2
Xylenes (total)	1330-20-7	8260B	11000		250	85	ug/L	2

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		91	70-130		108	70-130
Bromofluorobenzene		100	70-130		106	70-130
Toluene-d8		98	70-130		109	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1409	AAC		88445
2	5030B	8260B	50	07/06/2012 0445	DD		88473

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	760	J	5000	340	ug/L	2
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	17	J	100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits	Q	Run 2 % Recovery	Acceptance Limits
Bromofluorobenzene		100	70-130		106	70-130
1,2-Dichloroethane-d4		91	70-130		108	70-130
Toluene-d8		98	70-130		109	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: MW-5 Dup

Matrix: Aqueous

Date Sampled: 06/26/2012 1153

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0744	AMB	06/28/2012 1647	88021			
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run	
1,2-Dibromoethane (EDB)	106-93-4		8011	0.90		0.019	0.019	ug/L	1	
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		97	57-137							

ICP-AES

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	3005A	6010C	1	06/29/2012 2333	CDF	06/29/2012 1700	88108			
Parameter	CAS Number		Analytical Method	Result	Q	PQL	MDL	Units	Run	
Lead	7439-92-1		6010C	0.043	B	0.010	0.0019	mg/L	1	

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: Field Blank

Matrix: Aqueous

Date Sampled: 06/26/2012 1045

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1049	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Run 1 Q	Acceptance % Recovery	Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1049	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		91	70-130

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch	
1	8011	8011	1	06/30/2012 0806	AMB	06/28/2012 1647	88021	
Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: Field Blank

Matrix: Aqueous

Date Sampled: 06/26/2012 1045

Date Received: 06/27/2012

EDB & DBCP by Microextraction

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch			
1	8011	8011	1	06/30/2012 0806	AMB	06/28/2012 1647	88021			
Parameter			CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
1,2-Dibromoethane (EDB)			106-93-4	8011	ND		0.019	0.019	ug/L	1
Surrogate	Q	Run 1 % Recovery	Acceptance Limits							
1,1,1,2-Tetrachloroethane		87	57-137							

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

Description: Trip Blank

Matrix: Aqueous

Date Sampled: 06/26/2012 1145

Date Received: 06/27/2012

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1114	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Benzene	71-43-2	8260B	ND		5.0	0.20	ug/L	1
1,2-Dichloroethane	107-06-2	8260B	ND		5.0	0.30	ug/L	1
Ethylbenzene	100-41-4	8260B	ND		5.0	1.7	ug/L	1
Methyl tertiary butyl ether (MTBE)	1634-04-4	8260B	ND		5.0	0.40	ug/L	1
Naphthalene	91-20-3	8260B	ND		5.0	1.7	ug/L	1
Toluene	108-88-3	8260B	ND		5.0	1.7	ug/L	1
Xylenes (total)	1330-20-7	8260B	ND		5.0	1.7	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
1,2-Dichloroethane-d4		96	70-130
Bromofluorobenzene		103	70-130
Toluene-d8		91	70-130

Volatile Organic Compounds by GC/MS

Run	Prep Method	Analytical Method	Dilution	Analysis Date	Analyst	Prep Date	Batch
1	5030B	8260B	1	07/05/2012 1114	AAC		88445

Parameter	CAS Number	Analytical Method	Result	Q	PQL	MDL	Units	Run
Diisopropyl ether (IPE)	108-20-3	8260B	ND		10	0.40	ug/L	1
Ethanol	64-17-5	8260B	ND		1000	33	ug/L	1
3,3-Dimethyl-1-butanol	624-95-3	8260B	ND		100	1.0	ug/L	1
Ethyl-tert-butyl ether (ETBE)	637-92-3	8260B	ND		100	0.20	ug/L	1
tert-Amyl alcohol (TAA)	75-85-4	8260B	ND		100	6.7	ug/L	1
tert-Amyl methyl ether (TAME)	994-05-8	8260B	ND		10	0.20	ug/L	1
tert-butyl alcohol (TBA)	75-65-0	8260B	ND		100	6.7	ug/L	1
tert-Butyl formate (TBF)	762-75-4	8260B	ND		100	1.0	ug/L	1

Surrogate	Q	Run 1 % Recovery	Acceptance Limits
Bromofluorobenzene		103	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		91	70-130

PQL = Practical quantitation limit

B = Detected in the method blank

E = Quantitation of compound exceeded the calibration range

H = Out of holding time

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

P = The RPD between two GC columns exceeds 40%

N = Recovery is out of criteria

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

* = Reportable result (only when report all runs)

QC Summary

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88444-001

Batch: 88444

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	07/05/2012 1150
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/05/2012 1150
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	07/05/2012 1150
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	07/05/2012 1150
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	07/05/2012 1150
Ethanol	ND		1	1000	33	ug/L	07/05/2012 1150
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	07/05/2012 1150
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		100	70-130				
1,2-Dichloroethane-d4		102	70-130				
Toluene-d8		102	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88444-002

Batch: 88444

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1300		1	127	70-130	07/05/2012 1007
tert-Amyl methyl ether (TAME)	50	47		1	93	70-130	07/05/2012 1007
tert-Butyl formate (TBF)	250	280		1	112	70-130	07/05/2012 1007
Diisopropyl ether (IPE)	50	55		1	111	70-130	07/05/2012 1007
3,3-Dimethyl-1-butanol	1000	1400	N	1	139	70-130	07/05/2012 1007
Ethanol	5000	12000	N	1	233	70-130	07/05/2012 1007
Ethyl-tert-butyl ether (ETBE)	50	59		1	119	70-130	07/05/2012 1007
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		105	70-130				
1,2-Dichloroethane-d4		111	70-130				
Toluene-d8		108	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ88444-003

Batch: 88444

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1200		1	124	2.6	70-130	20	07/05/2012 1033
tert-Amyl methyl ether (TAME)	50	49		1	98	4.8	70-130	20	07/05/2012 1033
tert-Butyl formate (TBF)	250	290		1	116	4.0	70-130	20	07/05/2012 1033
Diisopropyl ether (IPE)	50	58		1	116	4.4	70-130	20	07/05/2012 1033
3,3-Dimethyl-1-butanol	1000	1400	N	1	136	2.5	70-130	20	07/05/2012 1033
Ethanol	5000	11000	N	1	228	1.9	70-130	20	07/05/2012 1033
Ethyl-tert-butyl ether (ETBE)	50	63		1	126	6.1	70-130	20	07/05/2012 1033
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		102	70-130						
1,2-Dichloroethane-d4		110	70-130						
Toluene-d8		105	70-130						

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88444-001

Batch: 88444

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/05/2012 1150
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/05/2012 1150
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/05/2012 1150
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/05/2012 1150
Naphthalene	ND		1	5.0	1.7	ug/L	07/05/2012 1150
Toluene	ND		1	5.0	1.7	ug/L	07/05/2012 1150
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/05/2012 1150
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		100	70-130				
1,2-Dichloroethane-d4		102	70-130				
Toluene-d8		102	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88444-002

Batch: 88444

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
Benzene	50	52		1	104	70-130	07/05/2012 1007
1,2-Dichloroethane	50	56		1	111	70-130	07/05/2012 1007
Ethylbenzene	50	49		1	97	70-130	07/05/2012 1007
Methyl tertiary butyl ether (MTBE)	50	57		1	114	70-130	07/05/2012 1007
Naphthalene	50	52		1	105	70-130	07/05/2012 1007
Toluene	50	51		1	103	70-130	07/05/2012 1007
Xylenes (total)	100	99		1	99	70-130	07/05/2012 1007
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		105	70-130				
1,2-Dichloroethane-d4		111	70-130				
Toluene-d8		108	70-130				

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ88444-003

Batch: 88444

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	55		1	110	5.6	70-130	20	07/05/2012 1033
1,2-Dichloroethane	50	58		1	116	4.1	70-130	20	07/05/2012 1033
Ethylbenzene	50	52		1	103	6.2	70-130	20	07/05/2012 1033
Methyl tertiary butyl ether (MTBE)	50	59		1	117	2.8	70-130	20	07/05/2012 1033
Naphthalene	50	52		1	103	1.7	70-130	20	07/05/2012 1033
Toluene	50	55		1	110	6.9	70-130	20	07/05/2012 1033
Xylenes (total)	100	100		1	104	4.9	70-130	20	07/05/2012 1033
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		102	70-130						
1,2-Dichloroethane-d4		110	70-130						
Toluene-d8		105	70-130						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88445-001

Batch: 88445

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	07/05/2012 0845
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/05/2012 0845
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	07/05/2012 0845
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	07/05/2012 0845
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	07/05/2012 0845
Ethanol	ND		1	1000	33	ug/L	07/05/2012 0845
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	07/05/2012 0845
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	07/05/2012 0845

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		93	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88445-002

Batch: 88445

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1300		1	129	70-130	07/05/2012 0704
tert-Amyl methyl ether (TAME)	50	47		1	95	70-130	07/05/2012 0704
tert-Butyl formate (TBF)	250	290		1	117	70-130	07/05/2012 0704
Diisopropyl ether (IPE)	50	53		1	106	70-130	07/05/2012 0704
3,3-Dimethyl-1-butanol	1000	1300		1	129	70-130	07/05/2012 0704
Ethanol	5000	7600	N	1	152	70-130	07/05/2012 0704
Ethyl-tert-butyl ether (ETBE)	50	51		1	102	70-130	07/05/2012 0704
tert-butyl alcohol (TBA)	1000	1300		1	128	70-130	07/05/2012 0704

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		101	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		96	70-130

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ88445-003

Batch: 88445

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1300	N	1	133	3.5	70-130	20	07/05/2012 0729
tert-Amyl methyl ether (TAME)	50	46		1	91	3.7	70-130	20	07/05/2012 0729
tert-Butyl formate (TBF)	250	280		1	114	2.6	70-130	20	07/05/2012 0729
Diisopropyl ether (IPE)	50	50		1	100	5.6	70-130	20	07/05/2012 0729
3,3-Dimethyl-1-butanol	1000	1400	N	1	137	6.0	70-130	20	07/05/2012 0729
Ethanol	5000	8600	N	1	172	12	70-130	20	07/05/2012 0729
Ethyl-tert-butyl ether (ETBE)	50	49		1	97	5.1	70-130	20	07/05/2012 0729
tert-butyl alcohol (TBA)	1000	1300	N	1	132	2.8	70-130	20	07/05/2012 0729
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		101	70-130						
1,2-Dichloroethane-d4		93	70-130						
Toluene-d8		97	70-130						

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NF27024-008DU

Batch: 88445

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Diisopropyl ether (IPE)	ND	ND		1	0.00	20	07/05/2012 1755
Ethanol	ND	590	J	1	0.00	20	07/05/2012 1755
3,3-Dimethyl-1-butanol	ND	ND		1	0.00	20	07/05/2012 1755
Ethyl-tert-butyl ether (ETBE)	ND	ND		1	0.00	20	07/05/2012 1755
tert-Amyl alcohol (TAA)	ND	ND		1	0.00	20	07/05/2012 1755
tert-Amyl methyl ether (TAME)	ND	ND		1	0.00	20	07/05/2012 1755
tert-butyl alcohol (TBA)	ND	ND		1	0.00	20	07/05/2012 1755
tert-Butyl formate (TBF)	ND	ND		1	0.00	20	07/05/2012 1755
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		101	70-130				
1,2-Dichloroethane-d4		96	70-130				
Toluene-d8		91	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: NF27024-005MS

Matrix: Aqueous

Batch: 88445

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Diisopropyl ether (IPE)	ND	50	52		1	103	70-130	07/05/2012 1820
Ethanol	ND	5000	6800	N	1	135	70-130	07/05/2012 1820
3,3-Dimethyl-1-butanol	ND	1000	1500	N	1	154	70-130	07/05/2012 1820
Ethyl-tert-butyl ether (ETBE)	ND	50	50		1	99	70-130	07/05/2012 1820
tert-Amyl alcohol (TAA)	ND	1000	1500	N	1	147	70-130	07/05/2012 1820
tert-Amyl methyl ether (TAME)	ND	50	48		1	96	70-130	07/05/2012 1820
tert-butyl alcohol (TBA)	ND	1000	1600	N	1	160	70-130	07/05/2012 1820
tert-Butyl formate (TBF)	ND	250	59	N	1	23	70-130	07/05/2012 1820

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		96	70-130
Toluene-d8		93	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88445-001

Matrix: Aqueous

Batch: 88445

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/05/2012 0845
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/05/2012 0845
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/05/2012 0845
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/05/2012 0845
Naphthalene	ND		1	5.0	1.7	ug/L	07/05/2012 0845
Toluene	ND		1	5.0	1.7	ug/L	07/05/2012 0845
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/05/2012 0845

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		93	70-130

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88445-002

Batch: 88445

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
Benzene	50	49		1	99	70-130	07/05/2012 0704
1,2-Dichloroethane	50	47		1	94	70-130	07/05/2012 0704
Ethylbenzene	50	50		1	100	70-130	07/05/2012 0704
Methyl tertiary butyl ether (MTBE)	50	53		1	107	70-130	07/05/2012 0704
Naphthalene	50	54		1	107	70-130	07/05/2012 0704
Toluene	50	48		1	95	70-130	07/05/2012 0704
Xylenes (total)	100	100		1	102	70-130	07/05/2012 0704
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		101	70-130				
1,2-Dichloroethane-d4		98	70-130				
Toluene-d8		96	70-130				

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ88445-003

Batch: 88445

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	47		1	93	5.7	70-130	20	07/05/2012 0729
1,2-Dichloroethane	50	45		1	91	2.9	70-130	20	07/05/2012 0729
Ethylbenzene	50	46		1	93	7.3	70-130	20	07/05/2012 0729
Methyl tertiary butyl ether (MTBE)	50	52		1	103	3.2	70-130	20	07/05/2012 0729
Naphthalene	50	52		1	105	2.4	70-130	20	07/05/2012 0729
Toluene	50	44		1	88	8.0	70-130	20	07/05/2012 0729
Xylenes (total)	100	96		1	96	6.6	70-130	20	07/05/2012 0729
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		101	70-130						
1,2-Dichloroethane-d4		93	70-130						
Toluene-d8		97	70-130						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NF27024-008DU

Matrix: Aqueous

Batch: 88445

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	Dil	% RPD	% RPD Limit	Analysis Date
Benzene	ND	ND		1	0.00	20	07/05/2012 1755
1,2-Dichloroethane	ND	ND		1	0.00	20	07/05/2012 1755
Ethylbenzene	ND	ND		1	0.00	20	07/05/2012 1755
Methyl tertiary butyl ether (MTBE)	ND	ND		1	0.00	20	07/05/2012 1755
Naphthalene	ND	ND		1	0.00	20	07/05/2012 1755
Toluene	ND	ND		1	0.00	20	07/05/2012 1755
Xylenes (total)	ND	ND		1	0.00	20	07/05/2012 1755
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		96	70-130				
Bromofluorobenzene		101	70-130				
Toluene-d8		91	70-130				

Volatile Organic Compounds by GC/MS - MS

Sample ID: NF27024-005MS

Matrix: Aqueous

Batch: 88445

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Benzene	ND	50	51		1	101	70-130	07/05/2012 1820
1,2-Dichloroethane	ND	50	49		1	99	70-130	07/05/2012 1820
Ethylbenzene	ND	50	52		1	104	70-130	07/05/2012 1820
Methyl tertiary butyl ether (MTBE)	ND	50	54		1	109	70-130	07/05/2012 1820
Naphthalene	ND	50	70	N	1	139	70-130	07/05/2012 1820
Toluene	ND	50	49		1	98	70-130	07/05/2012 1820
Xylenes (total)	ND	100	100		1	105	70-130	07/05/2012 1820
Surrogate	Q	% Rec	Acceptance Limit					
1,2-Dichloroethane-d4		96	70-130					
Bromofluorobenzene		99	70-130					
Toluene-d8		93	70-130					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88450-001

Matrix: Aqueous

Batch: 88450

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	07/05/2012 0845
tert-Amyl methyl ether (TAME)	ND		1	10	0.20	ug/L	07/05/2012 0845
tert-Butyl formate (TBF)	ND		1	100	1.0	ug/L	07/05/2012 0845
Diisopropyl ether (IPE)	ND		1	10	0.40	ug/L	07/05/2012 0845
3,3-Dimethyl-1-butanol	ND		1	100	1.0	ug/L	07/05/2012 0845
Ethanol	ND		1	1000	33	ug/L	07/05/2012 0845
Ethyl-tert-butyl ether (ETBE)	ND		1	100	0.20	ug/L	07/05/2012 0845
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	07/05/2012 0845

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		98	70-130
Toluene-d8		100	70-130

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88450-002

Matrix: Aqueous

Batch: 88450

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	112	70-130	07/05/2012 0713
tert-Amyl methyl ether (TAME)	50	52		1	104	70-130	07/05/2012 0713
tert-Butyl formate (TBF)	250	270		1	109	70-130	07/05/2012 0713
Diisopropyl ether (IPE)	50	53		1	107	70-130	07/05/2012 0713
3,3-Dimethyl-1-butanol	1000	1200		1	116	70-130	07/05/2012 0713
Ethanol	5000	5500		1	110	70-130	07/05/2012 0713
Ethyl-tert-butyl ether (ETBE)	50	48		1	97	70-130	07/05/2012 0713
tert-butyl alcohol (TBA)	1000	1100		1	106	70-130	07/05/2012 0713

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		99	70-130
1,2-Dichloroethane-d4		97	70-130
Toluene-d8		100	70-130

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ88450-003

Batch: 88450

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1100		1	107	4.9	70-130	20	07/05/2012 0736
tert-Amyl methyl ether (TAME)	50	51		1	101	2.6	70-130	20	07/05/2012 0736
tert-Butyl formate (TBF)	250	260		1	105	3.6	70-130	20	07/05/2012 0736
Diisopropyl ether (IPE)	50	51		1	102	4.6	70-130	20	07/05/2012 0736
3,3-Dimethyl-1-butanol	1000	1100		1	108	7.2	70-130	20	07/05/2012 0736
Ethanol	5000	4900		1	99	10	70-130	20	07/05/2012 0736
Ethyl-tert-butyl ether (ETBE)	50	46		1	93	4.4	70-130	20	07/05/2012 0736
tert-butyl alcohol (TBA)	1000	1000		1	100	6.4	70-130	20	07/05/2012 0736
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		98	70-130						
1,2-Dichloroethane-d4		94	70-130						
Toluene-d8		99	70-130						

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88450-001

Batch: 88450

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/05/2012 0845
1,2-Dichloroethane	ND		1	5.0	0.30	ug/L	07/05/2012 0845
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/05/2012 0845
Methyl tertiary butyl ether (MTBE)	ND		1	5.0	0.40	ug/L	07/05/2012 0845
Naphthalene	ND		1	5.0	1.7	ug/L	07/05/2012 0845
Toluene	ND		1	5.0	1.7	ug/L	07/05/2012 0845
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/05/2012 0845
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		99	70-130				
1,2-Dichloroethane-d4		98	70-130				
Toluene-d8		100	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88450-002

Batch: 88450

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
Benzene	50	48		1	96	70-130	07/05/2012 0713
1,2-Dichloroethane	50	45		1	91	70-130	07/05/2012 0713
Ethylbenzene	50	49		1	97	70-130	07/05/2012 0713
Methyl tertiary butyl ether (MTBE)	50	52		1	103	70-130	07/05/2012 0713
Naphthalene	50	50		1	99	70-130	07/05/2012 0713
Toluene	50	48		1	96	70-130	07/05/2012 0713
Xylenes (total)	100	99		1	99	70-130	07/05/2012 0713
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		99	70-130				
1,2-Dichloroethane-d4		97	70-130				
Toluene-d8		100	70-130				

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ88450-003

Batch: 88450

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Benzene	50	47		1	93	3.0	70-130	20	07/05/2012 0736
1,2-Dichloroethane	50	44		1	88	3.8	70-130	20	07/05/2012 0736
Ethylbenzene	50	48		1	96	1.2	70-130	20	07/05/2012 0736
Methyl tertiary butyl ether (MTBE)	50	49		1	98	5.5	70-130	20	07/05/2012 0736
Naphthalene	50	49		1	98	1.1	70-130	20	07/05/2012 0736
Toluene	50	46		1	92	3.7	70-130	20	07/05/2012 0736
Xylenes (total)	100	96		1	96	3.1	70-130	20	07/05/2012 0736
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		98	70-130						
1,2-Dichloroethane-d4		94	70-130						
Toluene-d8		99	70-130						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88473-001

Batch: 88473

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
tert-Amyl alcohol (TAA)	ND		1	100	6.7	ug/L	07/05/2012 2315
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		105	70-130				
1,2-Dichloroethane-d4		106	70-130				
Toluene-d8		108	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88473-002

Batch: 88473

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	1000	1200		1	124	70-130	07/06/2012 0834
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		104	70-130				
1,2-Dichloroethane-d4		105	70-130				
Toluene-d8		106	70-130				

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NF27024-017DU

Batch: 88473

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	DII	% RPD	% RPD Limit	Analysis Date
tert-Amyl alcohol (TAA)	760	690	J	50	9.5	20	07/06/2012 0717
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		103	70-130				
1,2-Dichloroethane-d4		99	70-130				
Toluene-d8		107	70-130				

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

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

P = The RPD between two GC columns exceeds 40%

J = Estimated result < PQL and ≥ MDL

N - Recovery is out of criteria

+ - RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: NF27024-017MS

Matrix: Aqueous

Batch: 88473

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
tert-Amyl alcohol (TAA)	760	50000	64000		50	126	70-130	07/06/2012 0743
Surrogate	Q	% Rec	Acceptance Limit					
Bromofluorobenzene		104	70-130					
1,2-Dichloroethane-d4		106	70-130					
Toluene-d8		108	70-130					

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88473-001

Matrix: Aqueous

Batch: 88473

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
Benzene	ND		1	5.0	0.20	ug/L	07/05/2012 2315
Ethylbenzene	ND		1	5.0	1.7	ug/L	07/05/2012 2315
Naphthalene	ND		1	5.0	1.7	ug/L	07/05/2012 2315
Toluene	ND		1	5.0	1.7	ug/L	07/05/2012 2315
Xylenes (total)	ND		1	5.0	1.7	ug/L	07/05/2012 2315
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		105	70-130				
1,2-Dichloroethane-d4		106	70-130				
Toluene-d8		108	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88473-002

Matrix: Aqueous

Batch: 88473

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
Benzene	50	55		1	111	70-130	07/06/2012 0834
Ethylbenzene	50	50		1	100	70-130	07/06/2012 0834
Naphthalene	50	50		1	100	70-130	07/06/2012 0834
Toluene	50	54		1	108	70-130	07/06/2012 0834
Xylenes (total)	100	100		1	101	70-130	07/06/2012 0834

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88473-002

Batch: 88473

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Surrogate	Q	% Rec	Acceptance Limit
Bromofluorobenzene		104	70-130
1,2-Dichloroethane-d4		105	70-130
Toluene-d8		106	70-130

Volatile Organic Compounds by GC/MS - Duplicate

Sample ID: NF27024-017DU

Batch: 88473

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Result (ug/L)	Q	DII	% RPD	% RPD Limit	Analysis Date
Benzene	990	960		50	2.6	20	07/06/2012 0717
Ethylbenzene	1600	1500		50	1.2	20	07/06/2012 0717
Naphthalene	570	600		50	5.3	20	07/06/2012 0717
Toluene	9100	8900		50	2.3	20	07/06/2012 0717
Xylenes (total)	11000	11000		50	0.54	20	07/06/2012 0717
Surrogate	Q	% Rec	Acceptance Limit				
1,2-Dichloroethane-d4		99	70-130				
Bromofluorobenzene		103	70-130				
Toluene-d8		107	70-130				

Volatile Organic Compounds by GC/MS - MS

Sample ID: NF27024-017MS

Batch: 88473

Analytical Method: 8260B

Matrix: Aqueous

Prep Method: 5030B

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
Benzene	990	2500	4000		50	122	70-130	07/06/2012 0743
Ethylbenzene	1600	2500	4400		50	112	70-130	07/06/2012 0743
Naphthalene	570	2500	3300		50	108	70-130	07/06/2012 0743
Toluene	9100	2500	12000		50	114	70-130	07/06/2012 0743
Xylenes (total)	11000	5000	16000		50	107	70-130	07/06/2012 0743

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - MS

Sample ID: NF27024-017MS

Matrix: Aqueous

Batch: 88473

Prep Method: 5030B

Analytical Method: 8260B

Surrogate	Q	% Rec	Acceptance Limit
1,2-Dichloroethane-d4		106	70-130
Bromofluorobenzene		104	70-130
Toluene-d8		108	70-130

Volatile Organic Compounds by GC/MS - MB

Sample ID: NQ88561-001

Matrix: Aqueous

Batch: 88561

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
tert-butyl alcohol (TBA)	ND		1	100	6.7	ug/L	07/06/2012 0917
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		98	70-130				
1,2-Dichloroethane-d4		98	70-130				
Toluene-d8		100	70-130				

Volatile Organic Compounds by GC/MS - LCS

Sample ID: NQ88561-002

Matrix: Aqueous

Batch: 88561

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
tert-butyl alcohol (TBA)	1000	980		1	98	70-130	07/06/2012 0748
Surrogate	Q	% Rec	Acceptance Limit				
Bromofluorobenzene		100	70-130				
1,2-Dichloroethane-d4		100	70-130				
Toluene-d8		103	70-130				

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Volatile Organic Compounds by GC/MS - LCSD

Sample ID: NQ88561-003

Matrix: Aqueous

Batch: 88561

Prep Method: 5030B

Analytical Method: 8260B

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
tert-butyl alcohol (TBA)	1000	1100		1	105	6.7	70-130	20	07/06/2012 0810
Surrogate	Q	% Rec	Acceptance Limit						
Bromofluorobenzene		100	70-130						
1,2-Dichloroethane-d4		100	70-130						
Toluene-d8		102	70-130						

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shealy Environmental Services, Inc.

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

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EDB & DBCP by Microextraction - MB

Sample ID: NQ88021-001

Batch: 88021

Analytical Method: 8011

Matrix: Aqueous

Prep Method: 8011

Prep Date: 06/28/2012 1647

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
1,2-Dibromoethane (EDB)	ND		1	0.020	0.020	ug/L	06/30/2012 0019
Surrogate	Q	% Rec	Acceptance Limit				
1,1,1,2-Tetrachloroethane		99	57-137				

EDB & DBCP by Microextraction - LCS

Sample ID: NQ88021-002

Batch: 88021

Analytical Method: 8011

Matrix: Aqueous

Prep Method: 8011

Prep Date: 06/28/2012 1647

Parameter	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	0.25	0.25		1	99	60-140	06/30/2012 0040
Surrogate	Q	% Rec	Acceptance Limit				
1,1,1,2-Tetrachloroethane		100	57-137				

EDB & DBCP by Microextraction - MS

Sample ID: NF27024-010MS

Batch: 88021

Analytical Method: 8011

Matrix: Aqueous

Prep Method: 8011

Prep Date: 06/28/2012 1647

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.24	0.20		1	83	60-140	06/30/2012 0455
Surrogate	Q	% Rec	Acceptance Limit					
1,1,1,2-Tetrachloroethane		89	57-137					

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

EDB & DBCP by Microextraction - MSD

Sample ID: NF27024-010MD

Matrix: Aqueous

Batch: 88021

Prep Method: 8011

Analytical Method: 8011

Prep Date: 06/28/2012 1647

Parameter	Sample Amount (ug/L)	Spike Amount (ug/L)	Result (ug/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
1,2-Dibromoethane (EDB)	ND	0.25	0.23		1	91	12	60-140	20	06/30/2012 0516
Surrogate	Q	% Rec	Acceptance Limit							
1,1,1,2-Tetrachloroethane		93	57-137							

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MB

Sample ID: NQ87912-001

Batch: 87912

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/27/2012 1930

Parameter	Result	Q	DII	PQL	MDL	Units	Analysis Date
Lead	ND		1	0.010	0.0019	mg/L	06/28/2012 1532

ICP-AES - LCS

Sample ID: NQ87912-002

Batch: 87912

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/27/2012 1930

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.43		1	108	80-120	06/28/2012 1536

ICP-AES - LCSD

Sample ID: NQ87912-003

Batch: 87912

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/27/2012 1930

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	DII	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.43		1	107	0.68	80-120	20	06/28/2012 1540

ICP-AES - MS

Sample ID: NF27024-001MS

Batch: 87912

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/27/2012 1930

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	DII	% Rec	% Rec Limit	Analysis Date
Lead	0.0090	0.40	0.43		1	105	75-125	06/28/2012 1618

PQL = Practical quantitation limit

ND = Not detected at or above the MDL

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

P = The RPD between two GC columns exceeds 40%

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

N - Recovery is out of criteria

+ - RPD is out of criteria

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - MSD

Sample ID: NF27024-001MD

Batch: 87912

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/27/2012 1930

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.0090	0.40	0.44		1	109	3.7	75-125	20	06/28/2012 1622

ICP-AES - MS

Sample ID: NF27024-002MS

Batch: 87912

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/27/2012 1930

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.39	0.40	0.83		1	110	75-125	06/28/2012 1634

ICP-AES - MB

Sample ID: NQ88108-001

Batch: 88108

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/29/2012 1700

Parameter	Result	Q	Dil	PQL	MDL	Units	Analysis Date
Lead	0.0046	J	1	0.010	0.0019	mg/L	06/29/2012 2251

ICP-AES - LCS

Sample ID: NQ88108-002

Batch: 88108

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/29/2012 1700

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.40	0.46		1	114	80-120	06/29/2012 2255

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

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

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

ICP-AES - LCSD

Sample ID: NQ88108-003

Batch: 88108

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/29/2012 1700

Parameter	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.40	0.45		1	113	1.0	80-120	20	06/29/2012 2259

ICP-AES - MS

Sample ID: NF27024-015MS

Batch: 88108

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/29/2012 1700

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.0034	0.40	0.46		1	114	75-125	06/29/2012 2306

ICP-AES - MSD

Sample ID: NF27024-015MD

Batch: 88108

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/29/2012 1700

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% RPD	% Rec Limit	% RPD Limit	Analysis Date
Lead	0.0034	0.40	0.46		1	115	0.53	75-125	20	06/29/2012 2310

ICP-AES - MS

Sample ID: NF27024-016MS

Batch: 88108

Analytical Method: 6010C

Matrix: Aqueous

Prep Method: 3005A

Prep Date: 06/29/2012 1700

Parameter	Sample Amount (mg/L)	Spike Amount (mg/L)	Result (mg/L)	Q	Dil	% Rec	% Rec Limit	Analysis Date
Lead	0.011	0.40	0.46		1	111	75-125	06/29/2012 2329

PQL = Practical quantitation limit

P = The RPD between two GC columns exceeds 40%

N - Recovery is out of criteria

ND = Not detected at or above the MDL

J = Estimated result < PQL and ≥ MDL

+ - RPD is out of criteria

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

Note: Calculations are performed before rounding to avoid round-off errors in calculated results

Shoely Environmental Services, Inc.
106 Vantage Point Drive
West Columbia, South Carolina 29172
Telephone No. (803) 791-9100 Fax No. (803) 791-9111

100-92090

Chain of Custody Record

[illegible]

Note: All samples are retained for six weeks from receipt unless other arrangements are made.

Chain of Custody Record

Number 099288

Client		Requester		Requester's Address		Requester's Phone		Requester's Fax		Requester's Email		Requester's Website		Requester's Other		Requester's Signature		Requester's Date		Requester's Time		Requester's Initials	
MECI		B. Shane		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043	
235-B Dudley Rd.		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043	
Lexington SC 29073		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043	
Coastal 70 Truck Stop		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043	
03536		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043		603-808-2043	
NW-10		1254		1254		1254		1254		1254		1254		1254		1254		1254		1254		1254	
NW-11		1344		1344		1344		1344		1344		1344		1344		1344		1344		1344		1344	
NW-14		1045		1045		1045		1045		1045		1045		1045		1045		1045		1045		1045	
NW-15		1037		1037		1037		1037		1037		1037		1037		1037		1037		1037		1037	
NW-16		1058		1058		1058		1058		1058		1058		1058		1058		1058		1058		1058	
NW-17		1111		1111		1111		1111		1111		1111		1111		1111		1111		1111		1111	
NW-18		1322		1322		1322		1322		1322		1322		1322		1322		1322		1322		1322	
NW-1		1484		1484		1484		1484		1484		1484		1484		1484		1484		1484		1484	
NW-2		1409		1409		1409		1409		1409		1409		1409		1409		1409		1409		1409	
NW-5 Dug		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153	
NW-6		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153	
NW-7		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153	
NW-8		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153	
NW-9		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153	
NW-10		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153	
NW-11		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153		1153	
NW-12		1153		1																			

Note: Arrangements are retained for six weeks from unless other arrangements are made.

Telephone No. (803) 791-9700 Fax No. (803) 791-9111
www.sleeplab.com

Level 1 Report v2.1

SHEALY ENVIRONMENTAL SERVICES, INC.

Shealy Environmental Services, Inc.
 Laboratory Number: E-AD-0013
 Revision Number: 2

Page 1 of 1
 Revision Date: 05-06-11
 Effective Date: 10-1-11

Sample Receipt Checklist (SRC)

Client: MCCI Cooler Inspected by/date: WHL 6/27/12 Lot #: NF27021

Means of Receipt: ☒ SESI ☐ Client ☐ UPS ☐ FedEx ☐ Airborne Exp. ☐ Other		
Yes ☐ No ☒	1. Were custody seals present on the cooler?	
Yes ☐ No ☐	2. If custody seals were present, were they intact and unbroken?	
Cooler ID/temperature upon receipt: <u>1-0</u> °C <u>36</u> °F		
Method: ☐ Temperature Blank ☒ Against Bottles (<u>Temp Blank</u>)		
Method of coolant: ☒ Wet Ice ☐ Blue Ice ☐ Dry Ice ☐ None		
If response is No for Yes for 14, 15, 16), an explanation/resolution must be provided.		
Yes ☐ No ☐ NA ☒	3. If temperature of any cooler exceeded 6.0°C, was Project Manager notified? PM notified by SRC, phone, note (circle one), other: _____ (For coolers received via commercial courier, PMs are to be notified immediately.)	
Yes ☐ No ☐ NA ☒	4. Is the commercial courier's packing slip attached to this form?	
Yes ☒ No ☐	5. Were proper custody procedures (relinquished/received) followed?	
Yes ☐ No ☐ NA ☒	5a. Were samples relinquished by client to commercial courier?	
Yes ☒ No ☐	6. Were sample IDs listed?	
Yes ☒ No ☐	7. Was collection date & time listed?	
Yes ☒ No ☐	8. Were tests to be performed listed on the COC?	
Yes ☒ No ☐	9. Did all samples arrive in the proper containers for each test?	
Yes ☒ No ☐	10. Did all container label information (ID, date, time) agree with COC?	
Yes ☒ No ☐	11. Did all containers arrive in good condition (unbroken, lids on, etc.)?	
Yes ☒ No ☐	12. Was adequate sample volume available?	
Yes ☒ No ☐	13. Were all samples received within 1/2 the holding time or 48 hours, whichever comes first?	
Yes ☐ No ☒	14. Were any samples containers missing?	
Yes ☐ No ☒	15. Were there any excess samples not listed on COC?	
Yes ☒ No ☐ NA ☐	16. Were bubbles present >"pea-size" (1/4" or 6mm in diameter) in any VOA vials?	
Yes ☐ No ☒ NA ☐	17. Were all metals/C&G/HEM/nutrient samples received at a pH of <2?	
Yes ☐ No ☒ NA ☐	18. Were all cyanide and/or sulfide samples received at a pH >12?	
Yes ☐ No ☐ NA ☒	19. Were all applicable NH ₃ /TKN/cyanide/pheno/BNA/pest PCB herb (<0.2mg/L) samples free of residual chlorine?	
Yes ☐ No ☐ NA ☒	20. Were collection temperatures documented on the COC for NC samples?	
Yes ☐ No ☐ NA ☒	21. Were client remarks/requests (i.e. requested dilutions, MS/MSD designations, etc...) correctly transcribed from the COC into the comment section in LIMS?	

Sample Preservation (Must be completed for any sample(s) incorrectly preserved or with headspace.)

Sample(s): -015 were received incorrectly preserved and were adjusted accordingly in sample receiving with (H₂SO₄/HNO₃/HCl/NaOH) with the SR# (number) # 63

Sample(s): -015(2) -017(2) were received with bubbles >6 mm in diameter

Sample(s): _____ were received with TRC >0.2 mg/L for NH₃

TKN or cyanide BNA pest PCB herb.

Corrective Action taken, if necessary:

Was client notified: Yes ☐ No ☐

Did client respond: Yes ☐ No ☐

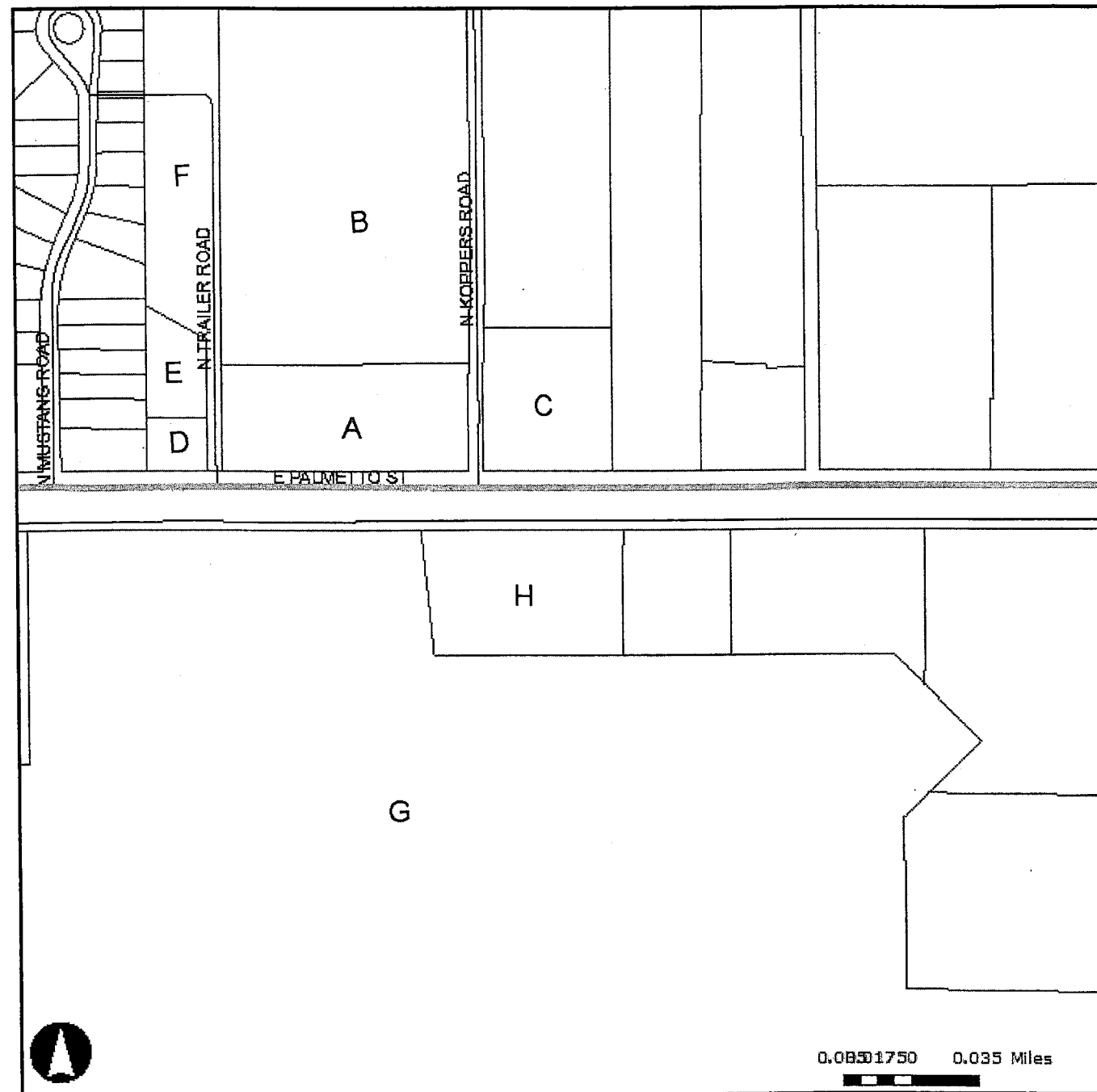
SESI employee: _____

Date of response: _____

Signature: _____

APPENDIX C:

TAX MAP



ID	Tax Map #	Owner
A	90150-01-029 Site	Dan M. McEachin 10017 Wentworth Drive Florence, SC 29501
B	90150-01-043	
C	90150-01-130	
D	90150-01-041	Moody Real Estate, Inc. 1609 Elvington Court Lakeview, SC 29563
E	90150-01-027	
F	90150-01-028	Wade Lory Rawlinson 220 South White Palm Court Florence, SC 29506
G	00177-01-001	Pee Dee Regional Airport 2100 Terminal Drive Florence, SC 29506
H	00207-01-020	

Tax Data obtained from Florence County, SC GIS Department

Tax Map Data

Coastal T6 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC ID # 03538

Midlands
 **Environmental
Consultants, Inc.**

JOB NO. 12-3980
DATE July 17, 2012
Appendix

C

APPENDIX D:
SOIL BORING/FIELD SCREENING LOGS & 1903 FORMS

**This appendix is not applicable to the scope of services presented in the subject report,
however this page has been included in order to conform to the SCDHEC UST
Management Division Programmatic QAPP and provide report continuity**

APPENDIX E:
WELL COMPLETION LOGS & 1903 FORMS

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot									
				0	5	10	20	40	60	80	100		
	Asphalt with Stone Base												
	COASTAL PLAIN SEDIMENT: Brown, Silty Fine to Medium SAND												
5		383.3											
10		1,468											
15	Brown, Fine to Medium Sandy SILT	1,522											
20		789.1											
25	Boring Terminated at 21.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 21.0 Feet BGS. Groundwater Measured at 14.10 Feet Below Top of Casing (TOC) on 06/26/2012.												
30													
35													

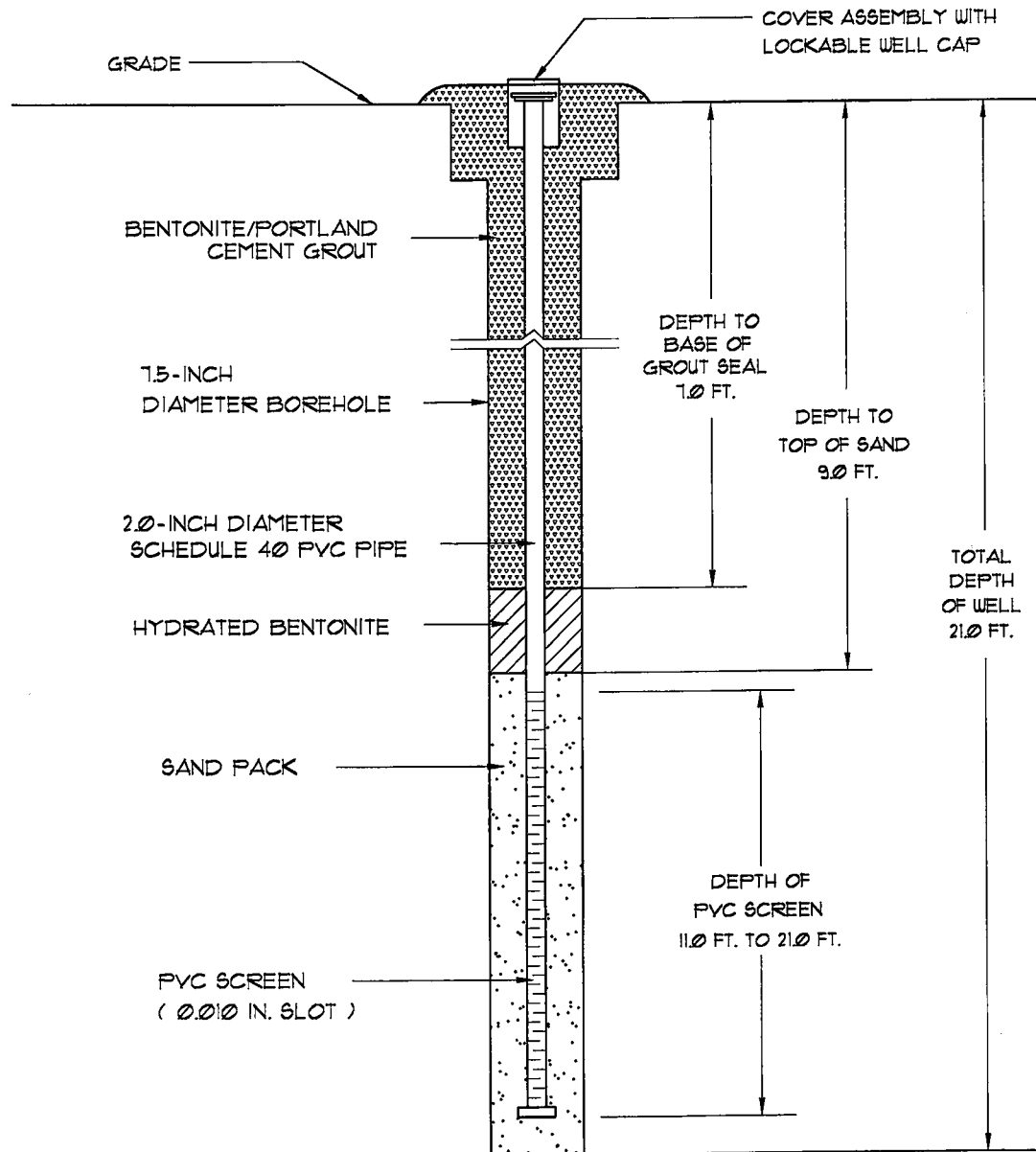
TEST BORING RECORD
 Coastal 76 Truck Stop
 Florence, South Carolina
 SCDHEC Site ID# 03538
 MECI Project Number 12-3980

Boring Number: IGWA-R (03538)
 Date Drilled: 6/20/2012
 Drilled By: Environmental Drilling & Probing Services, LLC.
 Logged By: R. Ariail

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

MONITORING WELL INSTALLATION RECORD

Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980



Well Number:	IGWA-R (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC
Driller:	J. Smith
S.C. I.D. #	B 01648
Logged By:	R. Ariall

Prepared By:

Midlands
Environmental
Consultants, Inc.

235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot										
				0	5	10	20	40	60	80	100			
	Gravel with Topsoil													
	COASTAL PLAIN SEDIMENT: Brown, Fine SAND													
5	Brown and Orange, Fine Sandy Clayey SILT	12.8												
10	Brown, Fine Sandy SILT	6.4												
15	Brown, Silty Fine SAND	5.0												
20	Boring Terminated at 20.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 20.0 Feet BGS. Groundwater Measured at 12.78 Feet Below Top of Casing (TOC) on 06/26/2012.	5.9												
25														
30														
35														

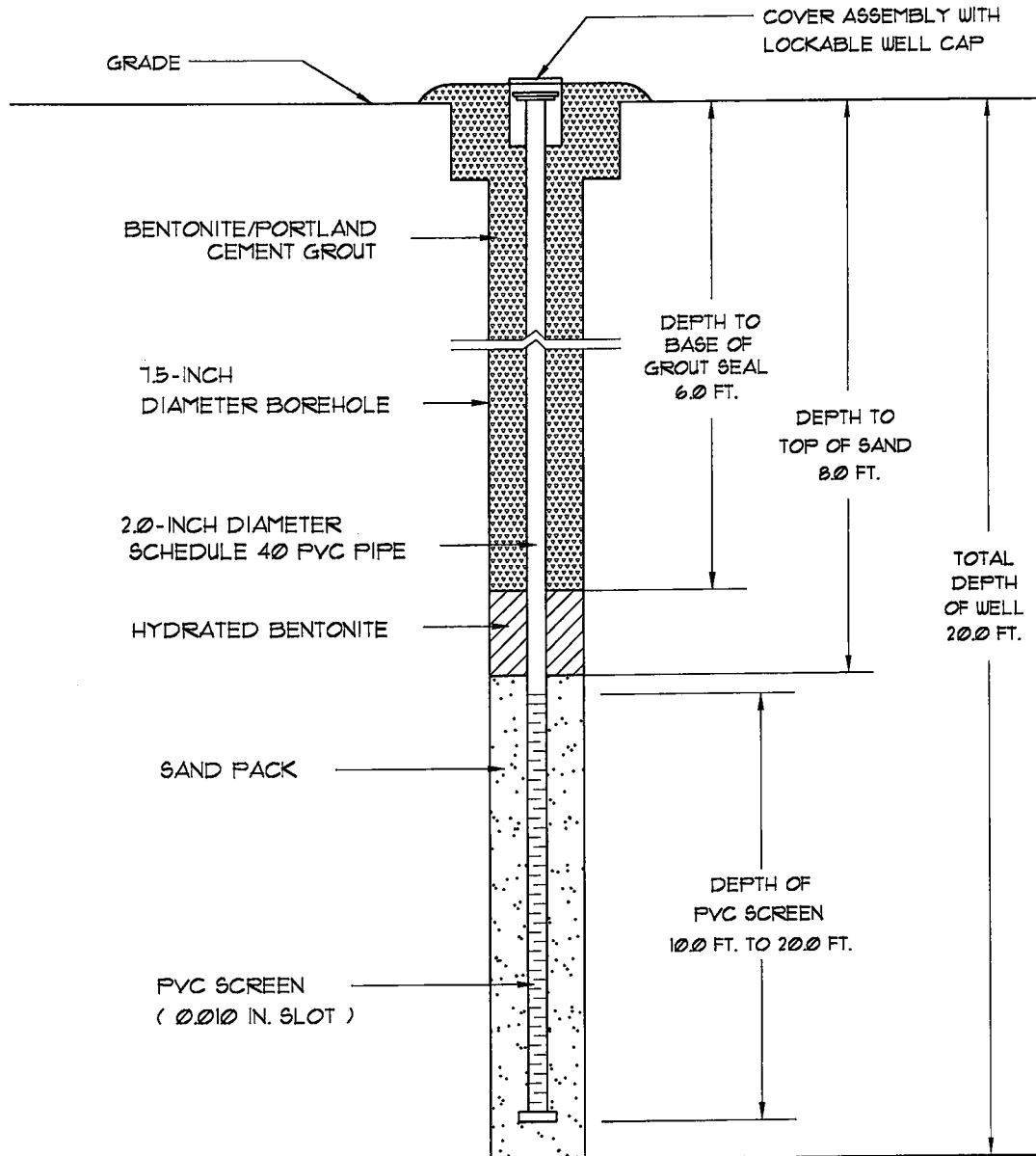
TEST BORING RECORD
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980

Boring Number: MW-15 (03538)
Date Drilled: 6/20/2012
Environmental Drilling &
Drilled By: Probing Services, LLC.
Logged By: R. Ariail

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

MONITORING WELL INSTALLATION RECORD

Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980

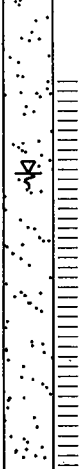


Well Number:	MW-15 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC
Driller:	J. Smith S.C. I.D. #B 01648
Logged By:	R. Ariall

Prepared By:

Midlands
Environmental
Consultants, Inc.

235-B Dooley Road
Lexington, South Carolina 29013
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot										
				0	5	10	20	40	60	80	100			
	Gravel with Topsoil													
	COASTAL PLAIN SEDIMENT: Brown, Fine SAND													
	Brown, Fine Sandy SILT													
5		11.5												
	Grey, Fine Sandy SILT													
10		3.4												
	Grey, Silty Fine SAND													
15		13.6												
20		4.2												
25	Boring Terminated at 21.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 21.0 Feet BGS. Groundwater Measured at 13.43 Feet Below Top of Casing (TOC) on 06/26/2012.													
30														
35														

NO BLOWCOUNTS RECORDED

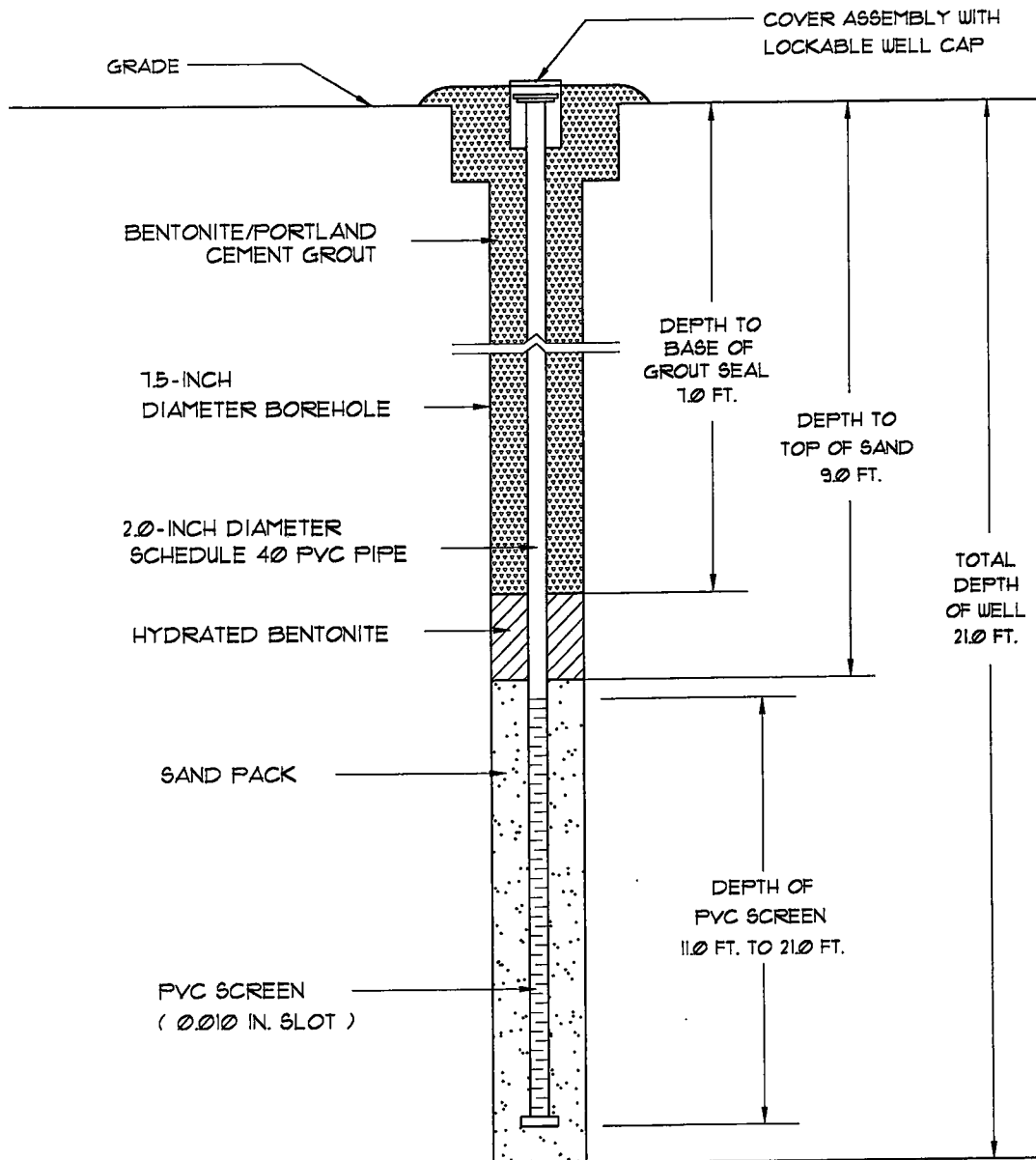
TEST BORING RECORD
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980

Boring Number:	MW-16 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By:	R. Ariail

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

MONITORING WELL INSTALLATION RECORD

Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980



Well Number:	MW-16 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC
Driller:	J. Smith S.C. I.D. #B 01648
Logged By:	R. Ariail

Prepared By:

Midlands
Environmental
Consultants, Inc.

235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot										
				0	5	10	20	40	60	80	100			
	Gravel with Topsoil													
	COASTAL PLAIN SEDIMENT: Brown, Silty Fine SAND													
5		2.5												
10	Grey, Fine Sandy SILT	2.5												
15	Grey, Silty Fine SAND	19.1												
20		8.0												
25	Boring Terminated at 21.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 21.0 Feet BGS. Groundwater Measured at 13.96 Feet Below Top of Casing (TOC) on 06/26/2012.													
30														
35														

NO BLOWCOUNTS RECORDED

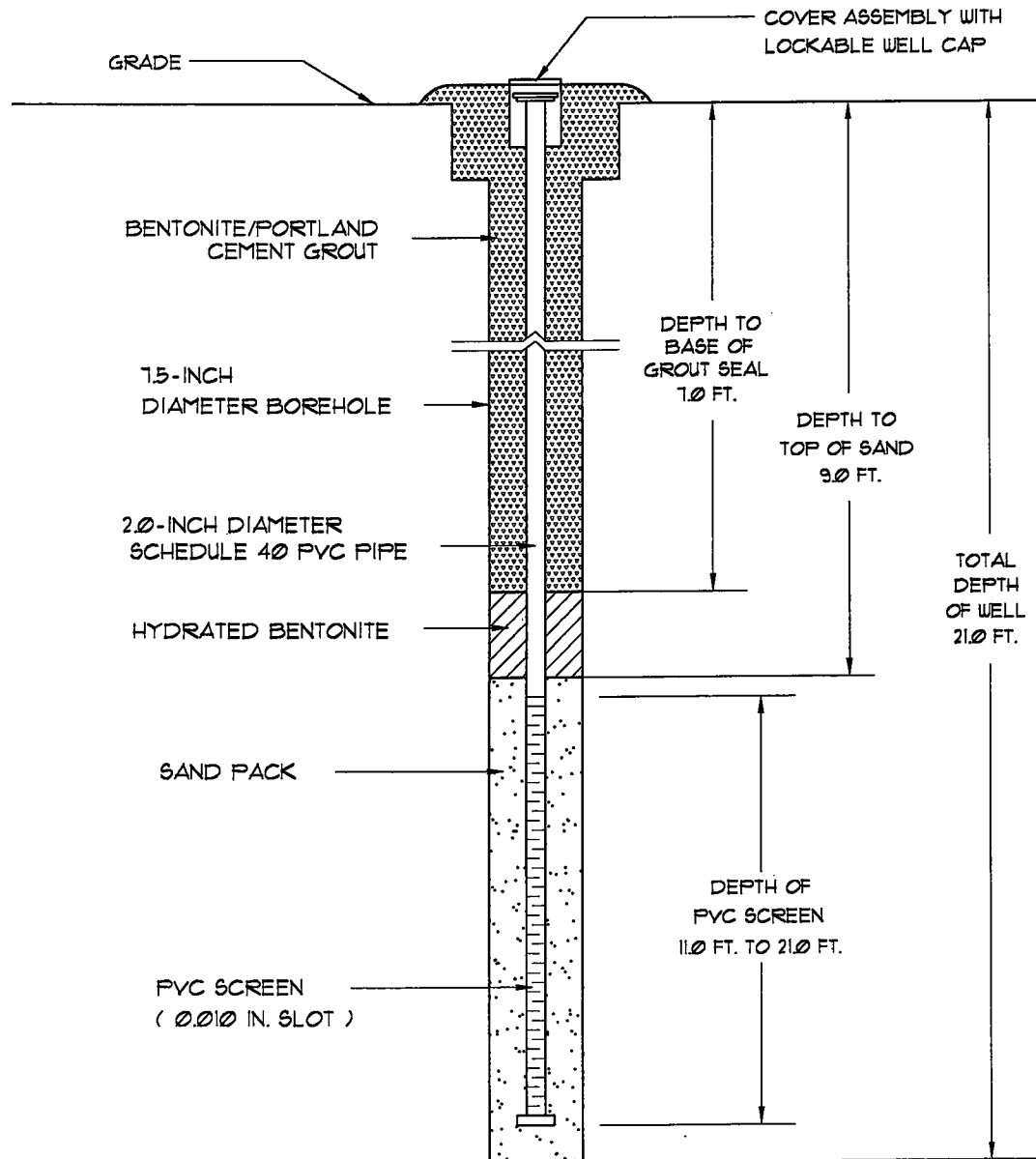
TEST BORING RECORD
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980

Boring Number:	MW-17 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By:	R. Ariail

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

MONITORING WELL INSTALLATION RECORD

Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980



Well Number:	MW-17 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller:	J. Smith S.C. I.D. #B 01648
Logged By:	R. Ariail

Prepared By:

Midlands
Environmental
Consultants, Inc.

235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot										
				0	5	10	20	40	60	80	100			
	Grass with Topsoil													
	COASTAL PLAIN SEDIMENT: Brown, Fine Sandy SILT													
5	Brown and Orange, Fine Sandy SILT	127.0												
10		78.6												
	Brown and Orange, Silty Fine SAND													
15		50.2												
20		20.2												
	Boring Terminated at 21.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 21.0 Feet BGS. Groundwater Measured at 14.44 Feet Below Top of Casing (TOC) on 06/26/2012.													
25														
30														
35														

NO BLOWCOUNTS RECORDED

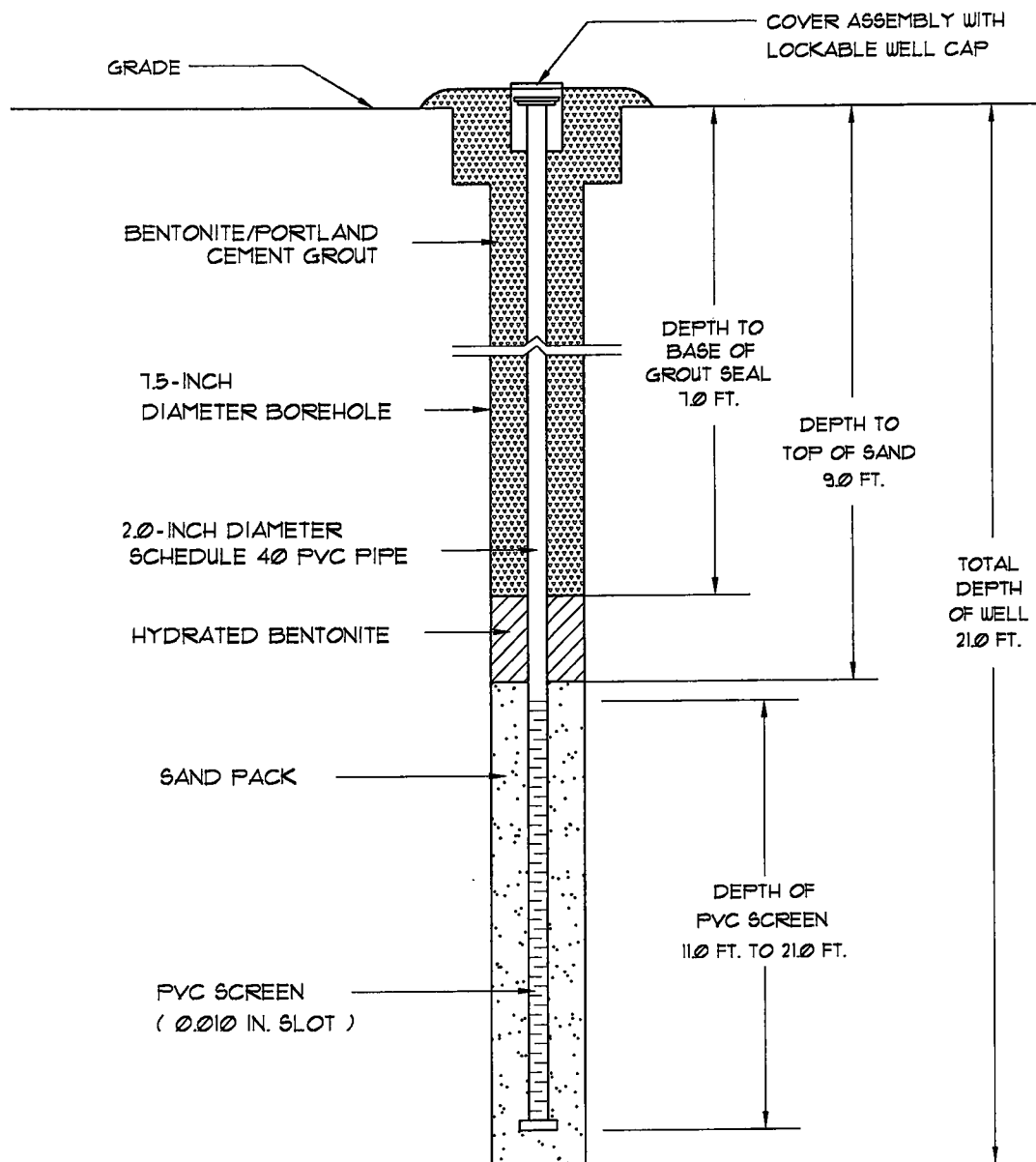
TEST BORING RECORD
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980

Boring Number: MW-18 (03538)
Date Drilled: 6/20/2012
Drilled By: Environmental Drilling & Probing Services, LLC.
Logged By: R. Ariail

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

MONITORING WELL INSTALLATION RECORD

Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID# 03538
MECI Project Number 12-3980



Well Number:	MW-18 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC
Driller:	J. Smith S.C. I.D. #B 01648
Logged By:	R. Ariall

Prepared By:

Midlands
Environmental
Consultants, Inc.

235-B Dooley Road
Lexington, South Carolina 29073
(803) 808-2043 fax: 808-2048

Depth (Feet)	Description	PID PPM	Well Diagram	Penetration Blows Per Foot						
				0	10	20	40	60	80	100
	Grass with Topsoil									
	COASTAL PLAIN SEDIMENT: Tan, Fine SAND									
5	Brown, Fine Sandy SILT	5.6								
	Orange, Clayey SILT									
10		34.1								
	Brown, Silty Fine SAND									
15		63.5								
20		41.9								
25	NOTE: 10-inch boring terminated at 25.0 feet. 6-inch outer casing set at 25.0 feet and 4-inch boring initiated.	30.7								
30		102.2								
35		100.6								
	Mud-Rotary Terminated at 36.0 Feet Below Ground Surface (BGS). Monitoring Well Installed to 36.0 Feet BGS. Groundwater Measured at 13.95 Feet Below Top of Casing on 6/26/2012.									

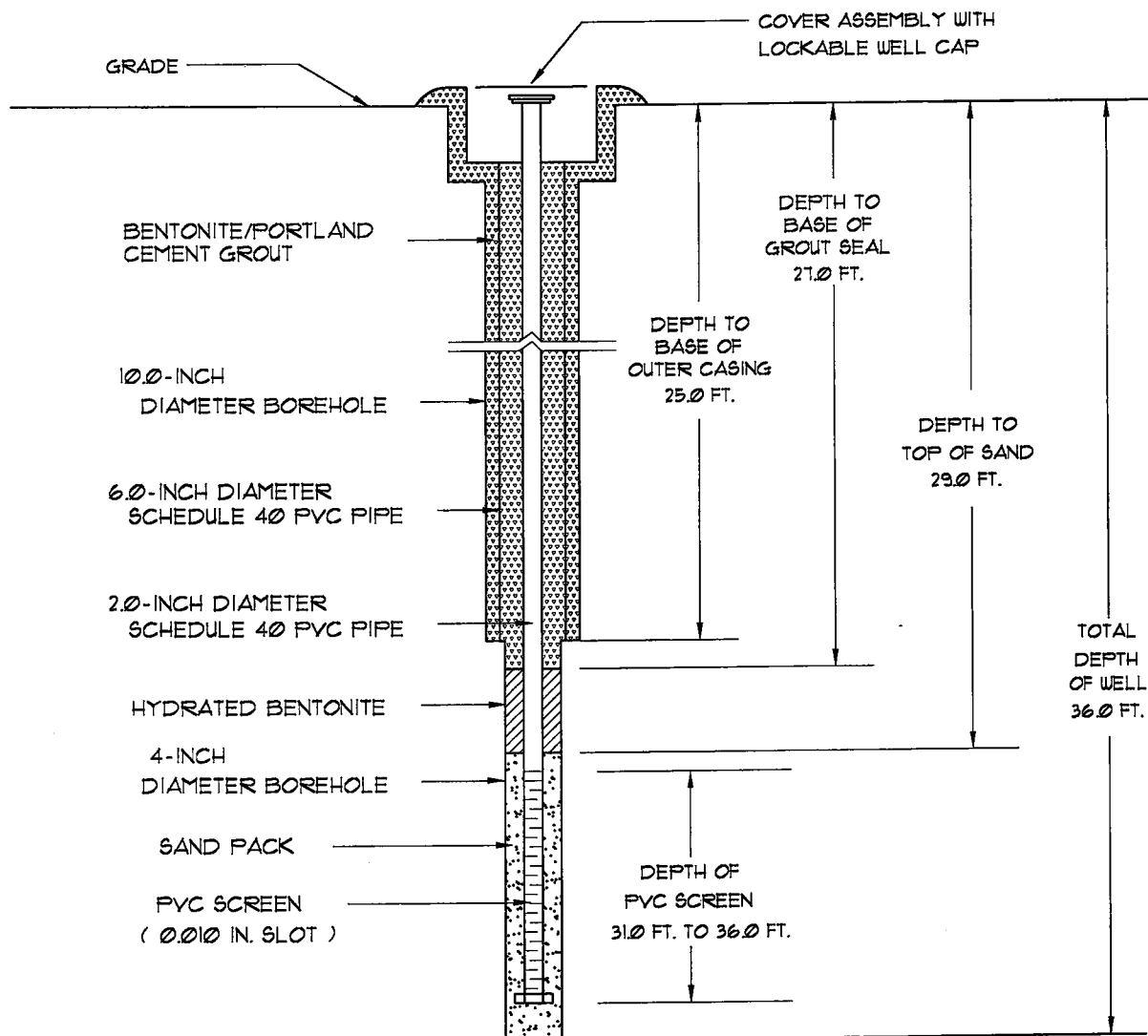
TEST BORING RECORD
 Coastal 76 Truck Stop
 Florence, South Carolina
 SCDHEC Site ID# 03538
 MECI Project Number 12-3980

Boring Number:	TW-2 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC.
Logged By:	R. Ariail

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

MONITORING WELL INSTALLATION RECORD

Costal 76 Truck Stop
 Florence, South Carolina
 SCDHEC Site ID# 03538
 MECI Project Number 12-3980



Well Number:	TW-2 (03538)
Date Drilled:	6/20/2012
Drilled By:	Environmental Drilling & Probing Services, LLC.
Driller: J. Smith	S.C. I.D. #: B 01648
Logged By:	R. Ariall

Prepared By:

Midlands
Environmental
Consultants, Inc.

235-B Dooley Road
 Lexington, South Carolina 29073
 (803) 208-2043 Fax: 808-2048



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

1. WELL OWNER INFORMATION:

Name: SCDHEC
(last) (first)
Address: 2600 Bull Street
City: Columbia State: SC Zip: 29201-1708
Telephone: Work: (803) 898-4300 Home: _____

2. LOCATION OF WELL:

COUNTY: Florence

Name: Coastal 76 Truck Stop
Street Address: 2513 East Palmetto Street
City: Florence Zip: 29506-3809
Latitude: _____ Longitude: _____

3. PUBLIC SYSTEM NAME:

PUBLIC SYSTEM NUMBER:

03538

MW-16

4. ABANDONMENT:

☐ Yes ☒ No

Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Gravel/Topsoil	0.5	0.5
Brown, SAND	2.5	3.0
Brown, Sandy SILT	3.0	6.0
Grey, Sandy SILT	6.0	12.0
Grey, Silty SAND	9.0	21.0

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

5. REMARKS:

MW-16

6. TYPE:

☐ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☒ Other

7. PERMIT NUMBER:

UMW-24603

8. USE:

☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed)

Date Started: 6/21/2012

21.0 ft.

Date Completed: 6/21/2012

10. CASING:

☒ Threaded ☐ Welded

Diam.: 2 Inch

Type: ☒ PVC ☐ Galvanized

☐ Steel ☐ Other

0.0 in. to 11.0 ft. depth

_____ in. to _____ ft. depth

Height: Above /Below

Surface 0.0 ft.

Weight _____ lb./ft.

Drive Shoe? ☐ Yes ☐ No

11. SCREEN:

Type: Schedule 40 PVC Diam.: 2 Inch

Slot/Gauge: 0.010 Length: 10.0 Feet

Set Between: 11.0 ft. and 21.0 ft.

_____ ft. and _____ ft.

NOTE: MULTIPLE SCREENS

USE SECOND SHEET

Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL

13.43 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 9.0 ft. to 21.0 ft.

Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No

☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____

Depth: From 0.0 ft. to 7.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type _____

Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____

Not installed ☐

Mfr. Name: _____ Model No.: _____

H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine

☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Joe Smith

CERT. NO.: 01648

Address: (Print)

Level: A B C D (circle one)

17538 Greenhill Road

Charlotte, North Carolina 28278

Telephone No.: 704-607-7529

Fax No.: 803-548-2233

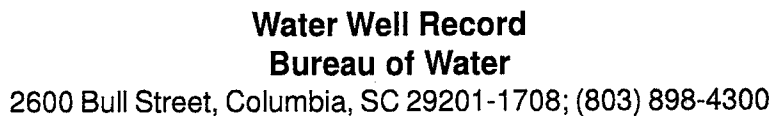
20. WATER WELL DRILLER'S CERTIFICATION: This well was drilled under my direction and this report is true to the best of my knowledge and belief.

Signed: _____

Well Driller

Date: 7/6/2012

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



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: **SCDHEC**
(last) (first)
Address: **2600 Bull Street**
City: **Columbia** State: **SC** Zip: **29201-1708**
Telephone: Work: **(803) 898-4300** Home:

2. LOCATION OF WELL:

COUNTY: Florence

Name: **Coastal 76 Truck Stop**
Street Address: **2513 East Palmetto Street**
City: **Florence** Zip: **29506-3809**
Latitude: Longitude:

3. PUBLIC SYSTEM NAME:

PUBLIC SYSTEM NUMBER:

03538

TW-2

4. ABANDONMENT:

☐ Yes ☒ No

Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass/Topsoil	0.5	0.5
Tan, SAND	3.5	4.0
Brown, Sandy SILT	3.0	7.0
Orange, Clayey SILT	5.0	12.0
Brown, Silty SAND	24.0	36.0

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

5. REMARKS:

TW-2

6. TYPE:

☐ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☒ Other

7. PERMIT NUMBER:

UMW-24603

8. USE:

☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed)

Date Started: **6/21/2012**

36.0 ft.

Date Completed: **6/21/2012**

10. CASING: ☒ Threaded ☐ Welded

Diam.: **6" / 2"**

Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other

0.0 in. to **25.0** ft. depth
0.0 in. to **31.0** ft. depth

Height: Above /Below

Surface **0.0** ft.

Weight _____ lb./ft.

Drive Shoe? ☐ Yes ☐ No

11. SCREEN:

Type: **Schedule 40 PVC** Diam.: **2 Inch**

Slot/Gauge: **0.010** Length: **5.0 Feet**

Set Between: **31.0** ft. and **36.0** ft.

**NOTE: MULTIPLE SCREENS
USE SECOND SHEET**

ft. and _____ ft.

Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL **13.95** 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 **29.0** ft. to **36.0** ft.

Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No

☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____

Depth: From **0.0** ft. to **27.0** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type _____

Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP: Date installed: _____ Not installed ☐

Mfr. Name: _____ Model No.: _____

H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: **Joe Smith**

CERT. NO.: 01648

Address: (Print)

Level: **A B C D** (circle one)

17538 Greenhill Road

Charlotte, North Carolina 28278

Telephone No.: **704-607-7529**

Fax No.: **803-548-2233**

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

Signed: _____
Well Driller

Date: **7/6/2012**

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

APPENDIX F:
AQUIFER EVALUATION SUMMARY FORMS, DATA, GRAPHS, EQUATIONS

SUMMARY of SLUG TEST (Page 1 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 03538 COUNTY Florence
FACILITY NAME Coastal Mart 76 Truck Stop

SLUG DATA

See Appendix _____ Table _____ Figure _____ for a list of all data measurements.
(water level logs, etc.)(Complete as appropriate).

Water Level Recovery Data was measured by ORS Interface Probe
(Hermit Data Logger, Manually with Water Level Indicator, etc.)(List Method)

Complete the following table for each well tested.

COMPLETE A SECOND SHEET IF MORE THAN FOUR WELLS ARE TESTED

Slug Test Conducted in well(s) number
Initial Rise/Drawdown in well (feet)
Radius of well casing (feet)
Effective Radius of Well (feet)
Static Saturated Aquifer Thickness (feet)
Length of Well Screen (feet)
Static Height of Water Column in Well (ft)

TW-2			
3.17			
0.083			
0.33			
23.01			
5			
23.01			

Calculations

See Appendix _____ Table _____ Figure _____ for calculations

The method for aquifer calculations was NAVFAC

Calculated values by well were as follows:

Slug Test Conducted in Well(s) number

Hydraulic Conductivity

TW-2			
3.46E-04			

cm/sec

Thickness of the aquifer used to calculate hydraulic conductivity was N/A feet.

The aquifer is _____ confined _____ semi-confined _____ water table (Check as Appropriate).

SEE SHEET 3

The estimated seepage velocity is 3.82 feet per year based on a hydraulic conductivity of
1.73E-04 cm/sec, a hydraulic gradient of 2.67E-03 ft/ft, and a porosity of 25
percent for Clayey SAND soil.

SUMMARY of SLUG TEST

Groundwater Seepage Velocity Calculations (Page 2 of 2)

SOUTH CAROLINA
Department of Health and Environmental Control (DHEC)

Site Data

SITE ID # 03538 COUNTY Florence
FACILITY NAME Coastal Mart 76 Truck Stop

Hydraulic Conductivity (average)

Hydraulic Conductivity Average = 3.46E-04 cm/sec
(TW-2)
9.81E-01 ft./day
6.81E-04 ft./min

Groundwater Seepage Velocity

$V = (K_i)/(N_e)$ * Enter Values in Shaded Areas Only
(ft./day)

where:

K = Hydraulic Conductivity (ft./day)
I = Hydraulic Gradient (ft./ft.)
Ne = Effective Permeability

K = 9.81E-01 ft./day
I = 2.67E-03 ft./ft.
Ne = 0.25

V = 1.0E-02 ft./day 3.82 ft./year

Groundwater Seepage Velocity Calculations

Inflow Permeability Calculation

Coastal Mart 76 Truck Stop

Test Performed: 6/26/2012

TW-2

Static: 12.99 ft

*Enter Values in Shaded Areas Only

Time (min)	Depth	delta H	H _t /H _o
0.25	16.16	3.17	1.00
0.50	15.95	2.96	0.93
0.75	15.66	2.67	0.84
1.00	15.42	2.43	0.77
1.25	15.20	2.21	0.70
1.50	15.01	2.02	0.64
1.75	14.80	1.81	0.57
2.00	14.65	1.66	0.52
2.25	14.50	1.51	0.48
2.50	14.35	1.36	0.43
2.75	14.24	1.25	0.39
3.00	14.14	1.15	0.36
3.50	13.96	0.97	0.31
4.00	13.80	0.81	0.26
4.50	13.67	0.68	0.21
5.00	13.56	0.57	0.18
6.00	13.39	0.40	0.13

Information from data and plot of H_t/H_o vs time

Diameter of Intake: 6 in

Length of Intake (L): 5 ft

Diameter of Standpipe: 2 in

* Formation Data Taken From SCDHEC Files

Coordinates from Graph for Slope Calc:

H₁/H_o: 0.77t₁: 1.00 minH₂/H_o: 0.26t₂: 4.00 minH₁: 2.44H₂: 0.82t₁: 1.00t₂: 4.00

Intake Radius: 4.00 in

Intake Radius (rint): 0.33 ft

Standpipe Radius: 1.00 in

Standpipe Radius (rsp): 0.083 ft

Calc1= 0.000694 (rsp²)/2L

Calc2= 2.70805 ln(L/rint)

Calc3= 1.085709 ln(H₁/H₂)Calc4= 3 (t₂-t₁)

$$K = \text{Calc1} * \text{Calc2} * (\text{Calc3} / \text{Calc4})$$

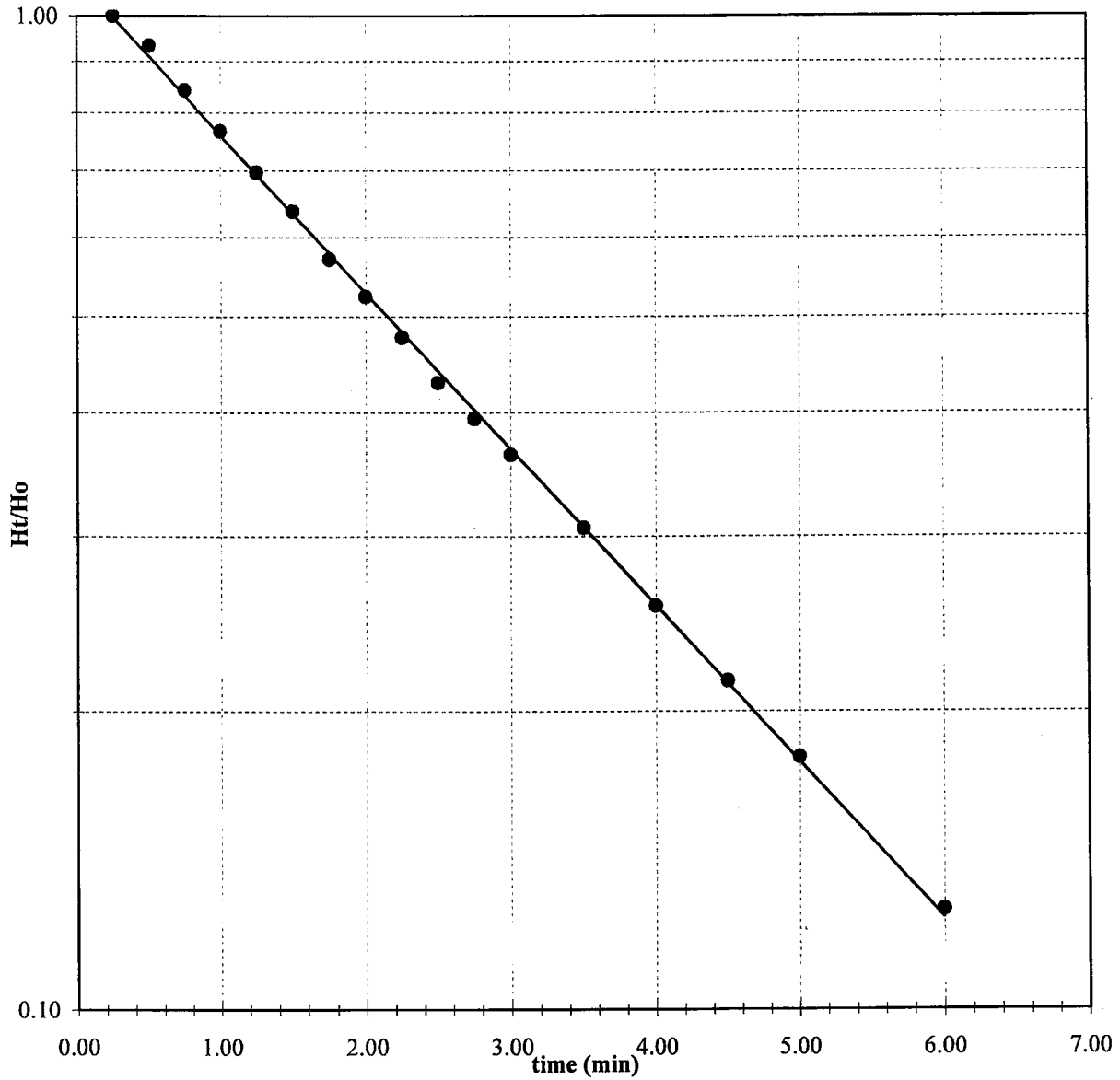
Coeff. of Permeability (K):

6.81E-04 ft/min

9.80E-01 ft/day

3.46E-04 cm/sec

Inflow for Condition C Well TW-2.xls



Midlands
 Environmental
Consultants, Inc.

235-B Dooley Road, Lexington, SC 29073
(803) 808-2043 fax: 808-2048

APPENDIX G:
DISPOSAL MANIFEST



July 17, 2012

Re: Treatment of Purge Water
Coastal 76 Truck Stop
Florence, South Carolina
SCDHEC Site ID Number 03538
MECI Project Number 12-3980

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.

July 17, 2012

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.

32.0 Gallons were treated on June 20, 2012 during the development of the newly installed monitoring wells at the referenced site.

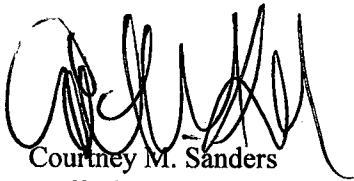
30.5 Gallons was treated on June 26, 2012 during the comprehensive groundwater sampling event conducted at the referenced site.

A total 62.5 gallons was treated during the subject assessment.

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

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

Sincerely,
Midlands Environmental Consultants, Inc.



Courtney M. Sanders
Staff Biologist



Figure 1. The effect of the concentration of the *Agrobacterium* suspension on the transformation efficiency of *Agrobacterium* strains. The *Agrobacterium* strains were grown in YEA medium for 24 h at 28°C. The cell concentration was adjusted to 10⁸ cells/ml. The cells were then mixed with the plant tissue and the transformation efficiency was determined. The results are shown as the mean ± SD of three independent experiments. The transformation efficiency was significantly different from the control (p < 0.05).

NAME	DATE	TIME	SCALE	SCALEMASTER	GROUP	TIME	IN
1	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
2	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
3	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
4	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
5	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
6	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
7	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
8	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
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23	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
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45	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
46	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
47	11/11/17	08:00:00	Scale1	Jayla	Team	08:00	10
48	11/11/17	08:					

1998, 1999, 2000, 2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008, 2009, 2010, 2011, 2012, 2013, 2014, 2015, 2016, 2017, 2018, 2019, 2020, 2021, 2022, 2023, 2024, 2025, 2026, 2027, 2028, 2029, 2030, 2031, 2032, 2033, 2034, 2035, 2036, 2037, 2038, 2039, 2040, 2041, 2042, 2043, 2044, 2045, 2046, 2047, 2048, 2049, 2050, 2051, 2052, 2053, 2054, 2055, 2056, 2057, 2058, 2059, 2060, 2061, 2062, 2063, 2064, 2065, 2066, 2067, 2068, 2069, 2070, 2071, 2072, 2073, 2074, 2075, 2076, 2077, 2078, 2079, 2080, 2081, 2082, 2083, 2084, 2085, 2086, 2087, 2088, 2089, 2090, 2091, 2092, 2093, 2094, 2095, 2096, 2097, 2098, 2099, 2100, 2101, 2102, 2103, 2104, 2105, 2106, 2107, 2108, 2109, 2110, 2111, 2112, 2113, 2114, 2115, 2116, 2117, 2118, 2119, 2120, 2121, 2122, 2123, 2124, 2125, 2126, 2127, 2128, 2129, 2130, 2131, 2132, 2133, 2134, 2135, 2136, 2137, 2138, 2139, 2140, 2141, 2142, 2143, 2144, 2145, 2146, 2147, 2148, 2149, 2150, 2151, 2152, 2153, 2154, 2155, 2156, 2157, 2158, 2159, 2160, 2161, 2162, 2163, 2164, 2165, 2166, 2167, 2168, 2169, 2170, 2171, 2172, 2173, 2174, 2175, 2176, 2177, 2178, 2179, 2180, 2181, 2182, 2183, 2184, 2185, 2186, 2187, 2188, 2189, 2190, 2191, 2192, 2193, 2194, 2195, 2196, 2197, 2198, 2199, 2200, 2201, 2202, 2203, 2204, 2205, 2206, 2207, 2208, 2209, 2210, 2211, 2212, 2213, 2214, 2215, 2216, 2217, 2218, 2219, 2220, 2221, 2222, 2223, 2224, 2225, 2226, 2227, 2228, 2229, 2230, 2231, 2232, 2233, 2234, 2235, 2236, 2237, 2238, 2239, 2240, 2241, 2242, 2243, 2244, 2245, 2246, 2247, 2248, 2249, 2250, 2251, 2252, 2253, 2254, 2255, 2256, 2257, 2258, 2259, 2260, 2261, 2262, 2263, 2264, 2265, 2266, 2267, 2268, 2269, 2270, 2271, 2272, 2273, 2274, 2275, 2276, 2277, 2278, 2279, 2280, 2281, 2282, 2283, 2284, 2285, 2286, 2287, 2288, 2289, 2290, 2291, 2292, 2293, 2294, 2295, 2296, 2297, 2298, 2299, 2300, 2301, 2302, 2303, 2304, 2305, 2306, 2307, 2308, 2309, 2310, 2311, 2312, 2313, 2314, 2315, 2316, 2317, 2318, 2319, 2320, 2321, 2322, 2323, 2324, 2325, 2326, 2327, 2328, 2329, 2330, 2331, 2332, 2333, 2334, 2335, 2336, 2337, 2338, 2339, 2340, 2341, 2342, 2343, 2344, 2345, 2346, 2347, 2348, 2349, 2350, 2351, 2352, 2353, 2354, 2355, 2356, 2357, 2358, 2359, 2360, 2361, 2362, 2363, 2364, 2365, 2366, 2367, 2368, 2369, 2370, 2371, 2372, 2373, 2374, 2375, 2376, 2377, 2378, 2379, 2380, 2381, 2382, 2383, 2384, 2385, 2386, 2387, 2388, 2389, 2390, 2391, 2392, 2393, 2394, 2395, 2396, 2397, 2398, 2399, 2400, 2401, 2402, 2403, 2404, 2405, 2406, 2407, 2408, 2409, 2410, 2411, 2412, 2413, 2414, 2415, 2416, 2417, 2418, 2419, 2420, 2421, 2422, 2423, 2424, 2425, 2426, 2427, 2428, 2429, 2430, 2431, 2432, 2433, 2434, 2435, 2436, 2437, 2438, 2439, 2440, 2441, 2442, 2443, 2444, 2445, 2446, 2447, 2448, 2449, 2450, 2451, 2452, 2453, 2454, 2455, 2456, 2457, 2458, 2459, 2460, 2461, 2462, 2463, 2464, 2465, 2466, 2467, 2468, 2469, 2470, 2471, 2472, 2473, 2474, 2475, 2476, 2477, 2478, 2479, 2480, 2481, 2482, 2483, 2484, 2485, 2486, 2487, 2488, 2489, 2490, 2491, 2492, 2493, 2494, 2495, 2496, 2497, 2498, 2499, 2500, 2501, 2502, 2503, 2504, 2505, 2506, 2507, 2508, 2509, 2510, 2511, 2512, 2513, 2514, 2515, 2516, 2517, 2518, 2519, 2520, 2521, 2522, 2523, 2524, 2525, 2526, 2527, 2528, 2529, 2530, 2531, 2532, 2533, 2534, 2535, 2536, 2537, 2538, 2539, 2540, 2541, 2542, 2543, 2544, 2545, 2546, 2547, 2548, 2549, 2550, 2551, 2552, 2553, 2554, 2555, 2556, 2557, 2558, 2559, 2560, 2561, 2562, 2563, 2564, 2565, 2566, 2567, 2568, 2569, 2570, 2571, 2572, 2573, 2574, 2575, 2576, 2577, 2578, 2579, 2580, 2581, 2582, 2583, 2584, 2585, 2586, 2587, 2588, 2589, 2590, 2591, 2592, 2593, 2594, 2595, 2596, 2597, 2598, 2599, 2600, 2601, 2602, 2603, 2604, 2605, 2606, 2607, 2608, 2609, 2610, 2611, 2612, 2613, 2614, 2615, 2616, 2617, 2618, 2619, 2620, 2621, 2622, 2623, 2624, 2625, 2626, 2627, 2628, 2629, 2630, 2631, 2632, 2633, 2634, 2635, 2636, 2637, 2638, 2639, 2640, 2641, 2642, 2643, 2644, 2645, 2646, 2647, 2648, 2649, 2650, 2651, 2652, 2653, 2654, 2655, 2656, 2657, 2658, 2659, 2660, 2661, 2662, 2663, 2664, 2665, 2666, 2667, 2668, 2669, 2670, 2671, 2672, 2673, 2674, 2675, 2676, 2677, 2678, 2679, 26

Product	Qty	Unit	Rate	Fee	Amount	Origin
1. 3000-Cont. 3000	100	3.15	Tons			02-LEXINGTON
2. 3000-Cont. 3000	100					02-LEXINGTON
3. 3000-Cont. 3000	100					02-LEXINGTON

1. *What is the purpose of the study?*
 2. *What are the research questions?*
 3. *What is the significance of the study?*
 4. *What are the limitations of the study?*
 5. *What are the conclusions of the study?*

Raymond



SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	<i>Richland Landfill</i> 1047 Highway Church Road Elgin, SC 29045 Special Waste Phone: 803-744-3346 Fax: 866-904-7194	
EXPIRATION DATE November 17, 2013		
Prepared by: Karen Truett/Carol Weldon		
GENERATOR OF WASTE: Midlands Env. Consultants, Inc. - Various		
ACCOUNT NUMBER: 820-469		
CUSTOMER Midlands Env. Consultants		
LOCATION OF WASTE: Site Address:		
CITY: <i>Lexington</i> COUNTY: <i>Lexington</i>		
PHONE NUM 803-808-2043 CONTACT: Bryan Shane		
FAX NUMBER:		
GENERATOR'S SIGNATURE <i>[Signature]</i> DATE: <i>6/21/12</i>		
TRANSPORTER OF WASTE: <i>Meer</i>		
DATE: <i>6/21/12</i> TRUCK NUMBER: <i>1</i>		
DRIVER'S SIGNATURE <i>[Signature]</i>		
**** TO BE COMPLETED BY RICHLAND LANDFILL ****		
DISPOSAL SITE: RICHLAND LANDFILL ELGIN, SC		
Waste Class: Soil		
DESCRIPTION OF WASTE: Soil from UST Assessment		
TICKET NUMBER: <i>1176936</i>		
RECEIVED BY: <i>[Signature]</i>		

Coastal No



Richland Count, LF
1047 Highway Church Road
Elgin, SC, 29045
Ph: (803) 786-3054

Original
Ticket# 1178128

Customer Name MIDLANDSENVIRON MIDLANDS ENVI Carrier MIDLANDSENVIRON MIDLANDS ENVIRONMENT
Ticket Date 06/27/2012 Vehicle# 2 Volume
Payment Type Credit Account Container
Manual Ticket# Driver
Hauling Ticket# Check#
Route Billing # 0000469
State Waste Code Gen EPA ID
Manifest @
Destination
PO
Profile UA2718 (SOIL FROM UST ASSESSMENT)
Generator 126-MIDLANDSENVIRONMENTAL MIDLANDS ENVIRONMENTAL

	Time	Scale	ScaleMaster	Gross	
In	06/27/2012 07:14:20	Scale1	joyce	Tare	11220 lb
Out	06/27/2012 07:34:00	Scale2	joyce	Net	8800 lb
				Tons	2420 lb
					1.21

Comments

Product	LD%	Qty	UOM	Rate	Fee	Amount	Origin
1 SOIL-Cont. Soil -	100	1.21	Tons				32-LEXINGT
2 FUEL-Fuel Surcharg	100		%				32-LEXINGT
3 EVF-P-Standard Env	100		%				32-LEXINGT

Total Fees
Total Ticket

SIGNATURE

SPECIAL WASTE MANIFEST

WASTE ID NUMBER VA2718	Richland Landfill 1047 Highway Church Road Elgin, SC 29045 Special Waste Phone: 803-744-3346 Fax: 866-904-7194 Prepared by: Karen Truett/Carol Weldon	
EXPIRATION DATE November 17, 2013		
GENERATOR OF WASTE: Midlands Env. Consultants, Inc. - Various		
ACCOUNT NUMBER: 820-469		
CUSTOMER Midlands Env. Consultants		
LOCATION OF WASTE: Site Address:		
CITY: <u>Lexington</u> COUNTY: <u>Lexington</u>		
PHONE NUM 803-808-2043 CONTACT: Bryan Shane		
FAX NUMBER:		
GENERATOR'S SIGNATURE <u>[Signature]</u> DATE: <u>6/27/12</u>		
TRANSPORTER OF WASTE: <u>Meer</u>		
DATE: <u>6/27/12</u> TRUCK NUMBER: <u>2</u>		
DRIVER'S SIGNATURE <u>[Signature]</u>		
**** TO BE COMPLETED BY RICHLAND LANDFILL ****		
DISPOSAL SITE: <u>RICHLAND LANDFILL ELGIN, SC</u>		
Waste Class: Soil		
DESCRIPTION OF WASTE: <u>Soil from UST Assessment</u>		
TICKET NUMBER: <u>1178128</u>		
RECEIVED BY: <u>[Signature]</u>		

Coastal 76 / Triangle Exxon
1/4 3/4
0.30 0.91

APPENDIX H:
LOCAL ZONING REGULATIONS

**This appendix is not applicable to the scope of services presented in the subject report,
however this page has been included in order to conform to the SCDHEC UST
Management Division Programmatic QAPP and provide report continuity**

APPENDIX I:
FATE AND TRANSPORT MODELING

**This appendix is not applicable to the scope of services presented in the subject report,
however this page has been included in order to conform to the SCDHEC UST
Management Division Programmatic QAPP and provide report continuity**

APPENDIX J:
ACCESS AGREEMENTS

UNDERGROUND STORAGE TANK AND PROPERTY OWNER

RECEIVED

OCT 25 1999

PERMISSION FORM - UST Permit #03538

DIVISION OF UNDERGROUND
STORAGE TANK MGMT

If you are the owner of the former or existing underground storage tanks and the property owner, please complete this form.

I, DAN M. McEACHIN, certify that I am the legal owner of the underground storage tanks and property located 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 (SCDHEC) to secure on my behalf contractor services to conduct assessment and corrective action activities as required, and authorize SCDHEC, or a contractor selected by SCDHEC, 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 SCDHEC 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 COASTAL TRUCK STOP Phone # 843-669-6177

Street Address of Facility 2607 E. PALMETTO ST

Town, City, District, Suburb FLORENCE SC

Name of nearest intersecting street, road, highway, alley KOPPER RD.

Is this facility within the city limits? (yes or no) NO

Is this facility serviced by a public water or sewer utility? (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 BRUCE NEWELL
Phone number 1-800 257 3133

Is the property currently leased or rented to someone? (yes or no) YES, if yes, please provide their name SIAM TYSON and phone number 843-662-2738 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 UST/property owner (Please Print): DAN M. McEACHIN

Phone Number (home) 843-669-6177 (work) _____

Signature of UST/property Owner: [Signature]

Witness: Elizabeth C. McEACHIN

Date: 10 Month 10 Day 22 Year

[Signature] 10 22

Scanned

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 <u>current</u> and historical laboratory data been provided in tabular format? (Tables 3 & 3A)	X		
35	Have the aquifer characteristics been provided and summarized on the appropriate form? (Appendix F)	X		
36	Have the Site conceptual model tables been included? (Tier 1 Risk Evaluation)			X
37	Has the topographic map been provided with all required elements? (Figure 1)	X		
38	Has the site base map been provided with all required elements? (Figure 2)	X		
39	Have the CoC site maps been provided? (Figures 3, 4)	X		
40	Has the site potentiometric map been provided? (Figure 5)	X		
41	Have the geologic cross-sections been provided? (Figure 6)	X		
42	Have maps showing the predicted migration of the CoCs through time been provided? (Tier 2 Risk Evaluation)			X
43	Has the site survey been provided and include all necessary elements? (Appendix A)	X		
44	Have the sampling logs, chain of custody forms, and the analytical data package been included with all required elements? (Appendix B)	X		
45	Is the laboratory performing the analyses properly certified?	X		
46	Has the tax map been included with all necessary elements? (Appendix C)	X		
47	Have the soil boring/field screening logs been provided? (Appendix D)	X		
48	Have the well completion logs and SCDHEC Form 1903 been provided? (Appendix E)	X		
49	Have the aquifer evaluation forms, data, graphs, equations, etc. been provided? (Appendix F)	X		
50	Have the disposal manifests been provided? (Appendix G)	X		
51	Has a copy of the local zoning regulations been provided? (Appendix H)			X
52	Has all fate and transport modeling been provided? (Appendix I)			X
53	Have copies of all access agreements obtained by the contractor been provided? (Appendix J)	X		
54	Has a copy of this form been attached to the final report and are explanations for any missing or incomplete data been provided? (Appendix K)	X		



Midlands Environmental Consultants, Inc.

July 25, 2012



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



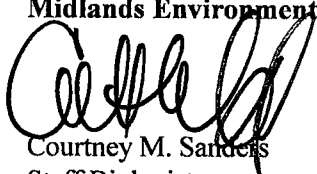
Subject: Revisions to AR Dated July 17, 2012
Report of Monitoring Well Installation, Groundwater Sampling
and Chemical Analyses
Coastal 76 Truck Stop
2513 E. Palmetto Street
Florence, South Carolina
SCDHEC Site ID# 03538, CA # 43863
MECI Project Number 12-3980
Certified Site Rehabilitation Contractor UCC-0009

Dear Ms. Milenkova,

Midlands Environmental Consultants Inc. (MECI) is pleased to submit the attached Revisions to AR Dated July 17, 2012 Report of Monitoring Well Installation, 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.



Courtney M. Sanders
Staff Biologist

1.2 PROJECT INFORMATION

The subject site (Costal 76 Truck Stop) is located at 2513 East Palmetto Street, Florence, Florence County, South Carolina. The subject site formally maintained four underground storage tanks (UST's), including 1-2,000 gallon gasoline UST, 1-3,000 gallon gasoline UST, 1-1,000 gallon gasoline UST, and 1-2,000 gallon diesel UST. These UST's were abandoned by removal from ground in August of 1995. The South Carolina Department of Health and Environmental Control reported a release of petroleum product for the subject UST's in September of 1995 and confirmed this release in August of 1997. The subject site is currently rated a Class 3BA.

Prior to commencement of the field activities described in this document, a QAPP Contractors Addendum was completed by MECI personnel, submitted to SCDHEC and approved by the SCDHEC project manager.

The above project information is based on MECI field notes and SCDHEC files.

2.0 SURROUNDING PROPERTY USAGE

The subject site is located inside the city limits of Florence, Florence County, South Carolina. South East Palmetto Street (US Highway 76) forms the southern border of the site, beyond which is the Florence County Regional Airport. North Koppers Road (SC State Rd. S-21-176) forms the eastern border of the site, beyond which are commercial properties. Commercial properties border the site to the west. North of the site is wooded and undeveloped.

3.0 FIELD EXPLORATION

Field exploration conducted at the site included:

- construction of five (5) shallow monitoring wells;
- construction of one (1) deep monitoring well;
- collection of one soil sample;
- hydrologic testing of one selected monitoring well;
- sampling and chemical analyses of the entire monitoring well network;
- hydrologic testing of one selected monitoring well; and,
- a comprehensive survey of subject site.

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

3.1 MONITORING WELL INSTALLATION

From June 19 to June 21, 2012, five single cased watertable bracketing monitoring wells and one double cased telescoping monitoring well were installed at the subject site. The watertable bracketing monitoring wells (IGWA-R, MW-15, MW-16, MW-17, and MW-18) were installed by

Environmental Drilling and Probing Services, LLC. of Rock Hill, SC (S.C. Driller Certification: Joe Smith # B01648) using an Truck-mounted drilling rig employing 8.0-inch outer diameter hollow stem augers to construct the boreholes.

Monitoring well TW-2 was installed as a double cased telescoping monitoring well. During construction, a 6 1/4-inch outer diameter casing was advanced to the desired depth and grouted in-place. The grout was allowed to cure and the remainder of the depth of the borehole was achieved using mud-rotary techniques. Monitoring well TW-2 was cased to a depth of 25.0 feet below ground surface (BGS) and completed to a total depth of 36.0 feet BGS. This well utilizes a five foot screen.

The following table presents well installation details:

Well Number	Single Cased	Double Cased	Screened Interval (ft)	Total Depth (ft)
IGWA-R	X		11.0-21.0	21.0
MW-15	X		10.0-20.0	20.0
MW-16	X		11.0-21.0	21.0
MW-17	X		11.0-21.0	21.0
MW-18	X		11.0-21.0	21.0
TW-2		X	31.0-36.0	36.0

The soils encountered during drilling activities consisted of silty fine to medium grained sands of the Atlantic Coastal Plain Province. The soils encountered in this area are the product of successive advances and retreats of the ocean over the past several million years. Representative portions of soil samples were screened with a Photo Ionization Detector (PID) and classified by MECI personnel. Test boring records showing soil descriptions and screening result are attached in Appendix E.

Drill cuttings were containerized and transported to Waste Management/Richland County Landfill, Elgin, SC by MECI personnel. A total of 3.45 tons was disposed of in this manner. A disposal manifest for these soils is attached at the end of this report.

Following completion of the monitoring wells, the wells were developed by purging until they were determined to be functioning properly and turbidity was reduced. These wells were developed on June 21, 2012 utilizing a Whale-Mega Purger well pump. The drum of purge water was treated by MECI personnel using a granular activated carbon drum. A total of 32.0 gallons of purge/development water was disposed of in this manner. A disposal manifest for the treated purge water is presented in Appendix G.

3.2 SOIL SAMPLING AND CHEMICAL ANALYSES

As requested by SCDHEC, one soil sample was collected from within the screened interval of monitoring well TW-2 during installation. Soil sample TW-2 (36') was analyzed for grain-size/hydrometer (ASTM D1140). The soil was sampled in accordance with SCDHEC's Quality Assurance Program Plan for the Underground Storage Tank Management Division (QAPP, Dated June 2011) and MECI's Standard Operating Procedures (MECI SOP, Dated August, 2011). The results of the laboratory analyses are presented in the attached laboratory reports (Appendix B).

Soil samples obtained were sent to Shealy Environmental Services, Inc. of West Columbia, SC (SCDHEC Laboratory Certification #32010) for analysis.

Explanation:

- Location of Watertable Bracketing Monitoring Well
- ⊕

Location of Double Cased "Deep" Monitoring Well
- ↑

Estimated Groundwater Flow Direction
- Estimated Location of Removed Underground Storage Tanks
- Groundwater Elevation Contour (feet)

Potentiometric Data

Well #	Screened Interval (ft)	Depth to Product (ft)	Depth to Water (ft)	Product Thickness (ft)	Well Head Elevation	Groundwater Elevation
IGWA'R'	11-21	---	14.10	---	100.84	86.74
MW-1	TD: 17.80	14.70	14.72	0.02	101.48	86.78
MW-2	TD: 18.30	---	14.04	---	100.81	86.77
MW-3	TD: 18.20	14.19	14.20	0.01	101.09	86.90
MW-4	TD: 18.35	---	14.35	---	101.13	86.78
MW-5	8.29-18.29	---	13.90	---	100.71	86.81
MW-6	8.29-18.29	---	14.65	---	101.65	87.00
MW-7	8.38-18.38	---	13.45	---	100.23	86.78
MW-8	8.29-18.29	---	12.62	---	99.40	86.78
MW-9	8.33-18.33	---	NL	---	NL	NL
MW-10	TD: 18.25	---	12.41	---	99.44	87.03
MW-11	8.42-18.42	---	14.39	---	101.25	86.86
MW-14	8.29-18.29	---	13.42	---	99.96	86.54
MW-15	10-20	---	12.78	---	99.19	86.41
MW-16	11-21	---	13.43	---	99.94	86.51
MW-17	11-21	---	13.96	---	100.64	86.68
MW-18	11-21	---	14.44	---	101.38	86.94
TW-1	31-36	---	14.65	---	101.17	86.52
TW-2	31-36	---	13.95	---	99.65	85.70

Notes: Depth to groundwater measured on June 26, 2012.
Contour Interval = 0.20 Feet
Site Datum Based on Assumed Spot Elevation.
NL = Not Located
Monitoring well MW-1, MW-2, TW-1, and TW-2 not used in contouring.
Groundwater elevations for MW-1 and MW-3 corrected for the presence of free phase product using a specific gravity of 0.85 for fuel.
Contours Computer Generated using Surfer by Golden Graphics and Modified by MECI Personnel.

Drawing Based on MECI Field Notes, Tax Maps and a RLS Survey of the Site by Jay S. Joshi dated June 25, 2012.

Potentiometric Data Site Map
(Groundwater Contour)

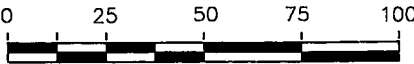
Coastal Mart 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC Site ID 03538

Midlands
Environmental
Consultants, Inc.

JOB NO. 12-3980
DATE July 17, 2012
FIGURE

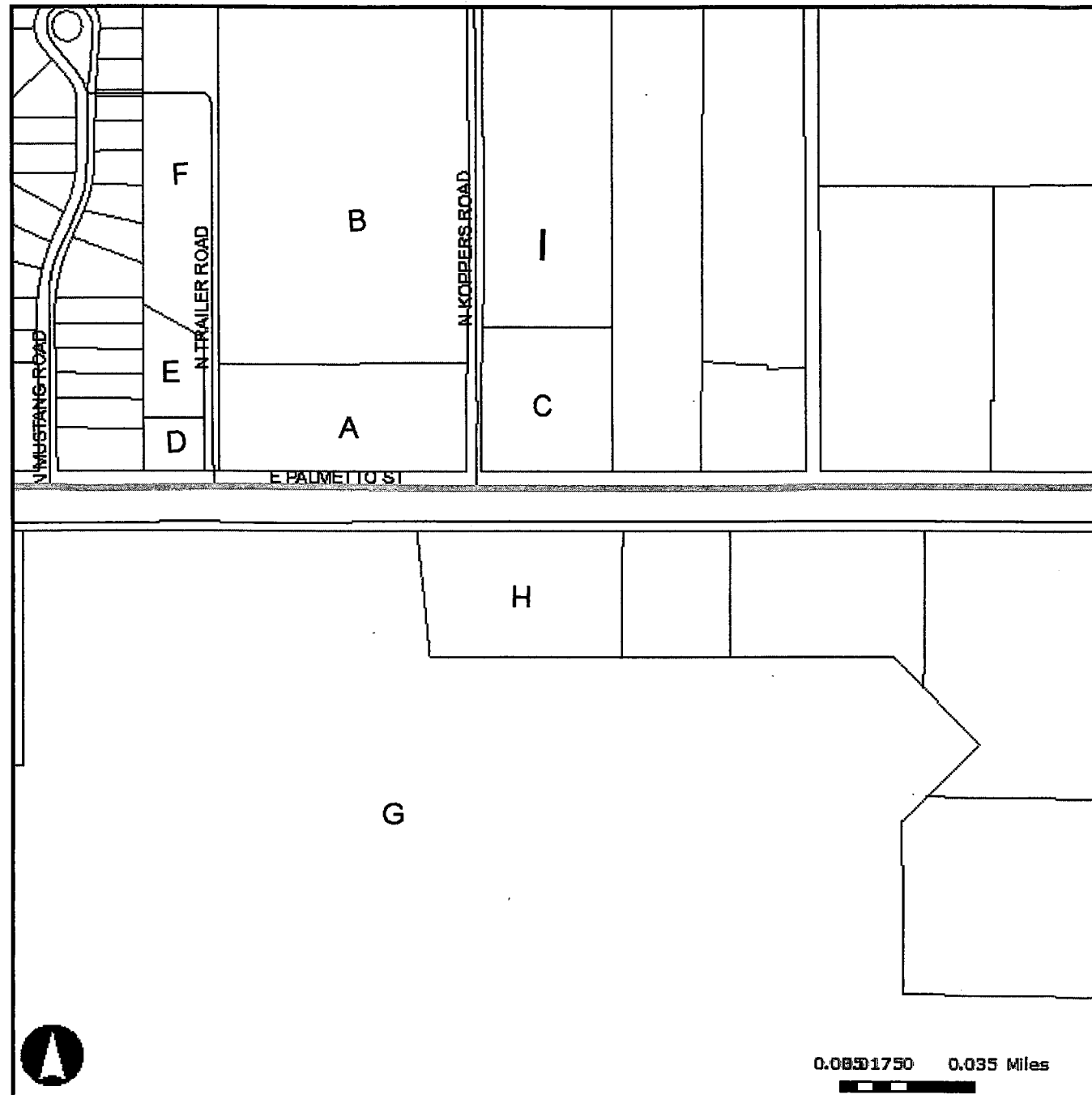
5

GRAPHIC SCALE



1IN = 50FT

ALL LOCATIONS ARE APPROXIMATE



ID	Tax Map #	Owner
A	90150-01-029	Dan M. McEachin
B	90150-01-043	Site
C	90150-01-030	10017 Wentworth Drive
I	90150-01-044	Florence, SC 29501
D	90150-01-041	Moody Real Estate, Inc.
E	90150-01-027	1609 Elvington Court
		Lakeview, SC 29563
F	90150-01-028	Wade Lory Rawlinson
		220 South White Palm Court
		Florence, SC 29506
G	00177-01-001	Pee Dee Regional Airport
H	00207-01-020	2100 Terminal Drive
		Florence, SC 29506

Tax Data obtained from Florence County, SC GIS Department

Tax Map Data

Coastal 76 Truck Stop
2513 East Palmetto Street
Florence, South Carolina
SCDHEC ID # 03538

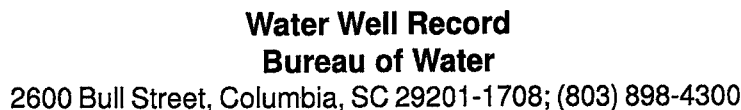
Midlands
Environmental
Consultants, Inc.

JOB NO. 12-3980

DATE July 17, 2012

Appendix

C

DHEC 1903 (07/2003)



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

1. WELL OWNER INFORMATION:

Name: SCDHEC
(last) (first)
Address: 2600 Bull Street
City: Columbia State: SC Zip: 29201-1708
Telephone: Work: (803) 898-4300 Home:

2. LOCATION OF WELL:**COUNTY:** Florence

Name: Coastal 76 Truck Stop
Street Address: 2513 East Palmetto Street
City: Florence Zip: 29506-3809
Latitude: Longitude:

3. PUBLIC SYSTEM NAME:

03538

PUBLIC SYSTEM NUMBER:

MW-16

4. ABANDONMENT:☐ Yes ☒ No

Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Gravel/Topsoil	0.5	0.5
Brown, SAND	2.5	3.0
Brown, Sandy SILT	3.0	6.0
Grey, Sandy SILT	6.0	12.0
Grey, Silty SAND	9.0	21.0

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

5. REMARKS:

MW-16

6. TYPE:

- ☐ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☒ Other

7. PERMIT NUMBER:

UMW-24603

8. USE:

- ☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed)

Date Started: 6/20/2012

21.0 ft.

Date Completed: 6/20/2012

10. CASING: ☒ Threaded ☐ Welded

Diam.: 2 Inch

Type: ☒ PVC ☐ Galvanized
☐ Steel ☐ Other0.0 in. to 11.0 ft. depth
_____ in. to _____ ft. depth

Height: Above /Below

Surface 0.0 ft.

Weight _____ lb./ft.

Drive Shoe? ☐ Yes ☐ No**11. SCREEN:**

Type: Schedule 40 PVC Diam.: 2 Inch

Slot/Gauge: 0.010 Length: 10.0 Feet

Set Between: 11.0 ft. and 21.0 ft.

NOTE: MULTIPLE SCREENS**USE SECOND SHEET**

_____ ft. and _____ ft.

Sieve Analysis ☐ Yes (please enclose) ☒ No**12. STATIC WATER LEVEL** 14.02

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 QUALITYChemical Analysis ☐ Yes ☐ No Bacterial Analysis ☐ Yes ☐ No
Please enclose lab results.**15. ARTIFICIAL FILTER (filter pack)** ☒ Yes ☐ No

Installed from 9.0 ft. to 21.0 ft.

Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED? ☒ Yes ☐ No☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____

Depth: From 0.0 ft. to 7.0 ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION: _____ ft. _____ direction

Type _____

Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____**18. PUMP:** Date installed: _____ Not installed ☐

Mfr. Name: _____ Model No.: _____

H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine
☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal**19. WELL DRILLER:** Joe Smith**CERT. NO.:** 01648

Address: (Print)

Level: A B C D (circle one)

17538 Greenhill Road

Charlotte, North Carolina 28278

Telephone No.: 704-607-7529

Fax No.: 803-548-2233

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

Date: 7/6/2012

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



Water Well Record

Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 898-4300

1. WELL OWNER INFORMATION:

Name: **SCDHEC**
 (last) (first)
 Address: **2600 Bull Street**
 City: **Columbia** State: **SC** Zip: **29201-1708**
 Telephone: Work: **(803) 898-4300** Home: _____

2. LOCATION OF WELL:

COUNTY: **Florence**

Name: **Coastal 76 Truck Stop**
 Street Address: **2513 East Palmetto Street**
 City: **Florence** Zip: **29506-3809**
 Latitude: _____ Longitude: _____

3. PUBLIC SYSTEM NAME:

03538

PUBLIC SYSTEM NUMBER:

TW-2

4. ABANDONMENT:

☐ Yes ☒ No

Grouted Depth: from _____ ft. to _____ ft.

Formation Description	*Thickness of Stratum	Depth to Bottom of Stratum
Grass/Topsoil	0.5	0.5
Tan, SAND	3.5	4.0
Brown, Sandy SILT	3.0	7.0
Orange, Clayey SILT	5.0	12.0
Brown, Silty SAND	24.0	36.0

*Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

5. REMARKS:

TW-2

6. TYPE:

☐ Mud Rotary ☐ Jetted ☐ Bored
☐ Dug ☐ Air Rotary ☐ Driven
☐ Cable tool ☒ Other

7. PERMIT NUMBER:

UMW-24603

8. USE:

☐ Residential ☐ Public Supply ☐ Process
☐ Irrigation ☐ Air Conditioning ☐ Emergency
☐ Test Well ☒ Monitor Well ☐ Replacement

9. WELL DEPTH (completed)

Date Started: **6/19/2012**

36.0 ft.

Date Completed: **6/20/2012**

10. CASING:

☒ Threaded ☐ Welded

Diam.: **6" / 2"**

Type: ☒ PVC ☐ Galvanized

☐ Steel ☐ Other

0.0 in. to **25.0** ft. depth

0.0 in. to **31.0** ft. depth

Height: Above /Below
 Surface **0.0** ft.
 Weight _____ lb./ft.
 Drive Shoe? ☐ Yes ☐ No

11. SCREEN:

Type: **Schedule 40 PVC**

Diam.: **2 Inch**

Slot/Gauge: **0.010**

Length: **5.0 Feet**

Set Between: **31.0** ft. and **36.0** ft.

**NOTE: MULTIPLE SCREENS
USE SECOND SHEET**

_____ ft. and _____ ft.

Sieve Analysis ☐ Yes (please enclose) ☒ No

12. STATIC WATER LEVEL

14.76 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 **29.0** ft. to **36.0** ft.

Effective size _____ Uniformity Coefficient _____

16. WELL GROUTED?

☒ Yes ☐ No

☐ Neat Cement ☐ Bentonite ☐ Bentonite/Cement ☐ Other _____

Depth: From **0.0** ft. to **27.0** ft.

17. NEAREST SOURCE OF POSSIBLE CONTAMINATION:

_____ ft. _____ direction

Type _____

Well Disinfected ☐ Yes ☐ No Type: _____ Amount: _____

18. PUMP:

Date installed: _____ Not installed ☐

Mfr. Name: _____ Model No.: _____

H.P. _____ Volts _____ Length of drop pipe _____ ft. Capacity _____ gpm

TYPE: ☐ Submersible ☐ Jet (shallow) ☐ Turbine

☐ Jet (deep) ☐ Reciprocating ☐ Centrifugal

19. WELL DRILLER: Joe Smith

CERT. NO.: **01648**

Address: (Print) _____

Level: A B C D (circle one)

17538 Greenhill Road

Charlotte, North Carolina 28278

Telephone No.: **704-607-7529**

Fax No.: **803-548-2233**

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

Signed: _____
 Well Driller

Date: **7/6/2012**

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

July 17, 2012

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.

32.0 Gallons were treated on June 21, 2012 during the development of the newly installed monitoring wells at the referenced site.

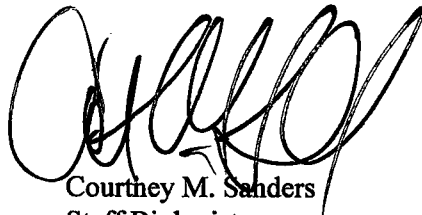
30.5 Gallons was treated on June 26, 2012 during the comprehensive groundwater sampling event conducted at the referenced site.

A total 62.5 gallons was treated during the subject assessment.

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

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

Sincerely,
Midlands Environmental Consultants, Inc.



Courtney M. Sanders
Staff Biologist

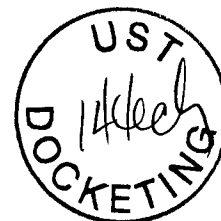


Catherine B. Templeton, Director

Promoting and protecting the health of the public and the environment

TREVER Z SLACK PG
PRINCIPAL HYDROGEOLOGIST
PETRA-TECH ENVIRONMENTAL LLC
2435 E NORTH ST STE 1108-202
GREENVILLE SC 29615-1442

JUN 25 2014



Re: Request for Site Specific Work Plan
Solicitation Number IFB-5400005780/3/20/13-EMW, Purchase Order # 4600271461
Notice to Proceed

Dear Mr. Slack:

In accordance with the referenced contract, the Underground Storage Tank (UST) Management Division requests a Tier II Assessment for the following four UST facilities to define the geology and the horizontal and vertical extent of petroleum Chemicals of Concern (CoC) both dissolved and free phase product.

Site name	ID #	County	Priority	Project Manager
Newsome Chevrolet	03285	Florence	3BA	Maia Milenkova
Coastal 76 Truck Stop	03538	Florence	3BA	Maia Milenkova
Fmr. Tri County Tire Company	06209	Marion	3BC	David Orgain
Byrdic's Texaco	09114	Williamsburg	3BC	Minda Hornosky
Cox Meat Company	11525	Williamsburg	2BB	Minda Hornosky

As outlined in the referenced contract, please submit the Site Specific Work Plan, Tier II Assessment Plan, and Assessment Component Cost Agreement to my attention within thirty (30) days from the date of this correspondence. Plan implementation shall not commence prior to receipt of written technical and financial approval from the Agency. The Tier II Reports must be submitted within 90 days subsequent to the date of the approval letter.

Tier II Assessment Plan, Implementation and Report submittal shall be performed in accordance with the referenced contract. Per Section 3.4.3., a late fee of \$100.00/day may be levied for each report submitted after the deadline established in the Notice to Proceed. On all correspondence, please reference the pertinent UST Permit number.

Sincerely,

Stephanie Briney, Hydrogeologist

Assessment Section

Underground Storage Tank Management Division

Bureau of Land and Waste Management

enc: Five Notice to Proceed Package (UST Permits 03285, 03538, 06209, 09114, and 11525)

cc: Technical Files (without enc.) 03285, 03538, 06209, 09114, and 11525

petra-tech

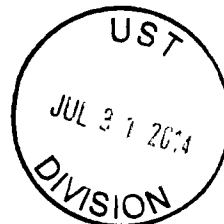
ENVIRONMENTAL, LLC
ENGINEERS & CONSULTANTS

July 25, 2014

SCDHEC - UST Management Division
Assessment Section
2600 Bull Street
Columbia, SC 29201-1708

Attention: Ms. Stephanie Briney

Subject: **Site Specific Work Plan – Tier II Assessment**
Revision Number: 0
Coastal 76 Truck Stop
2513 East Palmetto Street
Florence, Florence County, SC
SCDHEC UST Permit #03538
PTE Job No. J14-070-A



Dear Ms. Briney:

Petra-Tech Environmental, LLC submits herein a Site Specific Work Plan for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) Site Specific Work Plan Directive dated June 25, 2014.

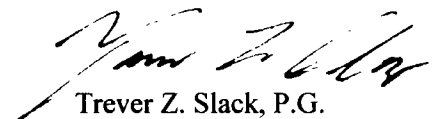
On July 24, 2014, Petra-Tech Environmental personnel performed a site visit to the subject site to locate existing groundwater monitoring wells and conduct a preliminary site reconnaissance. Depth to groundwater at the site is approximately 9 feet below ground surface (i.e. depth to water in monitoring well 03538-MW01 was 8.43 feet below top of casing on July 24, 2014). Free-Phase petroleum product was not detected in monitoring wells 03538-MW01 or 03538-MW03. It should be noted that groundwater monitoring wells 03538-MW07, 03538-MW10, 03538-TW01, and 03538-TW02 could not be located during the site reconnaissance. However, a significant volume of construction and demolition debris have been scattered across the site making it difficult to locate wells. If these wells cannot be located through additional exploration during the groundwater screening phase of the assessment, they should be replaced during monitoring well installation activities.

The Site Specific Work Plan is contained herein.

Please do not hesitate to contact us at 864.631.2490 if you have any questions concerning this submittal.

Sincerely,

Petra-Tech Environmental


Trever Z. Slack, P.G.
Principal Hydrogeologist





Site-Specific Work Plan for Approved ACQAP Underground Storage Tank Management Division

To: Ms. Maia Milenkova (SCDHEC Project Manager)
From: Trever Slack (Contractor Project Manager)
Contractor: Petra-Tech Environmental, LLC UST Contractor Certification Number: UCC-436

Facility Name: Coastal 76 Truck Stop UST Permit #: 03538
Facility Address: 2513 East Palmetto Street
Responsible Party: Mceachin, Dan Phone: 803.651.8835
RP Address: 1007 Wentworth Drive, Florence, South Carolina 29501
Property Owner (if different): Same as above
Property Owner Address: Same as above
Current Use of Property: Vacant Commercial Property being used for storage

Scope of Work (Please check all that apply)

☐ IGWA ☒ Tier II ☐ Groundwater Sampling ☐ GAC
☐ Tier I ☐ Monitoring Well Installation ☐ Other _____

Analyses (Please check all that apply)

Groundwater/Surface Water:

☒ BTEXNMDCA (8260B) ☒ Lead ☐ BOD ☐ Methane
☒ Oxygenates (8260B) ☐ 8 RCRA Metals ☐ Nitrate ☐ Ethanol
☒ EDB (8011) ☐ TPH ☐ Sulfate ☐ Dissolved Iron
☐ PAH (8270D) ☐ pH ☐ Other _____

Soil:

☐ BTEXN ☐ 8 RCRA Metals ☐ TPH-DRO (3550B/8015B) ☒ Grain Size
☐ PAH ☐ Oil & Grease (9071) ☐ TPH-GRO (5030B/8015B) ☐ TOC

Air:

☐ BTEXN

Sample Collection (Estimate the number of samples of each matrix that are expected to be collected.)

_____ Soil _____ Water Supply Wells _____ Air 2 Field Blank
32 Monitoring Wells _____ Surface Water 2 Duplicate 3 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: 13 Estimated Footage: 12 (estimated) feet per point
of deep points proposed: 4 Estimated Footage: 37 (estimated) feet per point

Field Screening Methodology: Direct Push with PID field screening and laboratory confirmation of select samples IAW SOP

Permanent Monitoring Wells

Estimate number and total completed depth for each well, and include their proposed locations on the attached map.

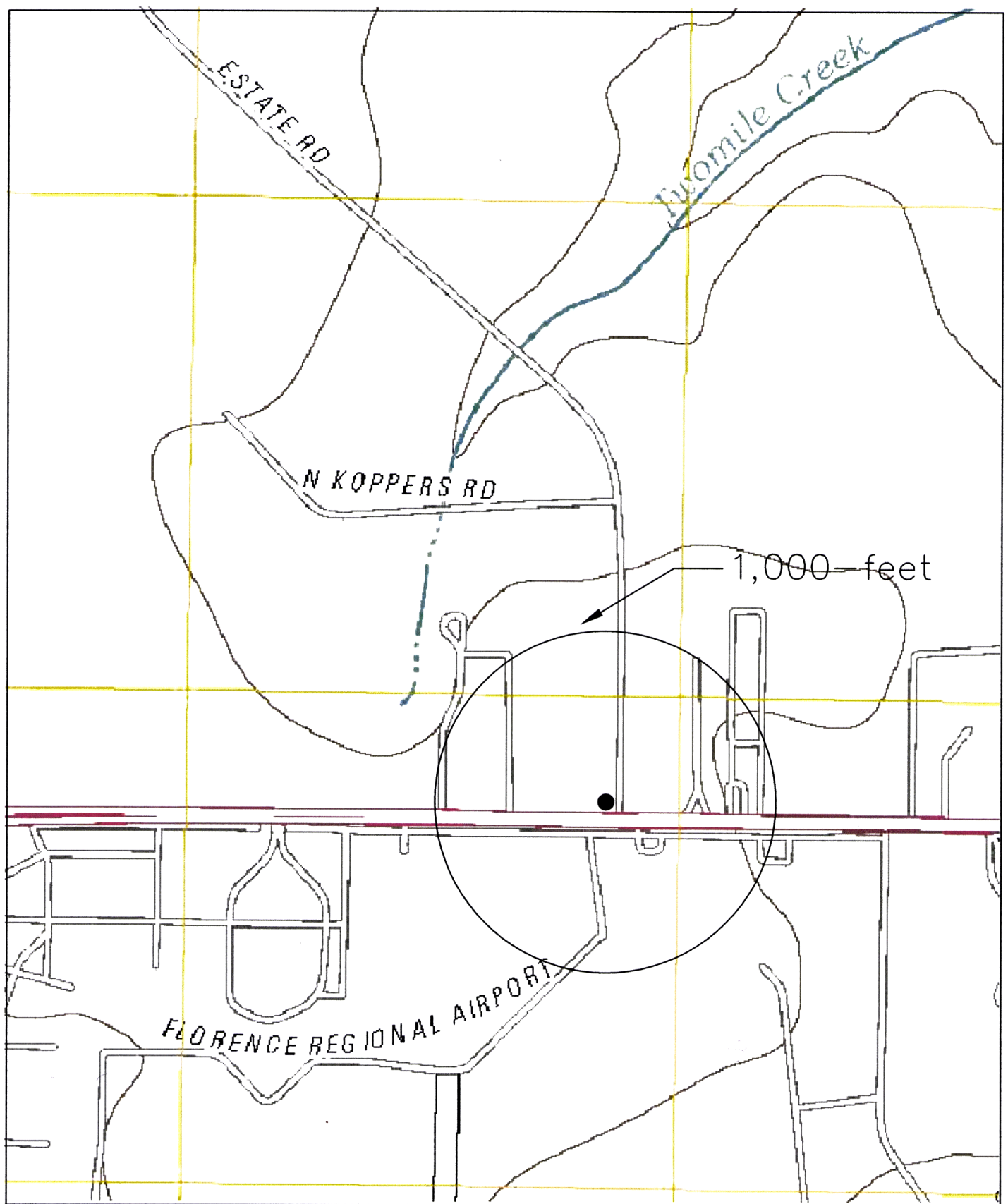
of shallow wells: 10 Estimated Footage: 16 feet per point
of deep wells: 3 Estimated Footage: 41 feet per point
of recovery wells: _____ Estimated Footage: _____ feet per point

Monitoring Well development method (consistent with SOP): Surging and pumping IAW SOP

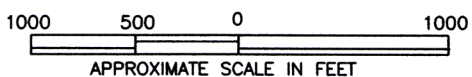
Comments, if warranted:

Deep wells installed outside of the source area will be installed as Type II monitoring wells if it is determined by the on-site geologist that no confining layers are present.

UST Permit #: <u>03538</u>		Facility Name: <u>Coastal 76 Truck Stop</u>	
Implementation Schedule (Number of calendar days from approval) Field Work Start-Up: <u>8/27/14</u> Field Work Completion: <u>10/27/14</u> Report Submittal: <u>11/27/14</u> # of Copies Provided to Property Owners: <u>3</u>			
Aquifer Characterization Pump Test: ☐ Slug Test: ☒ (Check one and provide explanation below for choice) <u>Slug test will be completed in two shallow and one deep monitoring well. Slug tests are recommended over pump tests due to the elimination of requirements for petroleum impacted water disposal. Additionally, slug tests minimize the cone of depression associated with pump test drawdown, reducing the transport of petroleum compounds from shallow to deeper aquifer zones.</u>			
Investigation Derived Waste Disposal Soil: <u>5</u> Tons Purge Water: <u>200</u> Gallons Drilling Fluids: <u>25</u> Gallons Free-Phase Product: <u>0</u> Gallons			
Additional Details For This Scope of Work For example, list wells to be sampled, wells to be abandoned/repared, well pads/bolts/caps to replace, details of AFVR event, etc. <u>Eighteen existing groundwater monitoring wells and 13 newly installed groundwater monitoring wells will be sampled. Receptors identified within 1,000-feet of the site or within 500-feet of the groundwater contaminant plume will also be sampled during the Tier II Assessment.</u> 			
Compliance With Annual Contractor Quality Assurance Plan (ACQAP) <u>Yes</u> Laboratory as indicated in ACQAP? (Yes/No) If no, indicate laboratory information below. Name of Laboratory: _____ SCDHEC Certification Number: _____ Name of Laboratory Director: _____ <u>Yes</u> Well Driller as indicated in ACQAO? (Yes/No) If no, indicate driller information below. Name of Well Driller: _____ SCLLR Certification Number: _____ <u>No</u> Other variations from ACQAP. Please describe below. 			
Attachments 1. Attach a copy of the relevant portion of the USGS topographic map showing the site location. 2. Prepare a site base map. This map must be accurately scaled, but does not need to be surveyed. The map must include the following: North Arrow Proposed monitoring well locations Location of property lines Legend with facility name and address, UST permit number, and bar scale Location of buildings Streets or highways (indicate names and numbers) Previous soil sampling locations Location of all present and former ASTs and USTs Previous monitoring well locations Location of all potential receptors Proposed soil boring locations 3. Assessment Component Cost Agreement, SCDHEC Form D-3664			



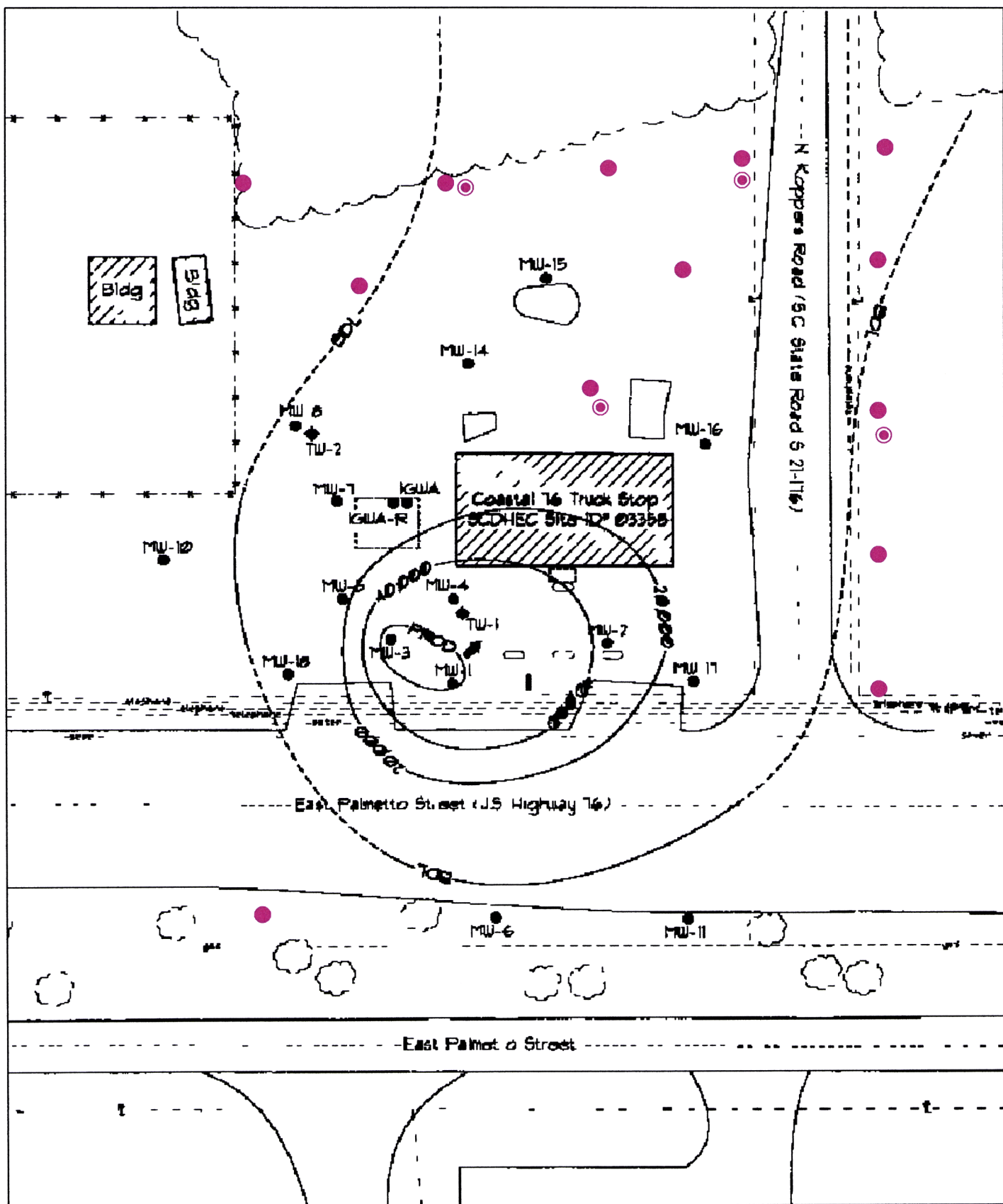
REFERENCE: Florence East Quadrangle - 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval - 10 feet)



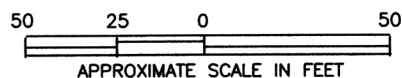
● Approximate Site Location



Title	Topographic Site Location Map		
Project	Coastal 76 Truck Stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	7/24/2014		Figure No. 1
Job No.	J14-070-A		

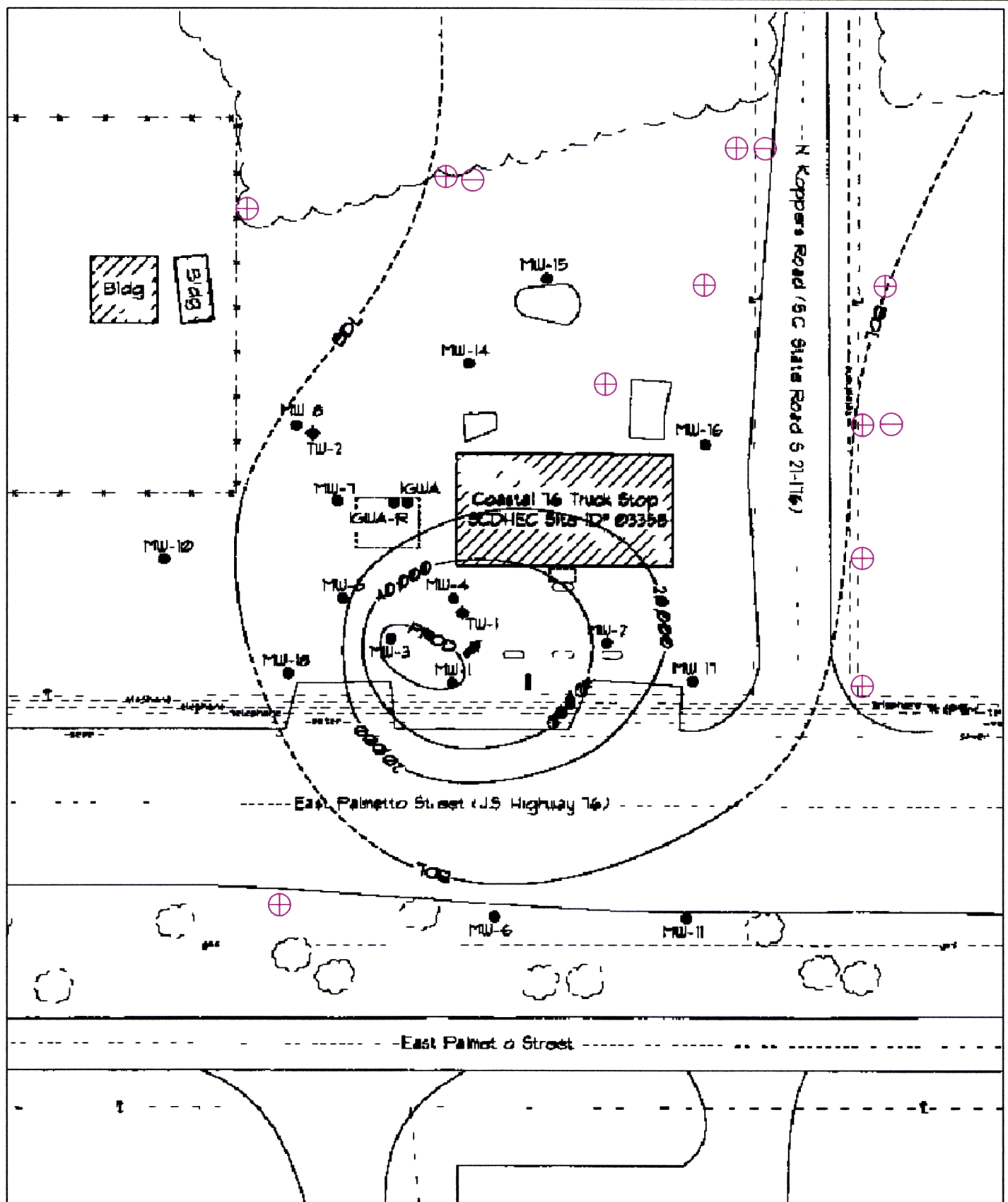


REFERENCE: figure 4 Groundwater CoC Map by Midlands Environmental Consultants, Inc. dated July 2012

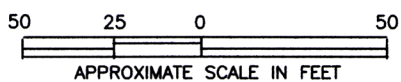


- Existing Groundwater Monitoring Well
- Proposed Shallow Groundwater Screening Boring (13 @ 12 feet)
- Proposed Deep Groundwater Screening Boring (4 @ 37 feet)

Title	Proposed Groundwater Screening Boring Location Plan		
Project	Coastal 76 Truck Stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	7/24/2014		Figure No. 2
Job No.	J14-070-A		



REFERENCE: Figure 4 Groundwater CoC Map by Midlands Environmental Consultants, Inc. dated July 2012



- Existing Groundwater Monitoring Well
- ⊕ Proposed Shallow Groundwater Monitoring Well (10' ± 16 feet)
- ⊕ Proposed Deep Groundwater Monitoring Well (3' ± 41 feet)

Title	Proposed Groundwater Monitoring Well Location Plan		
Project	Coastal 76 Truck Stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	7/24/2014	 petra-tech ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS	Figure No. 3
Job No.	J14-070-A		



ASSESSMENT COMPONENT COST AGREEMENT
SOUTH CAROLINA
 Department of Health and Environmental Control
 Underground Storage Tank Management Division
 State Underground Petroleum Environmental Response Bank Account
 PO#4600271461

Facility Name Coastal Mart 76 Truck Stop

UST Permit #: 03538

Cost Agreement #: _____

ITEM	QUANTITY	UNIT	UNIT PRICE	TOTAL
1. Plan Preparation				
A1. Site-specific Work Plan	1	each	\$470.00	\$470.00
B1. Tax Map	1	each	\$600.00	\$600.00
C1. Tier II or Comp. Plan /QAPP Appendix B		each	\$780.00	\$0.00
2. A1. Receptor Survey *	1	each	\$755.00	\$755.00
3. Survey (500 x 500 feet)				
A1. Comprehensive Survey	1	each	\$1,405.00	\$1,405.00
B. Subsurface Geophysical Survey				
1B. < 10 meters below grade		each	\$200.00	\$0.00
2B. > 10 meters below grade		each	\$250.00	\$0.00
C1. Geophysical UST or Drum Survey		each	\$200.00	\$0.00
4. Mob/Demob (Each)				
A1. Equipment	2	each	\$985.00	\$1,970.00
B1. Personnel	5	each	\$955.00	\$4,775.00
C1. Adverse Terrain Vehicle to install wells		each	\$209.00	\$0.00
5. A1. Soil Borings (hand auger)*		feet	\$1.00	\$0.00
6. Soil Borings (requiring equipment, push technology, etc)* or Field Screening (including water sample, soil sample, soil gas sample, etc.)*				
A1. Standard	320	per foot	\$3.50	\$1,120.00
C1. Fractured Rock		per foot	\$2.00	\$0.00
7. A1. Soil Leachability Model (Each)		each	\$1.00	\$0.00
8. Abandonment (per foot)*				
A1. 2" diameter or less		per foot	\$0.50	\$0.00
B1. Greater than 2" to 6" diameter		per foot	\$1.00	\$0.00
C1. Dug/Bored well (up to 6 foot diameter)		per foot	\$2.50	\$0.00
9. Well Installation (per foot)*				
A1. Water Table (hand augered)		per foot	\$1.00	\$0.00
B1. Water Table (drill rig)	283	per foot	\$16.25	\$4,598.75
C1. Telescoping/ Pit Cased		per foot	\$17.50	\$0.00
D1. Rock Drilling		per foot	\$13.00	\$0.00
E1. 2" or 4" Rock Coring		per foot	\$1.00	\$0.00
G1. Rock Multi-sampling ports/screens		per foot	\$5.00	\$0.00
H1. Recovery Well (4 inch diameter)		each	\$11.00	\$0.00
II. Pushed Pre-packed screen (1.25 diameter)		each	\$5.00	\$0.00
J1. Rotasonic (2 inch diameter)		each	\$2.00	\$0.00
K. Re-develop Existing Well		each	\$0.50	\$0.00
10. Groundwater Sample Collection / Gauge Depth to Water or Product *				
A1. Groundwater Purge	32	per well	\$165.00	\$5,280.00
B1. Air or Vapors		per receptor	\$1.00	\$0.00
C1. Water Supply		per well/receptor	\$115.00	\$0.00
D1. Groundwater No Purge or Duplicate	2	samples	\$50.00	\$100.00
E1. Gauge Well only		per well	\$5.00	\$0.00
F1. Sample Below Product		well	\$5.00	\$0.00
G1. Passive Diffusion Bag		each	\$1.00	\$0.00
H1. Field Blank	2	each	\$52.00	\$104.00
11. Laboratory Analyses-Groundwater				
A2. BTEX+Naphth.+ Oxyg's+ 1,2 DCA + Ethanol	39	sample	\$117.00	\$4,563.00
AA1. Lead, Filtered		sample	\$12.00	\$0.00
B2. Rush EPA Method 8260B (All of item A.)		sample	\$142.00	\$0.00
C2. Trimethal, Butyl, and Isopropyl Benzenes		sample	\$14.00	\$0.00
D1. PAH's		sample	\$30.00	\$0.00
E1. Lead, Unfiltered	36	sample	\$25.00	\$900.00



ASSESSMENT COMPONENT COST AGREEMENT

SOUTH CAROLINA

Department of Health and Environmental Control

Underground Storage Tank Management Division

State Underground Petroleum Environmental Response Bank Account

F1. EDB by EPA 8011	36	sample	\$75.00	\$2,700.00
FF1. EDB by EPA Method 8011 Rush		sample	\$100.00	\$0.00
G1. 8 RCRA Metals		sample	\$25.00	\$0.00
H1. TPH (9070)		sample	\$15.00	\$0.00
II. pH		sample	\$5.00	\$0.00
J1. BOD		sample	\$9.00	\$0.00
PP. Ethanol		sample	\$0.10	\$0.00
11. Analyses-Soil				\$0.00
Q1. BTEX + Naphth.		sample	\$80.00	\$0.00
R1. PAH's		sample	\$45.00	\$0.00
S1. 8 RCRA Metals		sample	\$20.00	\$0.00
U1. TPH-DRO (3550B/8015B)		sample	\$15.00	\$0.00
V1. TPH- GRO (5030B/8015B)		sample	\$15.00	\$0.00
W1. Grain size/hydrometer	2	sample	\$55.00	\$110.00
X1. Total Organic Carbon		sample	\$14.00	\$0.00
11. Analyses-Air				
Y1. BTEX + Naphthalene		sample	\$50.00	\$0.00
11. Analyses-Free Phase Product				
Z1. Hydrocarbon Fuel Identification		sample	\$100.00	\$0.00
12. Aquifer Characterization*				
A1. Pumping Test		per hour	\$20.00	\$0.00
B1. Slug Test*	3	per test	\$255.00	\$765.00
C1. Fractured Rock		per test	\$35.00	\$0.00
13. A1. Free Product Recovery Rate Test*		each	\$35.00	\$0.00
14. Fate/Transport Modeling				
A1. Mathematical Model		each	\$5.00	\$0.00
B1. Computer Model		each	\$5.00	\$0.00
15. Risk Evaluation				
B1. Tier II Risk Evaluation		each	\$25.00	\$0.00
16. A1. Subsequent Survey*		each	\$95.00	\$0.00
17. Disposal (gallons or tons)*				
AA. Wastewater	200	gallon	\$0.25	\$50.00
BB. Free Product		gallon	\$0.10	\$0.00
C1. Soil Treatment/Disposal	5	ton	\$35.00	\$175.00
D1. Drilling fluids	25	gallon	\$0.10	\$2.50
18. Miscellaneous (attach receipts)				
Flourescence for Product		each	\$3.00	\$0.00
Video Camera down a well or borehole		each	\$1.00	\$0.00
		each	\$0.00	\$0.00
25. Well Repair*				
A1. Additional Copies of the Report Delivered	3	each	\$49.00	\$147.00
B1. Repair 2x2 MW pad		each	\$5.00	\$0.00
C1. Repair 4x4 MW pad		each	\$5.00	\$0.00
D1. Repair well vault		each	\$5.00	\$0.00
F1. Replace well cover bolts		each	\$1.00	\$0.00
H1. Replace/Repair stick-up		each	\$5.00	\$0.00
II. Convert Flush-mount to Stick-up		each	\$5.00	\$0.00
J1. Convert Stick-up to Flush-mount		each	\$5.00	\$0.00
K1. Replace missing/illegible well ID plate		each	\$1.00	\$0.00
TOTAL				\$30,120.25

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



2600 Bull Street
Columbia, SC 29201-1708

**DIVISION OF
UNDERGROUND STORAGE TANK MANAGEMENT**

Phone (803) 898-4350 Fax (803) 898-4330

CERTIFIED MAIL
Z 178 518 340

JAN 04 2000

Mr. Dan McEachin
1007 Wentworth Drive
Florence, South Carolina 29501

Re: Coastal 76 Truck Stop
UST Permit #03538
Notice of Violation
Florence County

Dear Mr. McEachin:

The Division of Underground Storage Tank (UST) Management of the South Carolina Department of Health and Environmental Control directed you to complete a Rapid Assessment in December, 1998 with the assessment report due in March 1999. An extension was granted to Southeastern Environmental with a revised due date of September 30, 1999. Due to reported problems with the registered surveyed map, a second extension was granted with a newly revised due date of December 16, 1999. 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.

The report must be submitted within 15 days from the date of this letter. If the report is not received in accordance with this schedule, enforcement procedures will be initiated.

On all correspondence regarding this site, please reference UST Permit #03538. If you have any questions concerning this correspondence, please call me at (803) 898-4343 or 1-800-826-5435 (within South Carolina only).

Sincerely,

Kristen A. Hein, Hydrogeologist
Owner/Operator Assistance Section
Assessment and Corrective Action Branch
Division of Underground Storage Tank Management

cc: Technical/Read File
Mr. Bruce Newell, Southeastern Environmental, 323 Main Street, Conway, SC 29526

SCDHEC/UST/010400

UST DOCKET 53T

$$\begin{array}{r} 969.5 \\ \times 17 \\ \hline 16481.50 \\ -13575.00 \\ \hline \end{array}$$

$$\begin{array}{r} 969.5 \\ \times 14 \\ \hline 13575.00 \end{array}$$

$$\begin{array}{r} 1065.00 \\ \times .15 \\ \hline 159.75 \end{array}$$

$$\begin{array}{r} 2906.5 \\ \times .15 \\ \hline 435.98 \end{array}$$

$$\begin{array}{r} 2906.5 \\ 150.00 \\ \hline 480.98 \end{array}$$

$$\begin{array}{r} 2906.50 \\ 453.98 \\ \hline \end{array}$$

3360.48 Denied
Field screening

1224.75 Denied

Samples (4585.23
total den.)

Deny 16,481.50
Allow 13,573

6455

2906.5 allow

$$\begin{array}{r} 510.05 \\ 480.98 \\ 150.00 \\ 1065.00 \\ 2906.50 \\ \hline 2333.50 \end{array}$$

Deny - 1065.00 Sampling
159.75 15% mark up

$$3537.48$$

Pa

$$\begin{array}{r} 458.48 \\ 22.50 \\ \hline 480.98 \end{array}$$

$$\begin{array}{r} 512.48 \\ 48239.50 \\ - 2906.50 \\ \hline 2333.50 \end{array}$$

$$350.03$$

Deny 2483.53

Allow for 969.5' for screening hand auger
Deny ~~eq~~ boring drilled

To Pay 2906.5 allow deny

1 Slug test 150

3056.5

x .15

458.48 Project management

Total Pay 3514.98

To Pay 969.5 feet @ 141/foot = 13575.00

1 Slug test

7422.68

150.00

13725.00

x .15

2058.75

1224.75

4739.73

2472.15

~~7422.68~~
~~- 4585.23~~ unpaid
~~2837.45~~ paid

2906.5

~~458.48~~
~~150~~

453.98

$$249.5 \times 17 = 4241.50$$

$$249.5 \times 4 = 998.00$$

300.00 BTEX, napth, mbe

300.00 PAH

60.00 Lead

105.00 EDB

60.00 Nitrate

60.00 FE

60.00

6244.5

936.675

7181.17 Denied

$$\begin{array}{r} 7422.68 \\ - 7181.17 \text{ unpayable} \\ \hline 241.51 \text{ payable} \end{array}$$

1118.18

150.00

$\times .15$

22.5

+150

172.50

payable

6304.5

945.675

7250.18

unpayable

Southeastern Environmental

323 Main Street, Conway, S.C. 29526 • (803) 248-3533 • (800) 257-3533 • Fax (803) 248-5034

January 7, 2000

SC DHEC
Attn: Kristen Hein, Project Manager
UST Management Division
2600 Bull Street
Columbia, SC 29201

RECEIVED

JAN 11 2000

DM

5:00 PM

Re: Coastal Truck Stop
Site ID#03538

Mrs. Hein:

Enclosed please find the Rapid Assessment Plan for the above referenced site.

If you have any questions, please do not hesitate to call.

Thank you,



Lori James Grainger
Southeastern Environmental, Inc.

LJG/s

Enclosure(s)

UST DOCKET 547

SOUTHEASTERN ENVIRONMENTAL INC.

323 Main Street
Conway, South Carolina 29526
Phone: (803) 248-3533
FAX: (803) 248-5034

RECEIVED

FAX MESSAGE / COVER SHEET

JAN 24 2000

Bureau of Underground
Storage Tank Management

Date: 1-24-99

Number of pages including message / cover sheet: 4

To: Kristin Hein

From: Jared Hendrix (Southeastern Environ., Inc)

Subject: Coastal Truck Stop

CONFIDENTIALITY NOTICE:

☐

The information contained in this transmission is privileged and confidential. It is intended only for the use of the individual or entity named above. If you are not the intended recipient or an authorized agent or employee of the intended recipient who has been authorized to deliver this facsimile, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone, and arrangements will be made to return the message. Thank you!

LIST DOCKET 55 T

* Kristin -

The Ground Water Table for MW #10

was not available - C.T.S. had a shed placed
on top of it when we were taking g.w.
measurements.

JH. 



Water Well Record

Bureau of Water

2600 Bull Street, Columbia, SC 29201-1708; (803) 734-5300

1. LOCATION OF WELL: C.T.S. #10

County: Horry System Name: Coastal TruckLatitude: 33° 45' 00" N Longitude: 79° 05' 00" W

Distance and Direction from Road Intersections:

Street Address & City of Well Location:

Sketch Map:

See Site Map

See Site Map

Geophysical Logs: ☐ Yes (please enclose) ☐ No2. CUTTING SAMPLES: ☐ Yes ☒ No

Formation Description

Thickness of Stratum

Depth to Bottom of Stratum

Tan/Brown sand 4' 1'-4'

Brown/dark orange sandy loam 1' 5'-6'

Dry pinkish/brown sandy clay 7' 7'-14'

Wet, light tan sandy clay 4' 15'-19'

Indicate Water Bearing Zones

(Use a 2nd sheet if needed)

3. REMARKS:

4. OWNER OF WELL: Don M. ...Address: 1007 W. ...Telephone No.: 843-661-6177Engineer: Bruce G. ...Address: 323 Main Street

Columbia, SC 29526

Telephone No.: 843-242-15235. WELL DEPTH (completed) Date Started: 8-3-9918.97 ft. Date Completed: 8-3-996. ☐ 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 ☐ Other8. CASING: ☒ Threaded ☐ WeldedDiam.: 2" Height: Above/BelowType: ☒ PVC ☐ Galvanized Surface ft.☐ Steel ☐ Other Weight lb./ft.0.5' in. to 2.5' ft. depth Drive Shoe? ☐ Yes ☐ No in. to ft. depth9. SCREEN PVC Diam.: 2"Type: PVC Slot/Gauge: 0.010 Length: 10'Set Between: 2.5' ft. and 18.5' ft. NOTE: MULTIPLE SCREENS ft. and ft. USE SECOND SHEETSieve Analysis ☐ Yes (please enclose) ☒ No10. STATIC WATER LEVEL NA 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) ☒ NoYield:

12. WATER QUALITY

Chemical Analysis ☒ Yes ☐ No Bacterial Analysis ☐ Yes ☒ No

Please enclose lab results.

13. ARTIFICIAL FILTER (gravel pack) ☒ Yes ☐ NoInstalled from 2.88' ft. to 19.0' ft.Effective size Uniformity Coefficient 14. WELL GROUTED? ☒ Yes ☐ No☐ Neat Cement ☐ Sand Cement ☒ Concrete ☐ Other Bentonite Depth: From 2.88' ft. to 0.67' ft.15. NEAREST SOURCE OF POSSIBLE CONTAMINATION: ft. direction Type well disinfected ☐ Yes Type: upon completion ☐ No Amount: 16. PUMP: Date installed: Not installed ☒Mfr. Name: Model No.: H.P. Volts Length of drop pipe ft. Capacity gpmTYPE: ☐ 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: Southeastern Env. Inc. Date: 8-3-99Address: 323 Main Street, Columbia, SC 29526Signed: James K. ... Cert. No.: 1500

Authorized Representative

01/24/0

11:54 FAX 843 2

034

S.E. ENVIROMENTL

03

TOC to grade →

Grout to TOC →

Grout →

Bentonite →

0.5'

0.67'

0.92'

0.5'

2.88'

CASING = 8.0'

8.5'

SCREEN = 10.0'

Soil
Description
Depth

1' tan/light brown sand

2'

3'

5' brown/dark orange sandy
loam7' dry pinkish/brown sandy clay
(pebbles)

9'

11'

13'

15' wet light tan sandy clay

17'

Sand = 16.12'

O.V.A. Reading

Depth: 9.0'

ppm: 11 ND
clayish sand
5yr 4/5

POINT = .47ft.

19.0'

SOUTHEASTERN ENVIRONMENTAL

Driller: JMH/JVB/AWB

Driller Lic.#: 1500

Client: Coastal Truck Stop

Location: US Hwy. 76 and N. Koppers Road
Florence, SC

Date: 8-3-99 1:30pm

Site ID #: 03538

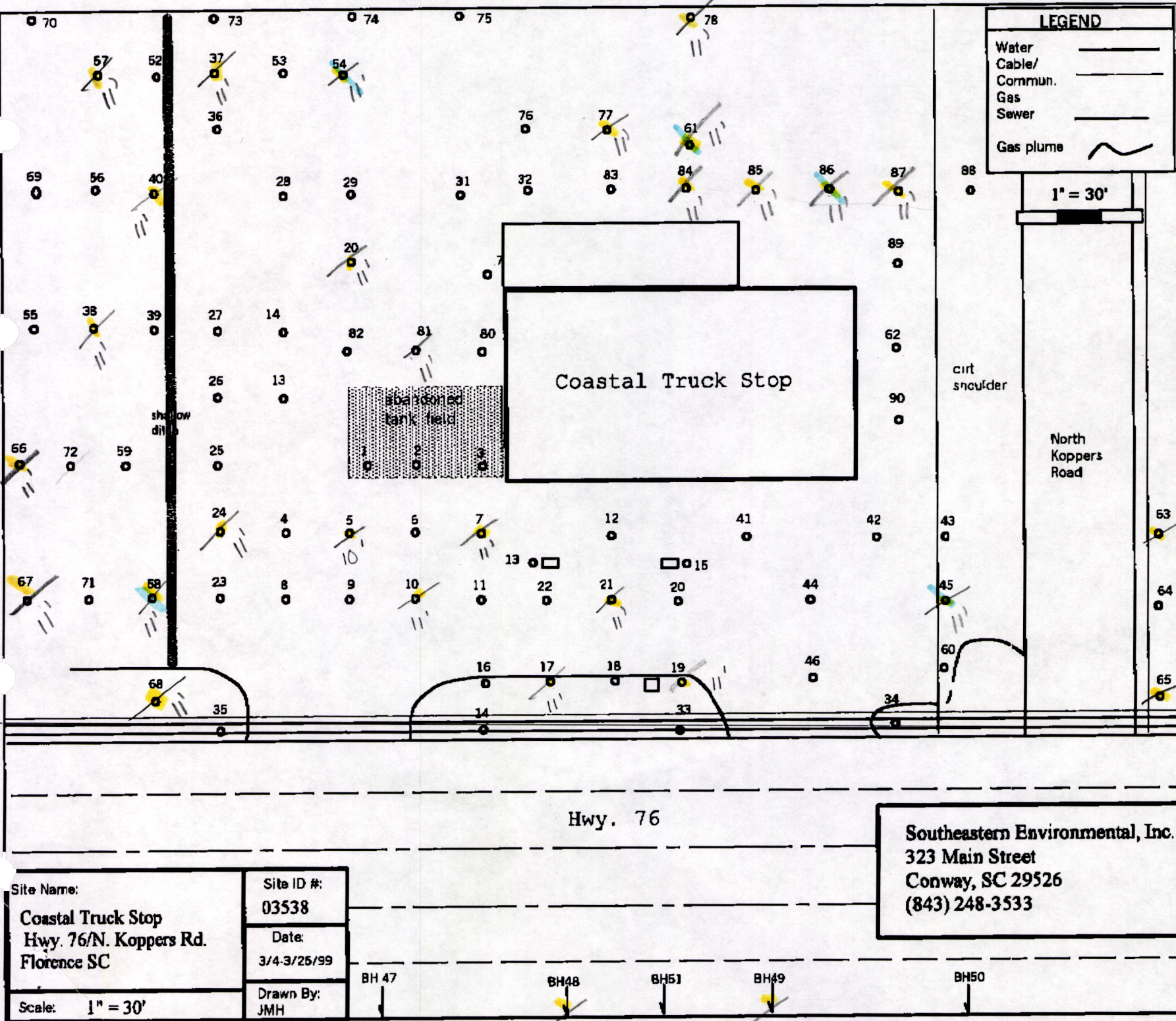
Well Depth: (Grade to Point) 18.97'

Well #: 10

Receptors/comments: located on other side of ditch, tough from
8' to 14'

Disposal Method for soil: scattered on site

01/24/01 1:54 FAX 843 24 034 S.E. ENVIRONMENTAL



total
denied
11V29 = 319
10x1 = 10
329'
x 17
5593
" abandon -
329
x 4
1316
2329
- 55
274
1329
- 249
80

SOUTHEASTERN ENVIRONMENTAL INC.

323 Main Street
Conway, South Carolina 29526
Phone: (803) 248-3533
FAX: (803) 248-5034

RECEIVED

JAN 28 2000

FAX MESSAGE / COVER SHEET

Bureau of Underground
Storage Tank Management

Date: January 28, 2000

Number of pages including message / cover sheet: 02

To: Kristen Hein
SC DHEC

From: LORI GRAINGER

CONFIDENTIALITY NOTICE :

The information contained in this transmission is privileged and confidential. It is intended only for the use of the individual or entity named above. If you are not the intended recipient or an authorized agent or employee of the intended recipient who has been authorized to deliver this facsimile, you are hereby notified that any dissemination, distribution or copying of this communication is strictly prohibited. If you have received this communication in error, please notify us immediately by telephone, and arrangements will be made to return the message. Thank you!

BT DOCKE

56 T

No. 4005

Southeastern Soil Recovery

MANIFEST - NON-HAZARDOUS SOILS

Date of Shipment: 01/27/2000	Responsible for Payment: CONSULTANT	Transporter Truck #:	Project #: 00012	Load #:
Generator's Name & Billing Address: MR. DAN MCELCHON 726 DOWNSIDE DRIVE GAITHERSBURG, MD 20878			Generators Phone No.:	
			Person to Contact:	
			Fax No.:	
Consultant's Name & Billing Address: SOUTHEASTERN ENVIRON. INC. 715 MAIN STREET GAITHERSBURG, MD 20878			Consultant's Phone No.:	
			Person to Contact:	
			Fax No.:	
Generation Site (Transport from): (Name & Address) 3 DILLON CIRCLE COASTAL TRAIL COMM FARMERSVILLE, MD			Site Phone No.:	
			Person to Contact:	
			Fax No.:	
Designated Facility (Transport to): (Name & Address) BOK. INC. BOX 6 101 MELLICHAMPE ROAD SUMMITTOWN, N. C. 28687			Facility Phone No.:	
			Person to Contact:	
			Fax No.:	
Transporter Name & Mailing Address: GRAY INDUSTRIAL SERVICES 1711 CALLE PLANT ROAD WASHINGTON, DC 20075			Transporter's Phone No.:	
			Person to Contact:	
			Fax No.:	
Generator's and/or consultant's certification: I We certify that the soil referenced herein has been taken entirely from those soils described in the Material Acceptance Contract From completed and certified by me/us for the Generation Site shown above.				
Print or Type Name: Generator ☐ Consultant ☐			Signature & Date: Month Day Year	
Troy Backman for Southeastern Enviro			Troy Backman 1 27 00	
Transporter's certification: I We acknowledge receipt of the soil described above and certify that such soil is being delivered in exactly the same condition as when received.				
Print or Type Name:			Signature & Date: Month Day Year	
Troy Backman			Troy Backman 1 27 00	
Recycling Facility certifies the receipt of the soil by this manifest.				
Print or Type Name:			Signature & Date: Month Day Year	
Lori Granger			Lori Granger 1 27 00	

White - Generator Retain

Yellow - Transporter Retain

Pink - Recycling Facility Retain

Southeastern Environmental

323 Main Street, Conway, S.C. 29526 • (803) 248-3533 • (800) 257-3533 • Fax (803) 248-5034

March 1, 2000

Ms. Kristen Hein
SC DHEC
2600 Bull Street
Columbia, SC 29201
Bureau of UST Management

RECEIVED

MAR 03 2000

Bureau of Underground
Storage Tank Management

Re: Coastal Truck Stop
Facility # 03538
Florence County
Invoice Requests/Adjustments

Dear Ms. Hein;

We received the letter regarding the invoice adjustments for Coastal Truck Stop (Invoice # 03538). The invoice you approved us for as of Feb 18, 2000 was in the amount of \$32,152.96. The total amount of our invoice was for \$39,575.64. The letter did specify which procedures were adjusted and why.

During the time the work for Coastal Truck Stop was being conducted, you were absent due to an illness. During this period, we consulted with Chris Doll, Charles Williams and John Abernathy on our field screenings and well placements.

Based on our field notes and documents from our file, the following events occurred while conducting the Rapid Assessment at Coastal Truck Stop during your absence.

The initial 600 ft. of soil borings were installed between 3/4/99 and 3/8/99.

We spoke with Chuck Williams on the phone and requested additional bore hole footage in order to completely define the plume. He told us he would approve an additional 300 feet.

On 3/18/99, Chuck Williams sent us a letter (rec'd 3/22/99) approving an additional 300 feet of *temporary monitoring wells* instead of 300 feet of additional bore holes. Our secretary Kim Garrett phoned Chuck Williams about the mistake, and Mr. Williams acknowledged he meant to state bore holes in the letter.

ST DOCKE

57T

As of 3/25/99, we completed the installment of the additional bore holes.

After our field screenings, we consulted with our geologist Dr. Doug Nelson about the monitoring well placements. He gave us the locations for the first 8 wells, which were to be placed inside the contamination plume.

On 7/6/99, Anthony Bell (SEI) faxed a letter to Chris Doll asking him to review our well placements (based on our field screenings) for the first 8 wells which were to be placed inside the plume (with the exception of MW6). He also stated that we intended to start drilling that same day. Anthony did not hear back from Mr. Doll and called him the next day. He informed us he was not involved with that particular site and would pass the information on to the appropriate person. I then spoke with Chuck Williams about the placement of monitoring wells 1-8. They were approved with the exception of MW 2, MW 5, and MW 8, which he directed us to move them closer to the edge of the plume.

During 7/ 13/99 through 7/ 15/ 99, monitoring wells 1 – 8 were installed.

On 8/3/99, a letter was faxed to John Abernathy asking him to review the remaining 7 proposed well placements (proposed by our geologist) for the wells to be located outside the plume. I spoke with John on the phone and we made exact changes for the placements of monitoring wells 9 – 14.

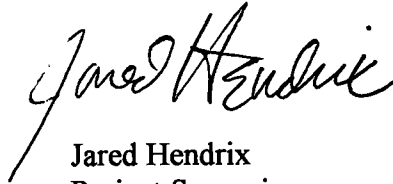
On 8/4/99, we began the installation of the remaining monitoring wells to be placed outside of the plume. After installing monitoring wells 9, 10 and 11, we began the installation of MW 12. During installation, we noticed a strong gasoline odor (at 15') below the water table. We stopped drilling and called Mr. Abernathy about our findings who told us not to install it and move on to the next one. We then began the drilling for the installation for MW 13. Again at 15', we came across a strong gasoline odor. We stopped the drilling and again called John Abernathy. He did not want to immediately move the locations of these two well placements. Instead, we were instructed to delay the installation of MW 12 and 13. We did install MW 14, which still appeared to be outside of the plume of contamination. Mr. Abernathy instructed us to complete our report without monitoring wells 12 and 13, and those monitoring wells could later be installed based on the results of the Rapid Assessment report.

In regards to the one disallowed slug test; the drilling company we sub-contract for our telescoping wells was not going to be available for some time. We felt it was important to go ahead and perform the slug test on three of the wells we had already installed so we would not delay the completion of our report. Under similar circumstances in the past, we have performed all three slug tests on the shallow water wells and they had been approved. We have noted your correction and will make a point of modifying our procedures.

I have enclosed copies of our letters corresponding with Chuck Williams regarding the additional bore hole footage, and John Abernathy regarding monitoring well placements.

I hope this letter will help alleviate any confusion about this project. Please feel free to contact me if I can be of any further assistance.

Sincerely;

A handwritten signature in black ink, appearing to read "Jared Hendrix". The signature is fluid and cursive, with a long horizontal stroke extending to the left.

Jared Hendrix
Project Supervisor
SEI

cc: J.C. Jones
Senior Accountant
Financial Section
Division of UST Management

Mr. Dan M. McEachin
1007 Wentworth Drive
Florence, SC 29501

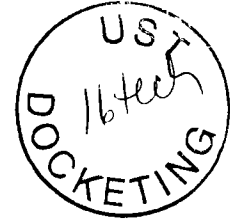


Catherine B. Templeton, Director

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

TREVER Z SLACK PG
PRINCIPAL HYDROGEOLOGIST
PETRA-TECH ENVIRONMENTAL LLC
2435 E NORTH ST STE 1108-202
GREENVILLE SC 29615-1442

SEP 05 2014



Re: Tier II Directive
Coastal 76 Truck Stop, 2513 E. Palmetto Street, Florence, SC
UST Permit # 03538; Cost Agreement # 48706; MWA # UMW-25643
Solicitation Number IFB-5400005780/3/20/13-EMW, Purchase Order # 4600361453
Tier II Plan and Site Specific QAPP Contractor Addendum received July 31, 2014
Florence County

Dear Mr. Slack:

The Underground Storage Tank (UST) Management Division of the South Carolina Department of Health and Environmental Control (Agency) has reviewed the Site-Specific Work Plan (SSWP), and associated Cost Agreement for the referenced site. Assessment activities should begin immediately upon receipt of this letter.

Cost agreement number 48706 has been approved in the amount shown on the enclosed cost agreement spreadsheet and will be kept on file so that compensation can begin. **The Agency reserves the authority to pay only for work properly performed and/or technically justified and will only pay rates in accordance with the referenced Invitation for Bid (IFB).** Further, the Agency reserves the right to question and/or reject costs if deemed unreasonable. The Agency reserves the right to audit project records at any time during the project or after completion of the work. **The Tier II Assessment Report (1 hardcopies, 1 electronic copy, 1 copy to each property owner who has a well on their property), QAPP checklist, and invoice should be submitted within 90 days from the date of this correspondence.**

The approved assessment component cost agreement is enclosed for your information. Petra-Tech Environmental, LLC., can submit an invoice for direct billing from the State Underground Petroleum Environmental Response Bank (SUPERB) Account. Future invoices and/or other criteria included therein must comply with current SUPERB criteria per Section 44-2-20(2). Please reference the approved cost agreement number 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 Agency is obtained. If for any reason there is a change in this cost agreement, any associated changes must be pre-approved in writing by this Agency in order for Petra-Tech Environmental, LLC., to seek future cost compensation. Any temporary well converted to a permanent well will be reimbursed at the permanent well installation rate.

The following revisions have been made to the approved cost agreement:

- Costs for tax map information (item 1B1) were omitted. The information was provided during the previous assessment in 2012.
- Costs have been approved for 34 lead analyses (item 11E1) for all wells and two duplicate samples.

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. In accordance with section 3.14.4. of the referenced IFB, if the time interval between collection of groundwater samples from the permanent monitoring well network and receipt of the report and exceeds 45 days, the contractor will submit an updated comprehensive groundwater sampling report to include blank and duplicate samples for all wells and surface water at no additional cost. The Agency reserves the right to deny payment for laboratory analyses if the detection limit exceeds the reporting limit in Appendix E of the QAPP for the UST Division. As agreed to in the referenced contract, the owner/operator and property owner of the referenced facility will not be responsible for any costs associated with this assessment.

Monitoring well approval for up to seventeen temporary, ten shallow and three deep monitoring wells is enclosed for your records. Please note that all applicable South Carolina certification requirements regarding laboratory analyses, well installation, and report preparation must be met. All shallow wells are to be installed with screen intervals that bracket the water table.

The Agency grants pre-approval for transportation of virgin petroleum impacted soil and groundwater from the referenced site to a permitted treatment facility. The Division suggests a roll off container be used for disposal. There can be no spillage or leakage in transport. All investigation-derived waste (IDW) must be properly contained and labeled prior to disposal. IDW should not be stored on-site longer than ninety (90) days. A legible copy of the disposal manifest and/or acceptance letter from the receiving facility that clearly designates the quantity received must be included as an appendix to the report. If the CoC concentrations, based on laboratory analysis, are below Risk Based Screening Levels (RBSLs), please contact the project manager for approval to dispose of soil and/or groundwater in a location acceptable to the property owner. 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 number 03538. If you have questions concerning this correspondence, or would like to submit additional information, please contact me at (803) 898-0592, fax me at (803) 898-0673, or e-mail me at mlenkmp@dhec.sc.gov.

Sincerely,



Maia Milenkova, Hydrogeologist
Assessment Section
Underground Storage Tank Management Division
Bureau of Land & Waste Management

enc: Approved Cost Agreement
Monitoring Well Approval

cc: Dan M. McEachin, 1007 Wentworth Dr., Florence, SC 29501(w/o enc.)
Technical File (w/ enc.)



Catherine B. Templeton, Director

Promote, protect and prosper by the best of the public and the environment

Monitoring Well Approval Form

Approval is hereby granted to: Petra-Tech Environmental, LLC
Facility: Coastal 76 Truck Stop, 2513 E. Palmetto St., Florence, SC
UST Permit Number: 03538
County: Florence

This approval is for the installation of seventeen temporary, and thirteen (ten shallow and three deep) permanent monitoring wells. The monitoring wells are to be installed in the approved locations. Monitoring wells are to be installed following the South Carolina Well Standards, R.61-71, and the applicable guidance documents.

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

1. All wells shall be drilled, constructed, and abandoned by a South Carolina certified well driller per R.61-71.D.1.
2. All monitoring wells shall be labeled as required by R.61-71.H.2.c.
3. A Water Well Record Form or other form provided or approved by the Agency shall be completed and submitted to the Agency within 30 days after well completion or abandonment unless another schedule has been approved by the Agency. The form should contain the "as-built" construction details and all other information required by R.61-71.H.1.f
4. All analytical data and water levels obtained from each monitoring well shall be submitted to the Agency within 30 days of receipt of laboratory results unless another schedule has been approved by the Agency as required by R.61-71.H.1.d.
5. If any of the information provided to the Agency changes, notification to Maia Milenkova (tel: 803 898-0592 or e-mail: milenkmp@dhec.sc.gov) shall be provided a minimum of twenty-four (24) hours prior to well construction as required by R.61-71.H.1.a.
6. All temporary monitoring wells shall be abandoned within 5 days of borehole completion using appropriate methods as required by R.61-71.H.4.c. All other wells shall be properly developed per R.61-71.H.2.d.
7. Approval from the Agency is required prior to abandonment of all monitoring wells as required by R.61-71.H.1.a.

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

Date of Issuance: August 28, 2014

Approval #: UMW-25643

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

Approved Cost Agreement 48706

Facility 03538 COASTAL 76 TRUCK STOP

MILENKMP

PO Number

<u>Task / Description</u>	<u>Categories</u>	<u>Item Description</u>	<u>Qty / Pct</u>	<u>Unit Price</u>	<u>Amount</u>
01 PLAN		A1 SITE SPECIFIC WORK PLAN	1 0000	470 00	470 00
02 RECEPTOR SURVEY		A1 RECEPTOR SURVEY	1 0000	755 00	755 00
03 COMPREHENSIVE SURVEY		A1 COMPREHENSIVE SURVEY	1 0000	1,405 00	1,405 00
04 MOB/DEMOB		A1 EQUIPMENT	2 0000	985 00	1,970 00
		B1 PERSONNEL	5 0000	955 00	4,775 00
06 SOIL BORINGS (DRILLED)		A1 SOIL BORING/FLD SCR STANDARD	320 0000	3 50	1,120 00
09 WELL INSTALLATION		B1 WATER TABLE (DRILL RIG)	283 0000	16 25	4,598 75
10 SAMPLE COLLECTION		A1 GROUNDWATER (PURGE)	32 0000	165 00	5,280 00
		D1 GROUNDWATER NO PURGE/DUPLICATE	2 0000	50 00	100 00
		H1 FIELD BLANK	2 0000	52 00	104 00
11 ANALYSES	GW GROUNDWATER	A2 BTEXNM+OXYGS+1,2-DCA+ETH-8260B	39 0000	117 00	4,563.00
		E1 LEAD	34 0000	25 00	850 00
		F1 EDB BY 8011	36 0000	75 00	2,700 00
	SOIL SOIL	W1 GRAIN SIZE / HYDROMETER	2 0000	55 00	110 00
12 AQUIFER CHARACTERIZATION		B1 SLUG TEST	3 0000	255 00	765 00
17 DISPOSAL		AA WASTEWATER	200 0000	0 25	50 00
		C1 SOIL TREATMENT DISPOSAL	5 0000	35 00	175 00
		D1 DRILLING FLUIDS	25 0000	0 10	2 50
25 WELL REPAIR		A1 ADDITIONAL COPIES OF REPORT	3 0000	49 00	147 00
Total Amount					29,940 25

McEachin & McEachin, P.A.

Attorneys-At-Law

2117 W. Palmetto Street, Suite C
Florence, South Carolina 29501



D. Malloy McEachin, Jr.
FitzLee H. McEachin

Phone: 843.665.0135

Facsimile: 843.665.0716



September 9, 2014

Maia Milenkova
S.C. Dept. of Health & Environmental Control
2600 Bull St.
Columbia, SC 29201

Re: Coastal 76 Truck Stop, 2513 Palmetto Street, Florence, SC
UST Permit #03538

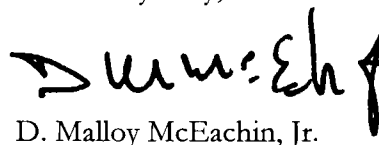
Dear Ms. Milenkova:

Please allow this letter to serve as notice that I am representing my father, Dan McEachin regarding the above referenced matter. Please forward all further correspondence to me at the above address.

If you have any questions, please do not hesitate to contact me.

With kind regards, I am,

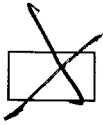
Yours very truly,



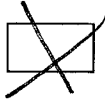
D. Malloy McEachin, Jr.

DMMJR/tdm

Document Receipt Information



Hard Copy



CD



Email

Date Received 12-29-14

Permit Number 03538

Project Manager Main

Name of Contractor Beta-Tech

UST Certification Number _____

Docket Number 18tech

Scanned _____

Tier II

TIER II ASSESSMENT REPORT

**Coastal 76 Truck Stop
SCDHEC UST Permit #03538
Cost Agreement #48706
2513 E. Palmetto Street
Florence, South Carolina
Florence County**

PTE Job No. J14-070-A

December 16, 2014



**Petra-Tech Environmental
2435 East North Street
Suite 1108-202
Greenville, SC 29615**

www.petrattechenv.com



December 16, 2014

South Carolina Department of Health and Environmental Control
Division of Underground Storage Tank Management
Bureau of Land and Waste Management
2600 Bull Street
Columbia, South Carolina 29201-1708

Attention: Ms. Maia Milenkova

Subject: **Tier II Assessment Report**
Coastal 76 Truck Stop
2513 E. Palmetto Street
Florence, Florence County, South Carolina
SCDHEC UST Permit #03538
Cost Agreement #48706
PTE Job No. J14-070-A

Dear Ms. Milenkova,

In accordance with Solicitation Number IFB-5400005780/3/20/13-EMW (Purchase Order #4600271461), Petra-Tech Environmental, LLC submits herein the completed Tier II Assessment Report for the subject site. This submittal is in response to the South Carolina Department of Health and Environmental Control's (SCDHEC) directive letter dated September 5, 2014 and was performed in accordance with Petra-Tech Environmental, LLC's Site Specific Work Plan dated July 25, 2014.

Please do not hesitate to contact us at 864.436.6322 if you have any questions concerning this submittal.

Sincerely,

Petra-Tech Environmental

A handwritten signature in blue ink, appearing to read "Trever Z. Slack".

Trever Z. Slack, P.G.
Principal Hydrogeologist
Registered, South Carolina #2565



1.0 FACILITY IDENTIFICATION

Facility Name: Coastal 76 Truck Stop
2513 E. Palmetto Street
Florence, South Carolina 29506

Facility Phone: Not Applicable

UST Owner: Dan Mceachin
UST Owner Address: 1007 Wentworth Drive
Florence, South Carolina 29501

UST Owner Phone: 803.651.8835

Property Owner: Dan Mceachin
Property Owner Address: 1007 Wentworth Drive
Florence, South Carolina 29501

Property Owner Phone: 803.651.8835

2.0 INTRODUCTION

The subject property is located at 2513 E. Palmetto Street in Florence, Florence County, South Carolina (**Figure 1**) and is currently utilized as a storage area for lumber and scrap wood. The approximate 4,000-square foot building located on-site is currently vacant. The site is bordered primarily by commercial properties to the east and west, and wooded land to the north. The site is bordered by Palmetto Street to the south, followed by the Florence Regional Airport.

2.1 Site History

According to documents provided by the SCDHEC in the Notice to Proceed package, a release was reported at the site in September 1995. Twenty groundwater monitoring wells (IGWA, IGWA'R", 03538-MW01 through 03538-MW11, 03538-MW14 through 03538-MW18, 03538-TW01, and 03538-TW02) have been installed at the site in response to the reported release as part of previous environmental assessments.

The SCDHEC issued a directive letter on June 25, 2014 requesting the completion of a Site Specific Work Plan (SSWP) for the site. The SSWP was submitted on July 25, 2014, and the SSWP was accepted by the SCDHEC in a Tier II Directive letter dated September 5, 2014. The results of the Tier II Assessment are contained herein.

2.2 Regional Geology and Hydrogeology

The site is located in the Coastal Plain Physiographic Province, which is generally comprised of Upper Cretaceous to present aged, wedge shaped formations that begin at the "Fall Line" and dip towards the Atlantic Ocean with ground surface elevations typically less than 300 feet. The sedimentary soils of these formations consist of unconsolidated sand, clay, gravel, marl, cemented sands, and limestone that were deposited unconformably over Mesozoic/Paleozoic age basement rock consisting of granite, schist, and

gneiss similar to the rocks of the Piedmont Physiographic Province. The thickness of the Coastal Plain sediments varies from zero at the “Fall Line” to more than 4,000 feet at the southern tip of South Carolina near Hilton Head Island.

The Coastal Plain province was formed during Quaternary, Tertiary, and late Cretaceous geologic periods and can be divided generally into three subunits: Upper Coastal Plain, Middle Coastal Plain, and Lower Coastal Plain. The Lower Coastal Plain comprises approximately one-half of the entire Atlantic Coastal Plain of South Carolina and is separated from the middle coastal plain by the Surry Scarp, a seaward facing scarp with a toe elevation of 90 to 100 feet. The Middle Coastal Plain and the Upper Coastal Plain each compose approximately one fourth of the Coastal Plain area and are separated by the Orangeburg Scarp, a seaward facing scarp with a toe elevation of 250 to 270 feet.

The Lower Coastal Plain is typically identified as the area east of the Surry Scarp below elevation 100 feet, with a vertical stratigraphic sequence overlying the basement rock consisting of unconsolidated Cretaceous, Tertiary, and Quaternary sedimentary deposits. The surface deposits of the Lower Coastal Plain were formed during the Quaternary period which was characterized by the formation of the Carolina Bays and scarps throughout the east coast due to sea level rise and fall, the formation of the barrier islands, and the formation of flood plains from major rivers. Preceding the Quaternary period, limestone was deposited in the Lower Coastal Plain.

The Middle Coastal Plain is typically identified as the area between the Orangeburg Scarp and the Surry Scarp and falls between elevation 100 feet and 270 feet. The vertical stratigraphic sequence overlying the basement rock consists of unconsolidated Cretaceous and Tertiary sedimentary deposits formed as a result of scouring from the regressive cycles of the Ocean as it retreated. During the Eocene epoch of the Tertiary period, limestone was deposited in the Middle Coastal Plain.

The Upper Coastal Plain is typically identified as the area between the “Fall Line” and the Orangeburg Scarp and falls between elevations 270 feet and 300 feet. The Upper Coastal Plain was formed during the Tertiary and late Cretaceous periods and is marked by the formation of the Sandhills dunes as a result of fluvial deposits over the Coastal Plain consisting of marine sediments, limestone, and sand.

According to Newell et al. (In Review)¹, the site is located within the Bear Bluff Formation, a Pliocene aged coastal terrace sequence consisting of gray to cream colored fossiliferous, coarse-grained calcareous sand and sandy limestone. The Bear Bluff Formation unconformably overlies the Pee Dee Formation and underlies the Canepatch, Conway, or Waccamaw Formation.

2.3 Receptor Survey Results

A receptor survey was conducted within 1,000 feet of the site boundaries (and within 500 feet of the groundwater contaminant plume) and consisted of the following:

- A vehicular reconnaissance of roads and private residences to identify water supply wells and surface water features

¹ Newell, Wayne L., Prowell, David (retired), Krantz, David, Powars, David, Mixon, Robert (retired), Stone, Byron, and Willard, Debra, in review, Surficial Geology and Geomorphology of the Atlantic Coastal Plain: U.S.G.S. Open File Report,

- Delivery of Water Supply Well Survey Forms through United States Postal Service Mail to property owners within the receptor survey boundaries (returned well survey forms are included in **Appendix J**).
- A review of historical United States Geological Survey topographic maps and historical aerial photographs.
- Utility Protection Service to locate underground structures and underground utilities on-site and proximate to the site.

No private water supply wells or surface water features were identified within the approximate 1,000-foot survey radius of the site. Public water is currently available to the residents located with the receptor survey area.

3.0 ASSESSMENT INFORMATION

The completed scope of services was based on Petra-Tech Environmental's SSWP dated July 25, 2014, and subsequent email and verbal correspondence with SCDHEC project manager Ms. Maia Milenkova. During the Tier II Assessment, the following activities were performed: groundwater screening; installation of groundwater monitoring wells to define the extent of dissolved phase petroleum compounds; slug tests in two shallow and one deep groundwater monitoring well; and completion of a comprehensive groundwater sampling event.

3.1 Site Specific Geology and Hydrogeology

Borings performed during the Tier II Assessment encountered soils consisting primarily of mottled, silty clay from 0 to 6 feet, underlain by silty, fine sand, clayey fine sand, and fine sand to the termination depths of the borings. Soil boring records are provided in **Appendix E**. A soil sample was collected from the screened interval of monitoring wells 03538-MW22 and 03538-MW22D and submitted for laboratory grain size analysis. Grain size analysis results indicated a silty, fine sand for monitoring well 03538-MW22 and a fine sand with minor amounts of silt and clay for monitoring well 03538-MW22D.

Grain size distribution is summarized below:

Sample ID	Sample Depth (feet BGS)	% Gravel	% Coarse Sand	% Medium Sand	% Fine Sand	% Silt	% Clay
MW22	10.0-11.5	0.0	0.0	0.5	56.3	28.3	14.9
MW22D	40.0-41.5	0.0	0.0	4.0	70.1	10.5	15.5

3.2 Summary of Field Screening Activities

Groundwater field screening was completed at the site on October 1 and 2, 2014. Field screening borings were performed by Mr. Joe Smith (SC Licensed Well Driller #1648-B) under the supervision of Mr. Trever Z. Slack, P.G. and Mr. Jimmy Slagh. Quality Assurance verification for field screening activities was provided by Ms. Kaye Burch. Details of the groundwater field screening activities are included in Section 3.2.1 below.

3.2.1 Groundwater Field Screening Activities

Eleven temporary shallow groundwater screening borings (GW01 through GW08, GW10, GW11, and GW13) and four temporary deep groundwater screening borings (GW02D, GW05D, GW08D, and GW11D) were performed on October 1 and 2, 2014 using a Simco 2500 drill with direct push and Auger capabilities and via hand auger. Shallow groundwater screening borings were drilled to 11.0 feet below ground surface (121 total feet) and deep groundwater screening borings were drilled to 35.0 feet below ground surface (140 total feet).

Each groundwater screening boring location was established in the field from map-scaled distances, by measuring from site landmarks, and estimating right angles (**Figure 2**); and survey coordinates for the groundwater screening borings were obtained using a handheld Geographic Positioning System device. Groundwater samples collected in the field were screened using a portable MiniRAE[®] Lite Photo-Ionization Detector (PID). After representative samples were collected from each boring, the temporary boreholes were abandoned to the ground surface with a bentonite cement grout pursuant to South Carolina well standards². Groundwater screening boring 1903 Well Records are included in **Appendix D**.

Select groundwater samples from sentinel borings were submitted for laboratory analysis of benzene, toluene, ethylbenzene, and xylenes (BTEX), naphthalene, 1,2-dichloroethane (1,2-DCA), and methyl-tert-butyl-ether (MTBE) by Environmental Protection Agency (EPA) Method 8260B. Of the eight groundwater screening samples submitted for laboratory analysis (GW01, GW03, GW05, GW06, GW07, GW08, GW11, and GW13), petroleum compounds were detected above laboratory method detection limits in GW07. Field screening and laboratory analytical results are summarized in **Table 1**. Groundwater screening laboratory data sheets are provided in **Appendix B**.

3.3 Summary of Well Installation Activities

Following completion of field screening activities, twelve new groundwater monitoring wells (03538-MW10R, 03538-MW19, 03538-MW20, 03538-MW21, 03538-MW22, 03538-MW22D, 03538-MW23, 03538-MW24, 03538-MW25, 03538-MW26, 03538-MW27, and 03538-MW28) were installed from November 9, 2014 through November 24, 2014 to complete the assessment of petroleum hydrocarbons in groundwater. The well locations were based on the groundwater field screening results and communication with SCDHEC project manager Ms. Maia Milenkova. Monitoring well installations were performed by Mr. Lawrence Large (SC Licensed Well Driller #1648-B) and Mr. Joe Smith (SC Licensed Well Driller #1648-B). Field personnel providing oversight of field screening activities included Mr. Trever Slack,

² South Carolina Well Standards and Regulations, SCDHEC, Promulgated Pursuant to Section 44-55-40 of the 1976 South Carolina Code of Laws, R. 61-71, April 26, 2002.

P.G., Mr. Jimmy Slagh, and Mr. Daniel Burch. Quality Assurance verification for monitoring well installation activities was provided by Ms. Kaye Burch.

3.3.1 Type II Wells

Shallow water table groundwater monitoring wells were installed as Type II monitoring wells using a CME 75 drill utilizing hollow stem auger (4.5-inch inside diameter auger) drilling techniques. Monitoring wells 03538-MW20 and 03538-MW28 were installed via hand auger. The monitoring wells consist of 2-inch ID, schedule 40 PVC casing with flush-threaded joints. The bottom 10-foot section of each shallow water table monitoring well (03538-MW10R and 03538-MW19 through 03538-MW28) is a manufactured well screen with 0.010-inch wide machined slots. Standard sand filter pack, bentonite seal, and grout were installed to the ground surface.

Total well depths for Type II wells are:

Shallow Water Table Groundwater Monitoring Wells

03538-MW10R	11.81 feet BGS
03538-MW19	12.32 feet BGS
03538-MW20	14.70 feet BGS
03538-MW21	12.95 feet BGS
03538-MW22	15.29 feet BGS
03538-MW23	15.77 feet BGS
03538-MW24	13.19 feet BGS
03538-MW25	13.36 feet BGS
03538-MW26	15.06 feet BGS
03538-MW27	15.25 feet BGS
03538-MW28	13.17 feet BGS

Monitoring well construction diagrams and 1903 Water Well Records are included in **Appendix E**. Monitoring well construction data is provided in **Table 2**.

3.3.2 Type III Wells

Monitoring well 03538-MW22D was installed as a Type III, vertical extent (telescoping) monitoring well. The well was installed using a CME Model 75 drill utilizing auger (6.25-inch inside diameter hollow stem auger) and mud rotary (5.5-inch outside diameter hollow stem auger) drilling techniques. The telescoping well was constructed with a 6-inch ID schedule 40 PVC outer casing installed to an approximate depth of 25-feet below ground surface. The casing was pressure grouted to the ground surface with a bentonite-cement grout and allowed to cure for at least 24 hours. After curing, a 5.5-inch outside diameter roller cone bit was utilized to advance the borehole through the outer casing to the termination depth. A 2-inch ID schedule 40 PVC casing with flush-threaded joints was installed in the borehole. The bottom 5-foot section of the well is a manufactured well screen with 0.010-inch machined slots. Standard filter sand pack, bentonite seal and grout were installed to the ground surface.

Total well depth for Type III well is:

Deep Groundwater Monitoring Wells
03538-MW22D 44.43 feet BGS

Monitoring well construction diagrams and 1903 Water Well Records are included in **Appendix E**. Monitoring well construction data is provided in **Table 2**.

3.3.3 General

At assigned intervals, drill cuttings were collected for soil classification. Representative portions of the test samples were visually examined and classified. Soil samples were screened at 5-foot intervals using a PID.

To help prevent cross-contamination, downhole drilling equipment was steam cleaned between borings. Approximately 1.58 tons of petroleum impacted drill cuttings generated during the installation of the monitoring wells were transported off-site for disposal. Waste transportation and disposal records are included in **Appendix G**.

Monitoring well installations were performed by a South Carolina licensed driller from Smith Drilling Services, LLC of Conyers, Georgia while being supervised by Petra-Tech Environmental, LLC field staff. Monitoring wells were developed by personnel from Smith Drilling Services and field personnel from Petra-Tech Environmental through a combination of surging and overpumping. The monitoring well locations were surveyed by a licensed surveyor (George B. Souther RLS, SC #21232) to establish horizontal control and vertical elevations of the top of PVC casing and ground surface. The results of the comprehensive site survey are included as **Appendix A**. The site survey was used to create a site base map (**Figure 3**) for the site.

3.4 Groundwater Sampling

Twenty-nine groundwater monitoring wells were sampled on December 2nd, 3rd, and 12th by Mr. Daniel Burch, Mr. Cameron Warlick, and Mr. James Slagh of Petra-Tech Environmental. Quality Assurance verification was provided by Ms. Kaye Burch. Monitoring well 03538-MW05 could not be located during the groundwater sampling event, and is believed to be located underneath a roll-off container/dumpster.

Groundwater monitoring wells were developed by purging until it was determined that groundwater flow through the well screen was not inhibited by silt or fine sand. Approximately 90 gallons of purge-water generated during the monitoring well development and sampling was transported off-site for disposal. Waste transportation and disposal records are attached in **Appendix G**. Monitoring well purging and sampling logs are included in **Appendix B**.

Sample containers were marked in the field with identifying numbers, properly preserved, placed into sample coolers, secured, and maintained at less than 4 degrees Celsius. The samples and chain-of-custody records were delivered to Shealy Environmental Services, Inc. in Columbia, South Carolina for analysis of BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B, 1,2-dibromoethane (EDB) by EPA Method 8011, and total lead by EPA Method 6010B. One duplicate sample per twenty wells sampled and one field blank for each day in the field was analyzed for BTEX, naphthalene, MTBE,

8-oxygenates, and 1,2-DCA by EPA Method 8260B, EDB by EPA Method 8011, and total lead by EPA Method 6010B. Additionally, one trip blank for each sample cooler was analyzed for BTEX, naphthalene, MTBE, 8-oxygenates, and 1,2-DCA by EPA Method 8260B.

3.5 Tier II Assessment Results

3.5.1 Groundwater Occurrence

Site-wide stabilized groundwater elevations recorded on December 13, 2014 ranged from 132.61 (03538-MW28) to 133.27 (03538-MW27) for the shallow groundwater monitoring wells and 131.07 (03538-MW22D) to 133.08 (03538-TW01) for the deep monitoring wells. A tabulation of the groundwater level data is provided in **Table 2**. A water table elevation contour map showing the occurrence and direction of groundwater flow in the shallow and deep monitoring well screened intervals is presented as **Figures 4a** and **4b**, respectively. Groundwater flow from the source area is generally to the northeast.

Figures 5A through **5C** provide hydrogeologic cross-sections through the subsurface soils. The cross-sections depict the surveyed ground surface elevation, subsurface lithologies, monitoring wells and their respective screened intervals, and the static groundwater elevation.

3.5.2 Groundwater Monitoring Well and Surface Water Sampling Results

Of the twenty-nine groundwater monitoring wells sampled for laboratory analysis during the Tier II Assessment, eight wells (03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, 03538-MW04, 03538-MW07, and 03538-MW17) detected petroleum compounds above South Carolina established Risk-Based Screening Levels.

Petroleum compounds detected above Risk-Based Screening Level concentrations include:

- | | |
|----------------|---|
| • Benzene | 03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, 03538-MW04, 03538-MW07, and 03538-MW17 |
| • Toluene | 03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, and 03538-MW04 |
| • Ethylbenzene | 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, 03538-MW04, 03538-MW07, and 03538-MW17 |
| • Xylenes | 03538-IGWA, 03538-MW01, and 03538-MW03 |
| • MTBE | 03538-MW01 and 03538-MW02 |
| • Naphthalene | 03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, 03538-MW04, 03538-MW07, and 03538-MW17 |

- EDB 03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, 03538-MW04, and 03538-MW17
- Tert-Amy-Alcohol (TAA) 03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, and 03538-MW04

Additionally, lead was detected above the established Risk-Based Screening Level (15 ug/l) in monitoring wells 03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, 03538-MW04, 03538-MW08, 03538-MW10R, 03538-MW17, and 03538-MW23. However, elevated total lead concentrations may be the result of suspended sediment in the groundwater samples.

Petroleum compounds were also detected above laboratory method detection limits in groundwater monitoring wells 03538-MW14, 03538-MW16, and 03538-MW18; however, concentrations did not exceed South Carolina established Risk-Based Screening Levels. The results of the laboratory analyses are summarized in **Table 3** and are shown on **Figure 6**. Benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene, and EDB isoconcentration maps are included as **Figures 7a** through **7g**, respectively. Laboratory data sheets are provided in **Appendix B**.

3.5.3 Aquifer Evaluation

Slug tests were performed in monitoring wells 03538-MW21, 03538-MW22, and 03538-MW22D to determine the hydraulic conductivity of the formation material exposed to the well screen. A SCDHEC *Summary of Slug Test Form* is provided in **Appendix F**. The data from the tests are presented on **Table 4**.

Hydraulic Conductivity

Hydraulic conductivity is defined as the ability of the aquifer material to conduct water under a hydraulic gradient. Two slug tests were performed at the site during the current scope of work to measure the in-situ hydraulic conductivity of the aquifer and were evaluated using the Bouwer and Rice Method³ for partially-penetrating wells in an unconfined aquifer (slug testing results are included in **Appendix F**). The hydraulic conductivity values measured at the site were 4.06×10^{-5} cm/sec (03538-MW21), 1.40×10^{-4} cm/sec (03538-MW22), and 3.57×10^{-4} cm/sec (03538-MW22D). The site-wide geometric mean hydraulic conductivity value is 1.79×10^{-4} cm/sec (**Table 4**).

Horizontal Hydraulic Gradient

The horizontal hydraulic gradient is determined by dividing the difference in groundwater elevations at two locations by the horizontal distance between those locations along the direction of groundwater flow. The horizontal hydraulic gradient across the site is approximately 0.002 feet/feet between groundwater monitoring wells 03538-MW04 and 03538-MW22, and 0.022 feet/feet between groundwater monitoring wells 03538-TW01 and 03538-MW22D.

³ Bouwer, H., and Rice, R., A Slug Test for Determining Conductivity of Unconfined Aquifers with Completely or Partially Penetrating Wells, *Water Resources Research*, v. 12, o. 423-428.

Effective Porosity

Total porosity is the total volume of void spaces in a rock or sediment divided by the total volume of that rock or sediment. Effective porosity is less than total porosity, and is the ratio of those void spaces which are interconnected allowing water or other fluids to flow to the total volume of the rock or sediment. A number of scientific studies have been undertaken to identify relationships between effective porosity and the physical characteristics of rock or soil (lithology) in order to estimate the effective porosity for different lithological formations.

An effective porosity value of 0.33 was estimated for the shallow and deep wells screened in a predominantly fine sand. The effective porosity was estimated based on published values of effective porosity for a fine sand (McWhorter and Sunada 1977⁴) which ranged from 0.01 to 0.46 with an arithmetic mean of 0.33.

Groundwater Flow Velocity

The velocity of groundwater flow is derived from the equation:

$$V = \frac{Ki}{n_e}$$

Where

V is the flow velocity

K is the hydraulic conductivity

i is the horizontal hydraulic gradient; and

n_e is the effective porosity.

Based on these parameters and the data provided above, the geometric mean horizontal movement of groundwater is approximately 8.59 feet/year in the unconfined aquifer at the site. **Table 4** summarizes the groundwater flow velocity calculations.

4.0 RECOMMENDATIONS

- Eleven shallow and one deep groundwater monitoring wells were installed between the dates of November 9, 2014 and November 24, 2014 to assess the horizontal and vertical extent of groundwater contamination at the subject site.
- Twenty-nine groundwater monitoring wells were sampled for laboratory analysis during the Tier II Assessment. Petroleum compounds were detected above South Carolina established Risk-Based Screening Levels in wells 03538-IGWA, 03538-IGWA“R”, 03538-MW01, 03538-MW02, 03538-MW03, 03538-MW04, 03538-MW07, and 03538-MW17. Compounds detected above South Carolina established Risk-Based Screening Level concentrations include benzene, toluene, ethylbenzene, xylenes, MTBE, naphthalene, EDB, and TAA.
- Groundwater flow from the source area is primarily to the northeast.

⁴ Mcwhorter, D. and Sunada, D., 1977, Groundwater Hydrology and Hydraulics, Water Resources Publication, 290 pp.



- Presently, the contaminant plume at the subject site appears to be defined both horizontally and vertically.
- Petra-Tech Environmental recommends continued monitoring of the groundwater monitoring well network associated with the site to establish trends in groundwater contaminant concentrations and ensure that concentrations are attenuating naturally.

TABLES

TABLE 1
Summary of Groundwater Screening Results
Coastal 76 Truck Stop - UST Permit #03538
Florence, Florence County, South Carolina

	Groundwater Screening Sample									
	Method	RBSL (µg/L)	GW01	GW02	GW02D	GW03	GW04	GW05	GW05D	GW06
Boring Depth (ft bgs)	NA	NA	11	11	35	11	11	11	35	11
Depth-to-Groundwater (ft bgs)	NA	NA	7.2	7.6	7.4	8.5	7.8	8.2	8.0	8.3
Sample Depth (ft bgs)	NA	NA	6-11	6-11	31-35	6-11	6-11	6-11	31-35	6-11
PID Reading (ppm)	NA	NA	0.0	13.4	0.1	0.2	1.9	0.0	0.0	0.0
Benzene (µg/L)	8260B	5	<0.13	NT	NT	<0.13	NT	<0.13	NT	<0.13
Toluene (µg/L)	8260B	1,000	<0.33	NT	NT	<0.33	NT	<0.33	NT	<0.33
Ethylbenzene (µg/L)	8260B	700	<0.33	NT	NT	<0.33	NT	<0.33	NT	<0.33
Xylenes (µg/L)	8260B	10,000	<0.33	NT	NT	<0.33	NT	<0.33	NT	<0.33
Naphthalene (µg/L)	8260B	25	<0.40	NT	NT	<0.40	NT	<0.40	NT	<0.40
1,2-DCA (µg/L)	8260B	5	<0.15	NT	NT	<0.15	NT	<0.15	NT	<0.15
MTBE (µg/L)	8260B	40	<0.40	NT	NT	<0.40	NT	<0.40	NT	<0.40

	Groundwater Screening Sample								
	Method	RBSL (µg/L)	GW07	GW08	GW08D	GW10	GW11	GW11D	GW13
Boring Depth (ft bgs)	NA	NA	11	11	35	11	11	35	11
Depth-to-Groundwater (ft bgs)	NA	NA	8.8	9.25	9.0	9.1	9.5	9.0	8.6
Sample Depth (ft bgs)	NA	NA	6-11	6-11	31-35	6-11	6-11	31-35	6-11
PID Reading (ppm)	NA	NA	0.2	0.1	0.1	0.0	0.0	0.0	0.0
Benzene (µg/L)	8260B	5	<0.13	<0.13	NT	NT	<0.13	NT	<0.13
Toluene (µg/L)	8260B	1,000	1.1	<0.33	NT	NT	<0.33	NT	<0.33
Ethylbenzene (µg/L)	8260B	700	<0.33	<0.33	NT	NT	<0.33	NT	<0.33
Xylenes (µg/L)	8260B	10,000	<0.33	<0.33	NT	NT	<0.33	NT	<0.33
Naphthalene (µg/L)	8260B	25	<0.40	<0.40	NT	NT	<0.40	NT	<0.40
1,2-DCA (µg/L)	8260B	5	<0.15	<0.15	NT	NT	<0.15	NT	<0.15
MTBE (µg/L)	8260B	40	<0.40	<0.40	NT	NT	<0.40	NT	<0.40

NOTES:

RBSL - Risk Based Screening Level

Shaded values indicate concentrations exceeding RBSLs.

PID - MiniRae Lite Photoionization Detector

ppm - parts per million

ft bgs - feet below ground surface

NA - Not Applicable

NT - Not Tested. Sample not submitted for laboratory analysis

TABLE 2
Monitoring Well and Groundwater Surface Elevation Data
Coastal 76 Truck Stop - UST Permit #03538
Florence, Florence County, South Carolina

Monitoring Well	Ground Surface Elevation	Top-of-Casing Elevation	Date	Groundwater Depth Below Top-of-Casing	Groundwater Elevation	Well Depth BGS	Screened Interval Depth	Screened Interval Elevation
IGWA	145.56	145.19	06/26/2012	NA	NA	NA	NA - NA	NA - NA
			12/03/2014	11.98	133.21			
			12/13/2014	12.15	133.04			
IGWA"R"	145.93	145.14	06/26/2012	14.10	131.04	21.00	11.00 - 21.00	134.93 - 124.93
			12/03/2014	11.93	133.21			
			12/13/2014	12.10	133.04			
03538-MW01	146.22	145.87	06/26/2012	14.71*	131.16	17.80	NA - NA	NA - NA
			12/02/2014	12.54	133.33			
			12/13/2014	12.75	133.12			
03538-MW02	145.71	145.19	06/26/2012	14.04	131.15	18.30	NA - NA	NA - NA
			12/02/2014	12.34	132.85			
			12/13/2014	12.36	132.83			
03538-MW03	146.04	145.51	06/26/2012	14.19*	131.85	18.20	NA - NA	NA - NA
			12/02/2014	12.67	132.84			
			12/13/2014	12.39	133.12			
03538-MW04	146.05	145.56	06/26/2012	14.35	131.21	18.35	NA - NA	NA - NA
			12/03/2014	12.26	133.30			
			12/13/2014	12.43	133.13			
03538-MW05	NA	NA	06/26/2012	13.90	NA	18.29	8.29 - 18.29	NA - NA
			12/03/2014	NOT LOCATED				
			12/13/2014	NOT LOCATED				
03538-MW06	146.44	146.04	06/26/2012	14.65	131.39	18.29	8.29 - 18.29	138.15 - 128.15
			12/03/2014	12.67	133.37			
			12/13/2014	12.91	133.13			
03538-MW07	145.02	144.61	06/26/2012	13.45	131.16	18.38	8.38 - 18.38	136.64 - 126.64
			12/03/2014	11.20	133.41			
			12/13/2014	11.47	133.14			
03538-MW08	144.30	143.78	06/26/2012	12.62	131.16	18.29	8.29 - 18.29	136.01 - 126.01
			12/03/2014	10.43	133.35			
			12/13/2014	10.61	133.17			
03538-MW09	NA	NA	06/26/2012	NOT LOCATED		18.33	8.33 - 18.33	NA - NA
			12/03/2014	NOT LOCATED				
			12/13/2014	NOT LOCATED				
03538-MW10	NA	NA	06/26/2012	12.41	NA	18.25	NA - NA	NA - NA
			12/03/2014	NOT LOCATED				
			12/13/2014	NOT LOCATED				
03538-MW10R	144.23	143.81	12/03/2014	10.50	133.31	11.81	1.61 - 11.61	142.62 - 132.62
			12/13/2014	10.62	133.19			
03538-MW11	146.20	145.68	06/26/2012	14.39	131.29	18.42	8.42 - 18.42	137.78 - 127.78
			12/03/2014	12.64	133.04			
			12/13/2014	12.70	132.98			
03538-MW14	144.66	144.36	06/26/2012		144.36	18.29	8.29 - 18.29	136.37 - 126.37
			12/03/2014	NOT LOCATED				
			12/13/2014	11.39	132.97			
03538-MW15	144.04	143.54	06/26/2012	12.78	130.76	20.00	10.00 - 20.00	134.04 - 124.04
			12/03/2014	10.46	133.08			
			12/13/2014	10.62	132.92			
03538-MW16	144.56	144.33	06/26/2012	13.43	130.90	21.00	11.00 - 21.00	133.56 - 123.56
			12/03/2014	11.18	133.15			
			12/13/2014	11.42	132.91			
03538-MW17	145.47	145.08	06/26/2012	13.96	131.12	21.00	11.00 - 21.00	134.47 - 124.47
			12/03/2014	11.92	133.16			
			12/13/2014	12.10	132.98			
03538-MW18	146.20	145.79	06/26/2012	14.44	131.35	21.00	11.00 - 21.00	135.20 - 125.20
			12/03/2014	12.42	133.37			
			12/13/2014	12.60	133.19			
03538-MW19	143.97	143.67	12/03/2014	9.79	133.88	12.32	2.12 - 12.12	141.85 - 131.85
			12/13/2014	10.66	133.01			
03538-MW20	144.21	143.93	12/03/2014	10.97	132.96	14.70	4.50 - 14.50	139.71 - 129.71
			12/13/2014	11.17	132.76			
03538-MW21	143.88	143.25	12/03/2014	10.38	132.87	12.95	2.75 - 12.75	141.13 - 131.13
			12/13/2014	10.60	132.65			
03538-MW22	145.28	145.03	12/03/2014	9.92	135.11	15.29	5.09 - 15.09	140.19 - 130.19
			12/13/2014	12.16	132.87			
03538-MW22D	145.30	144.89	12/03/2014	13.83	131.06	44.43	39.23 - 44.23	106.07 - 101.07
			12/13/2014	13.82	131.07			
03538-MW23	143.87	143.63	12/03/2014	11.90	131.73	15.77	5.57 - 15.57	138.30 - 128.30
			12/13/2014	10.77	132.86			
03538-MW24	143.99	143.78	12/03/2014	10.81	132.97	13.19	2.99 - 12.99	141.00 - 131.00
			12/13/2014	11.03	132.75			
03538-MW25	144.45	144.04	12/03/2014	10.66	133.38	13.36	3.16 - 13.16	141.29 - 131.29
			12/13/2014	11.08	132.96			
03538-MW26	145.22	144.96	12/03/2014	11.84	133.12	15.06	4.86 - 14.86	140.36 - 130.36
			12/13/2014	12.09	132.87			
03538-MW27	145.10	144.77	12/03/2014	11.37	133.40	15.25	5.05 - 15.05	140.05 - 130.05
			12/13/2014	11.50	133.27			
03538-MW28	142.88	142.71	12/03/2014	9.97	132.74	13.17	2.97 - 12.97	139.91 - 129.91
			12/13/2014	10.10	132.61			
03538-TW01	145.93	145.77	06/26/2012	14.65	131.12	36.00	31.00 - 36.00	114.93 - 109.93
			12/03/2014	NOT LOCATED				
			12/13/2014	12.69	133.08			
03538-TW02	144.24	143.98	06/26/2012	13.95	130.03	36.00	31.00 - 36.00	113.24 - 108.24
			12/03/2014	10.79	133.19			
			12/13/2014	11.93	132.05			

NOTES:

Measurements are in feet

BGS - below ground surface

Elevations are NAVD 88

* - Groundwater elevation corrected for the presence of 0.02 feet (03538-MW01) and 0.01 feet (03538-MW03) of free-phase petroleum product using a specific gravity factor of 0.70 g/cc

TABLE 3
Summary of Groundwater Analytical Results
Coastal 76 Truck Stop - UST Permit #03538
Florence, Florence County, South Carolina

		Free-Product Thickness (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2 DCA (µg/L)	ETBE (µg/L)	ETBA (µg/L)	TAME (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	TBF (µg/L)	TBA (µg/L)	TAA (µg/L)	Lead (µg/L)
		---	RBSL 5	RBSL 1,000	RBSL 700	RBSL 10,000	RBSL 40	RBSL 25	RBSL 0.05	RBSL 5	RBSL 47	RBSL NE	RBSL 128	RBSL 150	RBSL 10,000	RBSL NE	RBSL 1,400	RBSL 240	RBSL 15
IGWA	06/26/2012	NOT SAMPLED																	
	12/03/2014	--	1300	6000	630	11000	<40	310	2.0	<15	<20	<100	<20	<40	<3300	<100	<670	790 J	65
IGWA"R"	06/26/2012	--	130	790	180	980	<25	160	0.71	<25	NT	NT	NT	NT	NT	NT	NT	NT	9.0J
	12/03/2014	--	2000	9400	1800	7000	<40	530	3.2	<15	<20	<100	<20	<40	<3300	<100	<670	730 J	51
03538-MW01	06/26/2012	0.02	NOT SAMPLED - FREE-PHASE PETROLEUM PRODUCT PRESENT																
	12/02/2014	--	17000	27000	1500	15000	250 J	820	210	<74	<100	<500	<100	<200	<17000	<500	<3400	8800 J	630
03538-MW02	06/26/2012	--	9800	17000	1300	11000	1100	370	65	240J	NT	NT	NT	NT	NT	NT	NT	NT	390
	12/02/2014	--	4800	8200	940	4500	250	260	28	<15	<20	<100	<20	<40	<3300	<100	<670	4200	150
03538-MW03	06/26/2012	0.01	NOT SAMPLED - FREE-PHASE PETROLEUM PRODUCT PRESENT																
	12/02/2014	--	2000	10000	1600	11000	<40	780	3.5	<15	<20	<100	<20	<40	<3300	<100	<670	2200	100
	12/02/2014 DUP	--	2000	11000	1700	10000	<40	750	3.2	<15	<20	<100	<20	<40	<3300	<100	<670	1900 J	100
03538-MW04	06/26/2012	--	8500	22000	2100	17000	<500	1100	14	<500	NT	NT	NT	NT	NT	NT	NT	NT	440
	12/03/2014	--	3600	9100	810	10000	<80	710	2.2	<29	<40	<200	<40	<80	<6600	<200	<1300	2800 J	110
	12/03/2014 DUP	--	4000	9600	820	9500	<40	640	2.0	<15	<20	<100	<20	<40	<3300	<100	<670	2800	130
03538-MW05	06/26/2012	--	810	7400	1500	10000	<200	770	0.86	<200	NT	NT	NT	NT	NT	NT	NT	NT	31
	12/02/2014	NOT LOCATED - UNDERNEATH ROLLOFF CONTAINER																	
03538-MW06	06/26/2012	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	9.7J
	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	2.3 J
03538-MW07	06/26/2012	--	390	3000	1700	7500	<200	600	0.063	<200	NT	NT	NT	NT	NT	NT	NT	NT	25
	12/03/2014	--	210	740	1300	3700	<20	270	<0.020	<7.4	<10	<50	<10	<20	<1700	<50	<340	<340	8.1 J
03538-MW08	06/26/2012	--	<5.0	<5.0	6.9	29	<5.0	20	<0.021	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	20
	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	31
03538-MW09	06/26/2012	NOT LOCATED																	
	12/02/2014	NOT LOCATED																	
03538-MW10	06/26/2012	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.019	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	11
	12/02/2014	NOT LOCATED																	
03538-MW10R	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.021	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	28
03538-MW11	06/26/2012	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	19
	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.019	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	8.9 J
03538-MW14	06/26/2012	--	13	16	73	49	<5.0	46	<0.019	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	3.0J
	12/12/2014	--	2.8	2.0	5.3	4.9	<1.0	1.3	<0.019	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	7.9	<1.9
03538-MW15	06/26/2012	--	92	280	140	380	<25	39	0.050	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	8.6J
	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
03538-MW16	06/26/2012	--	180	580	83	380	5.4J	39	0.59	<25	NT	NT	NT	NT	NT	NT	NT	NT	16
	12/03/2014	--	1.3	0.62 J	<0.33	0.68 J	1.1	<0.40	0.031	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
03538-MW17	06/26/2012	--	880	1500	1500	5700	20J	980	2.8	<100	NT	NT	NT	NT	NT	NT	NT	NT	35
	12/03/2014	--	230	600	1000	5000	<20	340	0.70	<7.4	<10	<50	<10	<20	<1700	<50	<340	<340	31
03538-MW18	06/26/2012	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	11
	12/03/2014	--	<0.13	<0.33	0.40 J	80	<0.40	21	<0.019	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	12 J	<6.7	<1.9
03538-MW19	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
03538-MW20	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.019	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
03538-MW21	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	6.9 J

TABLE 3
Summary of Groundwater Analytical Results
Coastal 76 Truck Stop - UST Permit #03538
Florence, Florence County, South Carolina

		Free-Product Thickness (feet)	Benzene (µg/L)	Toluene (µg/L)	Ethylbenzene (µg/L)	Xylenes (µg/L)	MTBE (µg/L)	Naphthalene (µg/L)	EDB (µg/L)	1,2 DCA (µg/L)	ETBE (µg/L)	ETBA (µg/L)	TAME (µg/L)	DIPE (µg/L)	Ethanol (µg/L)	TBF (µg/L)	TBA (µg/L)	TAA (µg/L)	Lead (µg/L)
		---	RBSL 5	RBSL 1,000	RBSL 700	RBSL 10,000	RBSL 40	RBSL 25	RBSL 0.05	RBSL 5	RBSL 47	RBSL NE	RBSL 128	RBSL 150	RBSL 10,000	RBSL NE	RBSL 1,400	RBSL 240	RBSL 15
03538-MW22	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	2 J
	12/12/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	NT
03538-MW22D	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	3.4 J
03538-MW23	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	43
	12/12/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	NT
03538-MW24	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	2 J
03538-MW25	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	3.1 J
03538-MW26	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	3.3 J
03538-MW27	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
03538-MW28	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	3.3 J
03538-TW01	06/26/2012	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	3.4J
	12/12/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
03538-TW02	06/26/2012	--	<5.0	<5.0	<5.0	<5.0	<5.0	<5.0	<0.020	<5.0	NT	NT	NT	NT	NT	NT	NT	NT	11
	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.019	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
TRIP BLANK 1	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	NT	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	NT
TRIP BLANK 2	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	NT	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	NT
TRIP BLANK 3	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	NT	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	NT
TRIP BLANK 4	12/12/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	NT	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	NT
FIELD BLANK 1	12/02/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
FIELD BLANK 2	12/03/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	<1.9
FIELD BLANK 3	12/12/2014	--	<0.13	<0.33	<0.33	<0.33	<0.40	<0.40	<0.020	<0.15	<0.20	<1.0	<0.20	<0.40	<33	<1.0	<6.7	<6.7	NT

NOTES:
RBSL - Risk Based Screening Level
Bold values indicate concentrations detected above the laboratory method detection limit.
Shaded values indicate concentrations exceeding RBSLs.
NE - Not Established
NT - Not Tested

TABLE 4
Groundwater Velocity
Coastal 76 Truck Stop - UST Permit #03538
Florence, Florence County, South Carolina

VELOCITY CALCULATION	Hydraulic Conductivity (K) (centimeters/second)	Hydraulic Conductivity (K) (feet/day)	Hydraulic Conductivity (K) (feet/year)	Hydraulic Gradient (i) (unitless)	Effective Porosity (n) (unitless)	Groundwater Velocity (V) (feet/day)	Groundwater Velocity (V) (feet/year)	Groundwater Velocity (V) (meters/second)
03538-MW21	4.06E-05	0.12	4.20E+01	0.002	0.33	6.98E-04	0.25	2.46E-09
03538-MW22	1.40E-04	0.40	1.45E+02	0.002	0.33	2.41E-03	0.88	8.49E-09
03538-MW22D	3.57E-04	1.01	3.69E+02	0.022	0.33	6.75E-02	24.63	2.38E-07
Mathematical Mean	1.79E-04	0.51	1.85E+02	0.009	0.33	2.35E-02	8.59	8.30E-08

Notes:

Hydraulic conductivity values were obtained from slug tests performed by Petra-Tech Environmental, LLC.

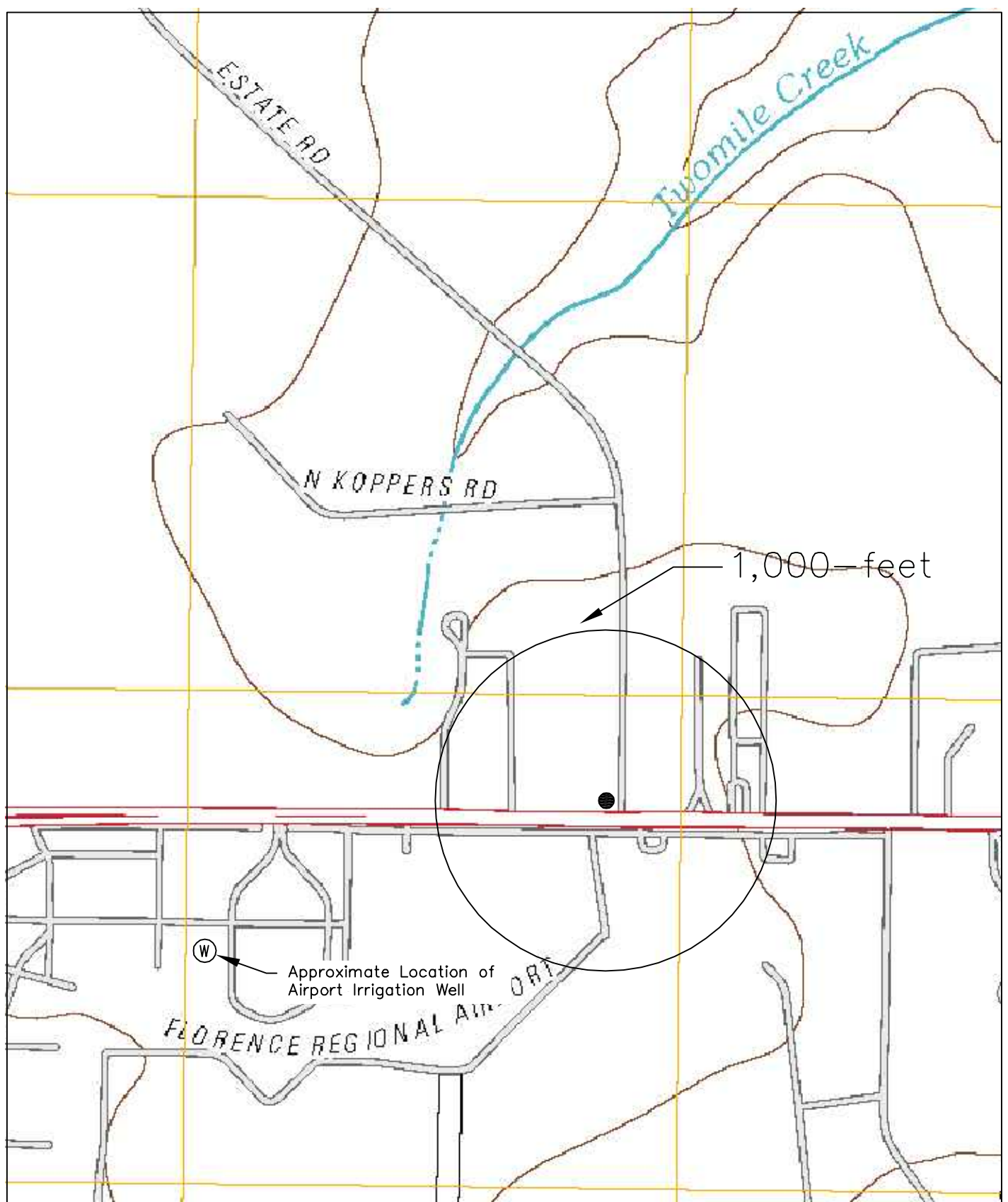
Effective porosity values were estimated from published values of effective porosity for a fine sand (ranging from 0.01 to 0.46; arithmetic mean 0.33) (McWorter and Sunada 1977).

Hydraulic gradient for the shallow aquifer was calculated based on groundwater elevations from and distances between monitoring wells 03538-MW04 and 03538-MW22 (Figure 4a).

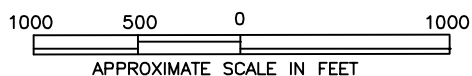
Hydraulic gradient for the deep aquifer was calculated based on groundwater elevations from and distances between monitoring wells 03538-TW01 and 03538-MW22D (Figure 4b).

Groundwater velocity derived from the equation $V = Ki/n$.

FIGURES



REFERENCE: Florence East Quadrangle – 7.5 Minute Series, United States Geological Survey, 2011 (Contour Interval – 10 feet)

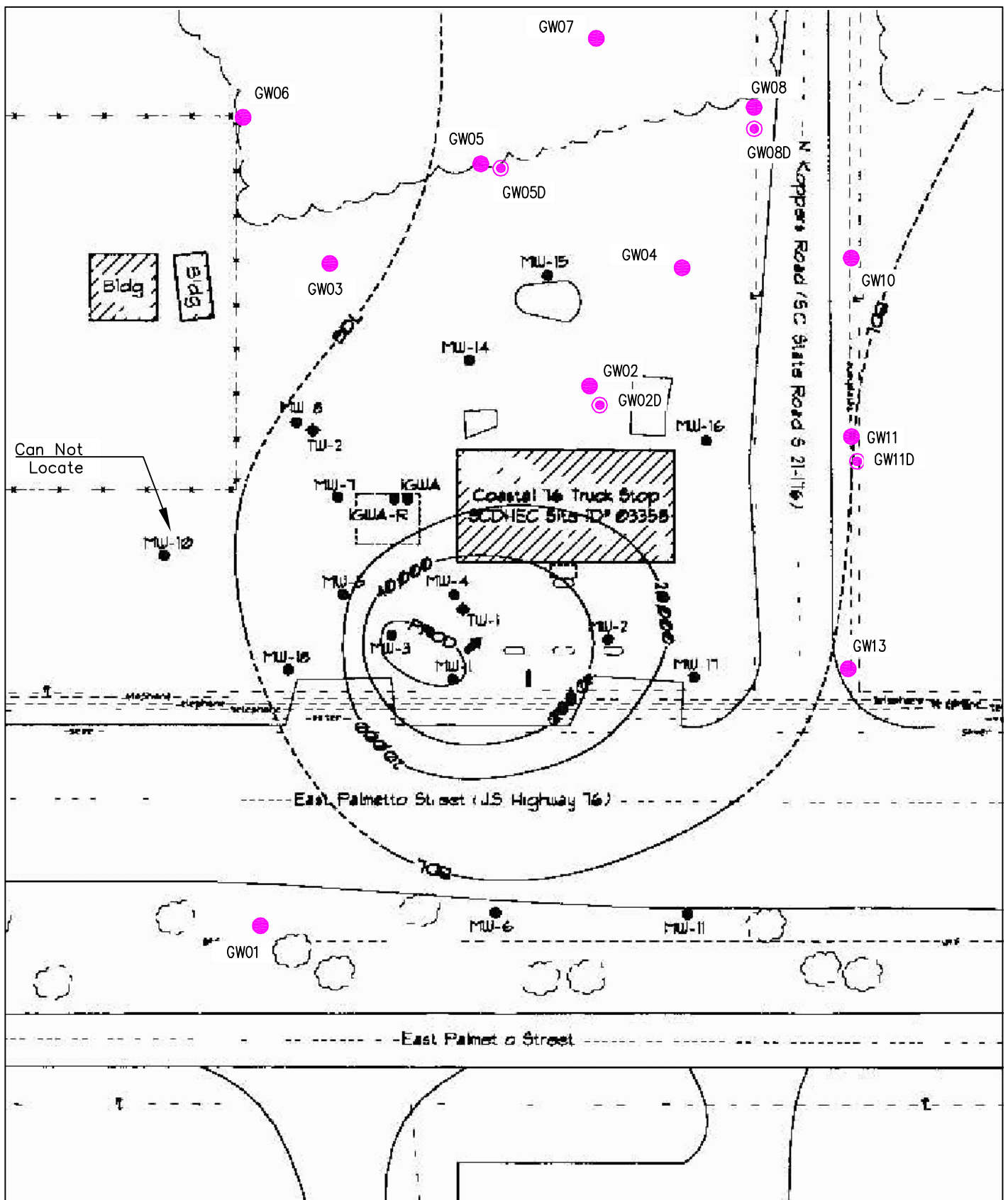


● Approximate Site Location

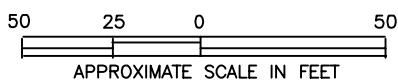
(W) Private Water Supply Well



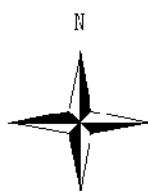
Title	Topographic Site Location Map		
Project	Coastal 76 Truck Stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	07/24/2014		Figure No. 1
REV.	12/12/2014		
Job No.	J14-070-A	ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS	



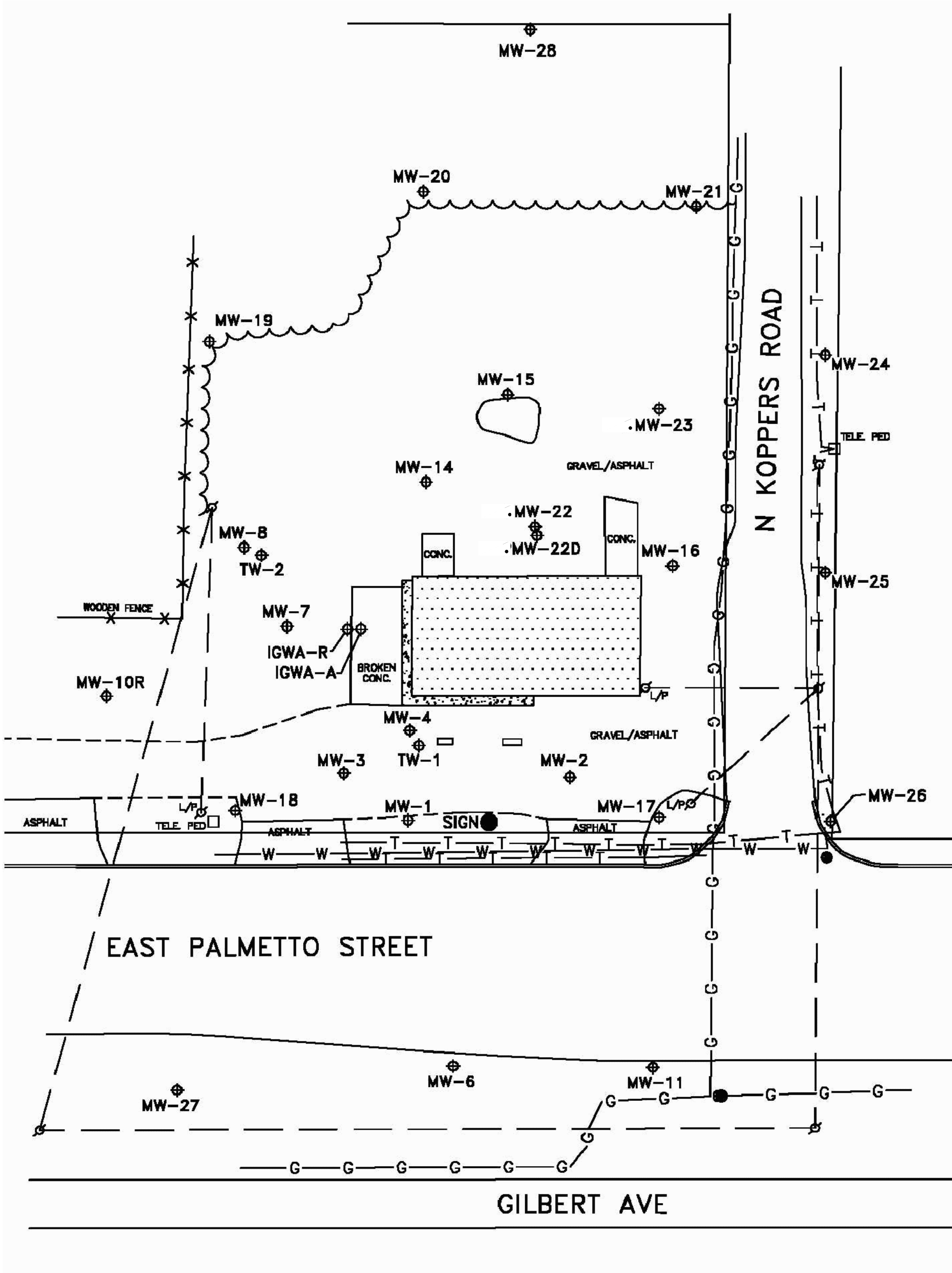
REFERENCE: figure 4 Groundwater CoC Map by Midlands Environmental Consultants, Inc. dated July 2012



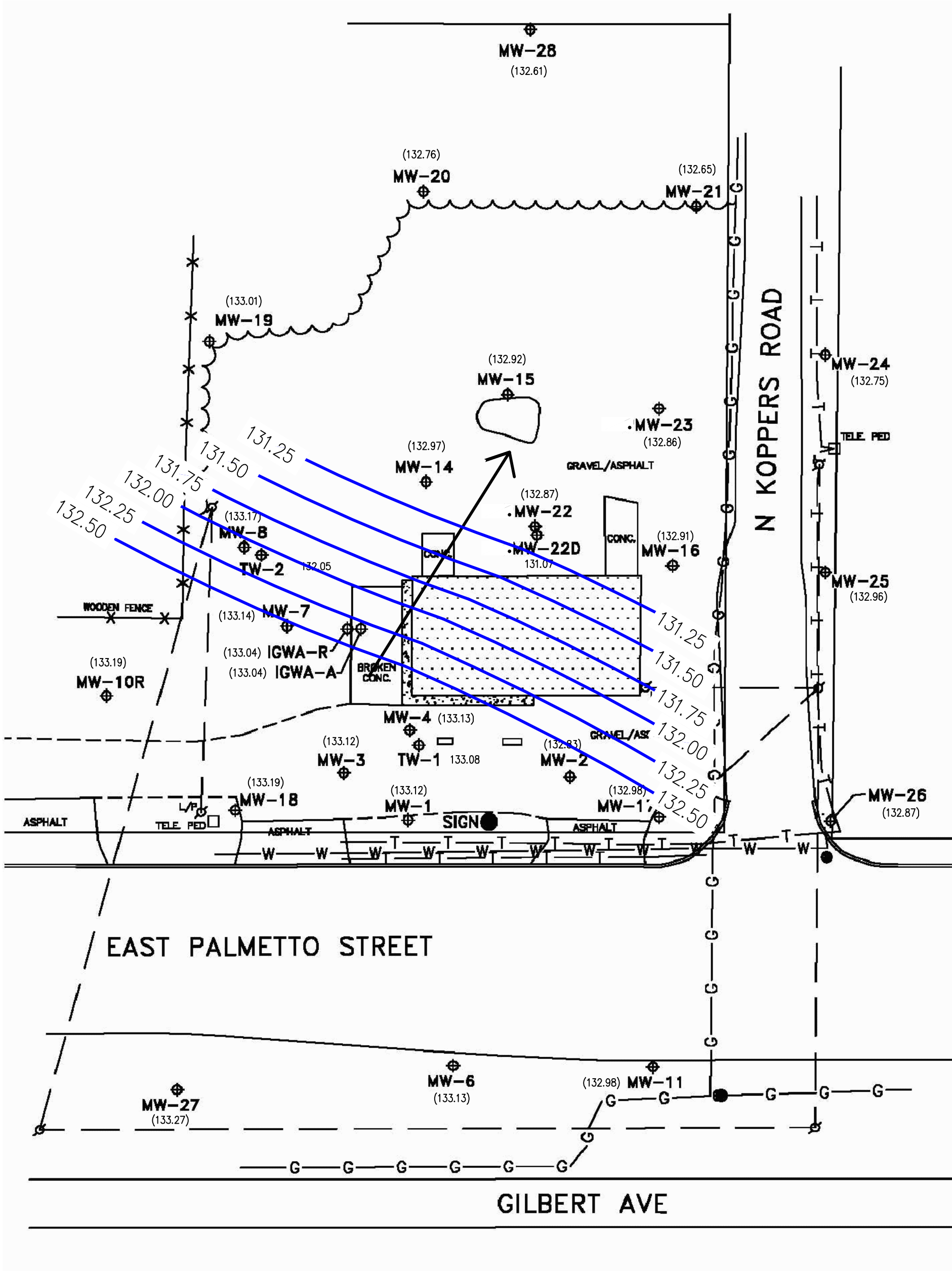
- Existing Groundwater Monitoring Well
- Shallow Groundwater Screening Boring
- Deep Groundwater Screening Boring



Title	Groundwater Screening Boring Location Plan	
Project	Coastal 76 Truck Stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County	
Date	07/24/2014	petra-tech ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS
Mod.	12/12/2014	
Job No.	J14-070-A	Figure No. 2



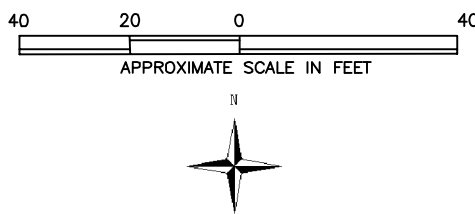
REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014



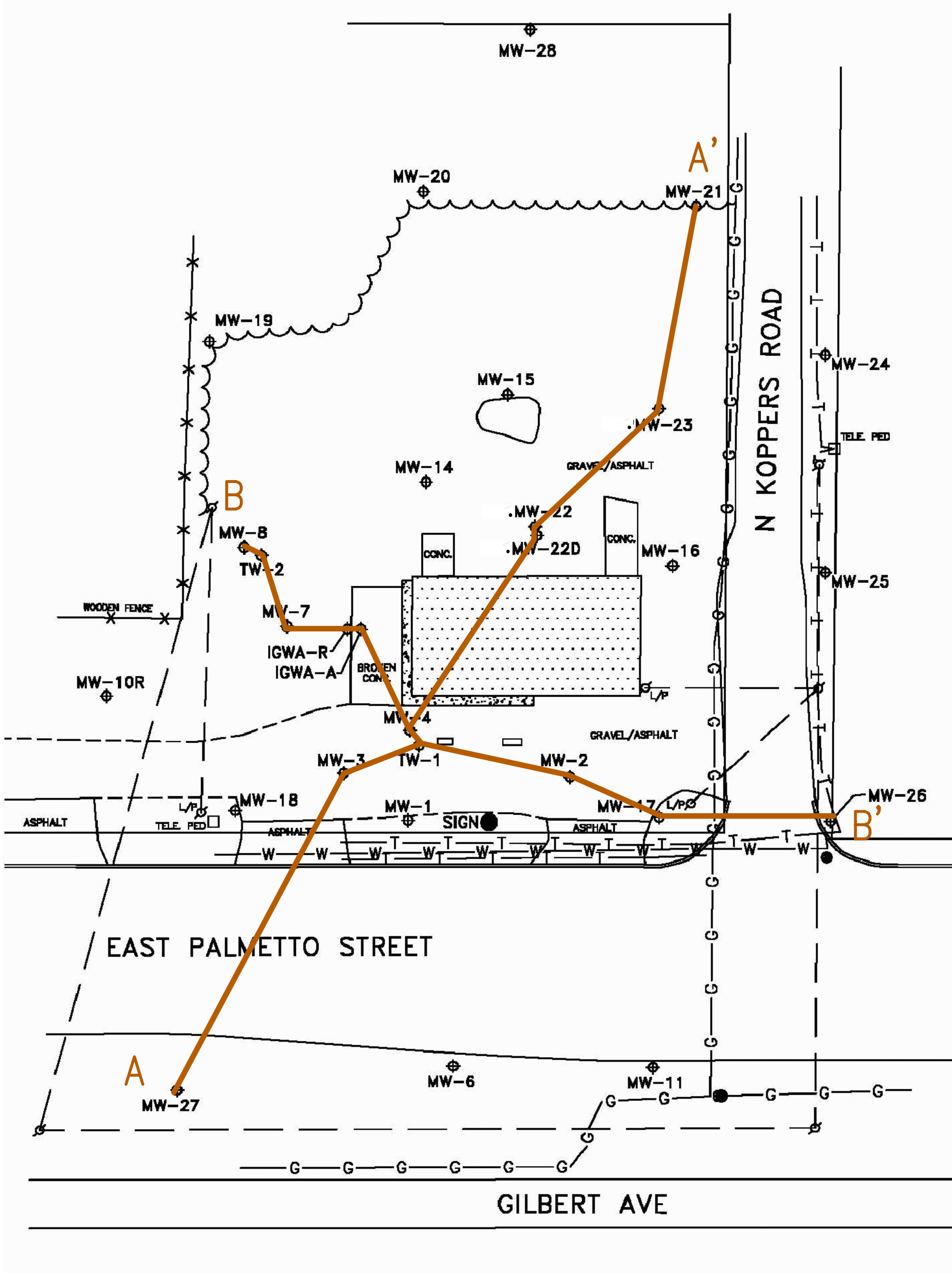
REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014

- Groundwater Monitoring Well
- Groundwater Potentiometric Contour - Contour Interval = 0.25-foot
- 541.28 Groundwater Elevation
- (541.28) Groundwater Elevation Not Used For Contouring Purposes
- Approximate Groundwater Flow Direction

Note: Groundwater Elevations were recorded on December 13, 2014.



Title	Groundwater Potentiometric Map - Deep Aquifer		
Project	Coastal 76 Truck stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/13/2014		Figure No. 4b
Job No.	J14-070-A		

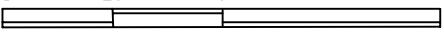


REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014



Groundwater Monitoring Well

40 20 0 40



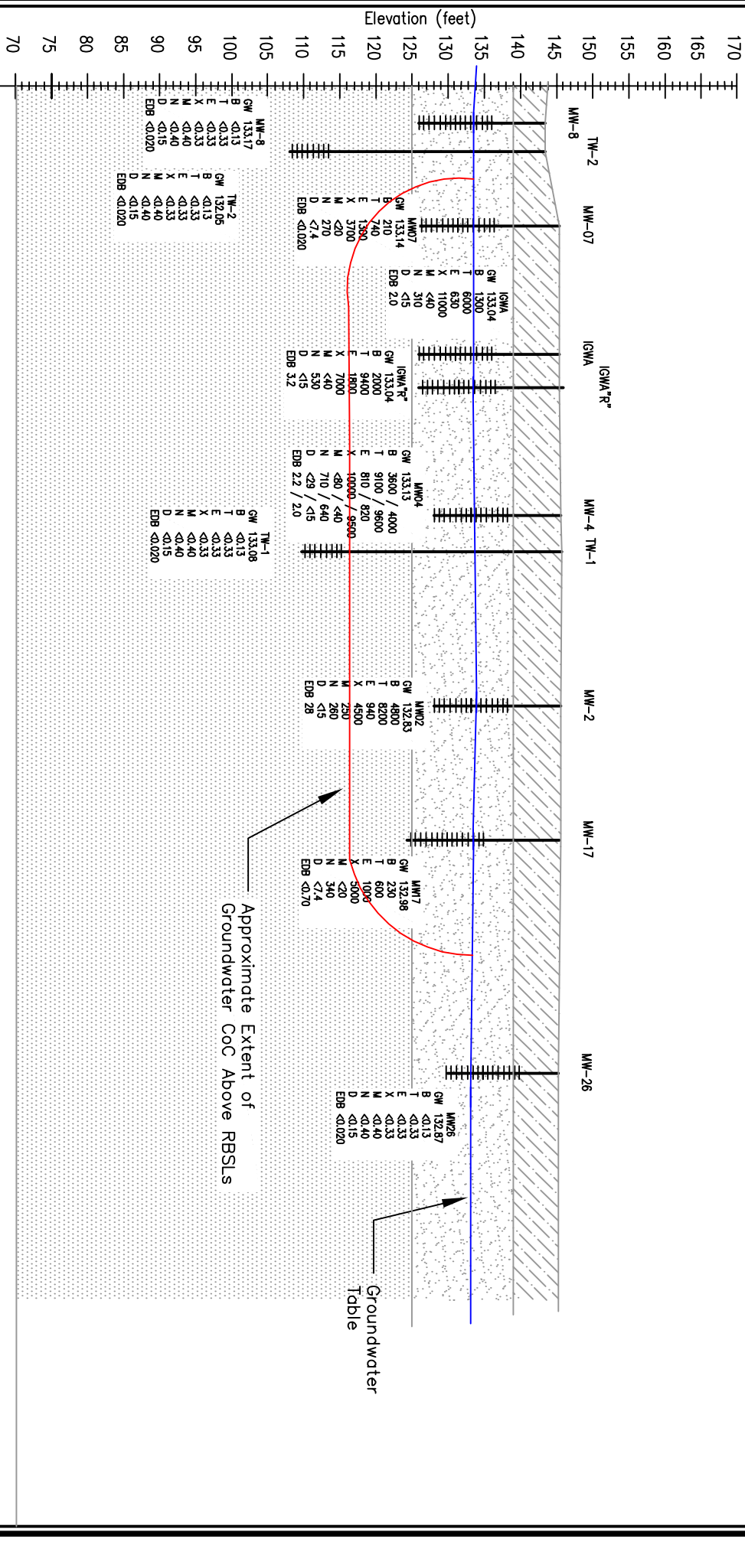
APPROXIMATE SCALE IN FEET



Title	Subsurface Geologic Cross-Section Reference Map		
Project	Coastal 76 Truck stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/12/2014		Figure No. 5a
Job No.	J14-070-A		

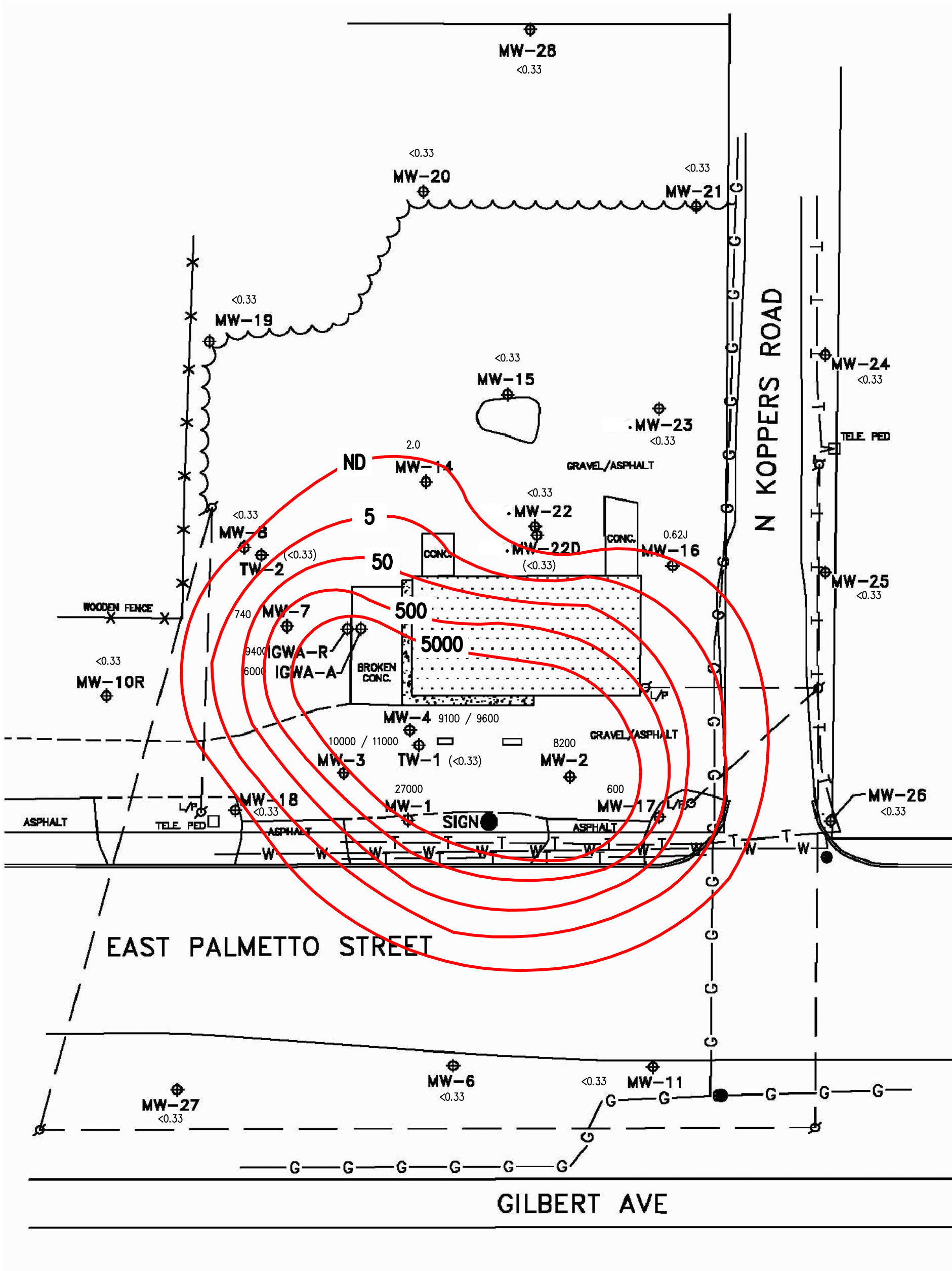
B

B'



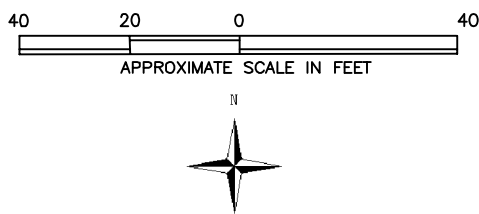
Note: Please refer to Figure 5a for Geologic Cross-Section Reference Map

TITLE		Geologic Cross Section B-B'
PROJECT		Coastal 76 Truck Stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County
DATE	12/16/2014	petra-tech ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS
JOB NO.	J14-070-A	
Figure No.		5c

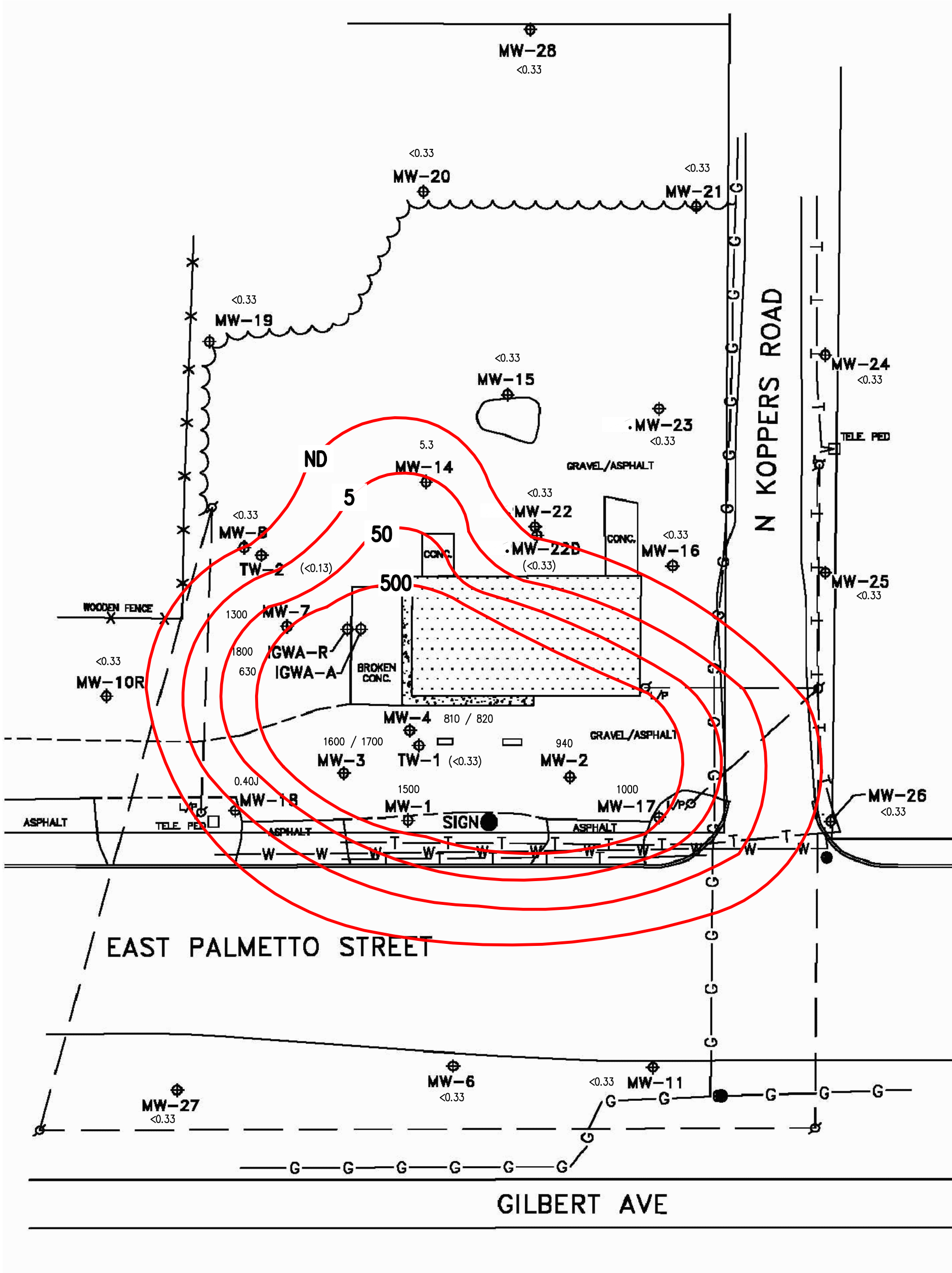


REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014

- Groundwater Monitoring Well
- 2.5J Toluene Concentration in Micrograms Per Liter
- (2.5J) Toluene Concentration In Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- Toluene Isoconcentration Line

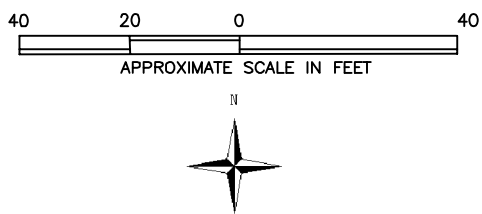


Title	Toluene Isoconcentration Map – December 2014		
Project	Coastal 76 Truck Stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/16/2014		Figure No. 7b
Job No.	J14-070-A		

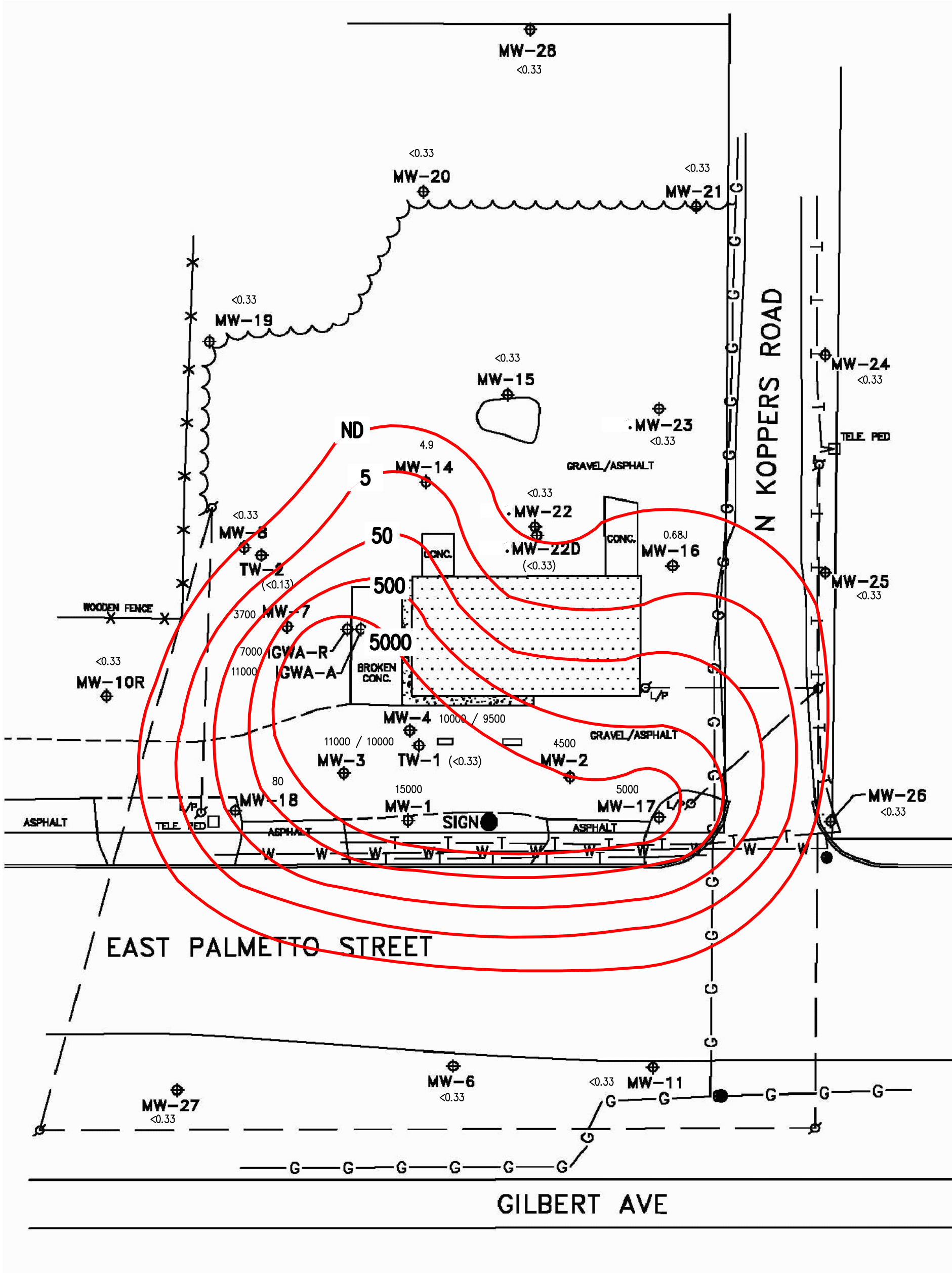


REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014

-  Groundwater Monitoring Well
- 2.5J Ethylbenzene Concentration in Micrograms Per Liter
- (2.5J) Ethylbenzene Concentration In Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
-  Ethylbenzene Isoconcentration Line

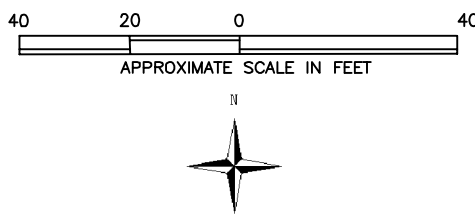


Title	Ethylbenzene Isoconcentration Map - December 2014		
Project	Coastal 76 Truck stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/16/2014		Figure No. 7c
Job No.	J14-070-A		

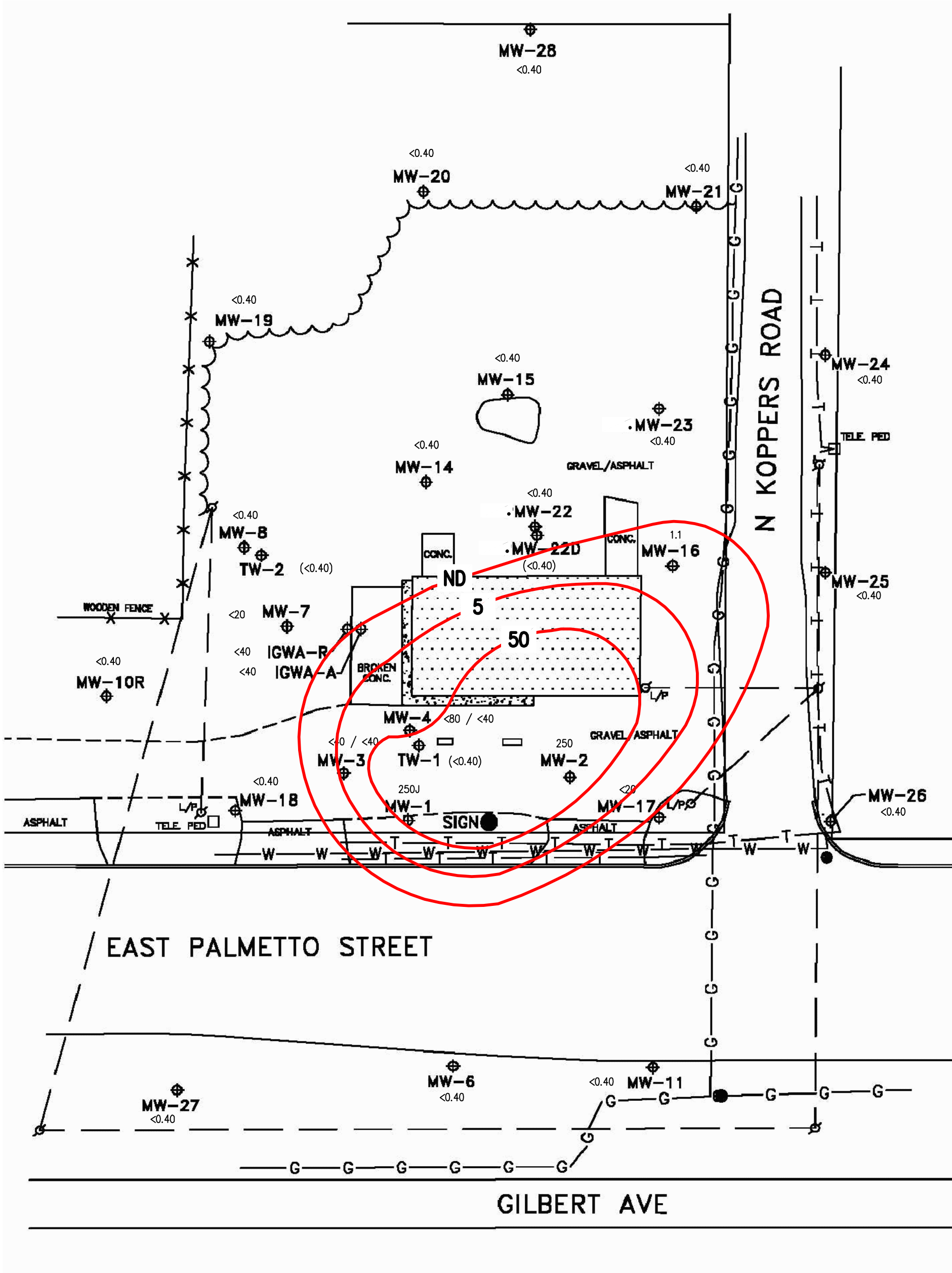


REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014

- Groundwater Monitoring Well
- 2.5J Xylenes Concentration in Micrograms Per Liter
- (2.5J) Xylenes Concentration In Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- Xylenes Isoconcentration Line

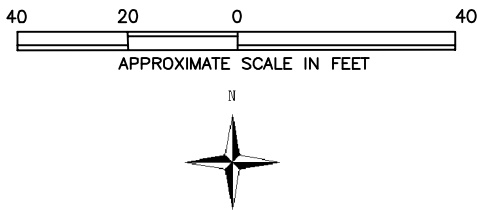


Title	Xylenes Isoconcentration Map - December 2014		
Project	Coastal 76 Truck stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/16/2014		Figure No. 7d
Job No.	J14-070-A		

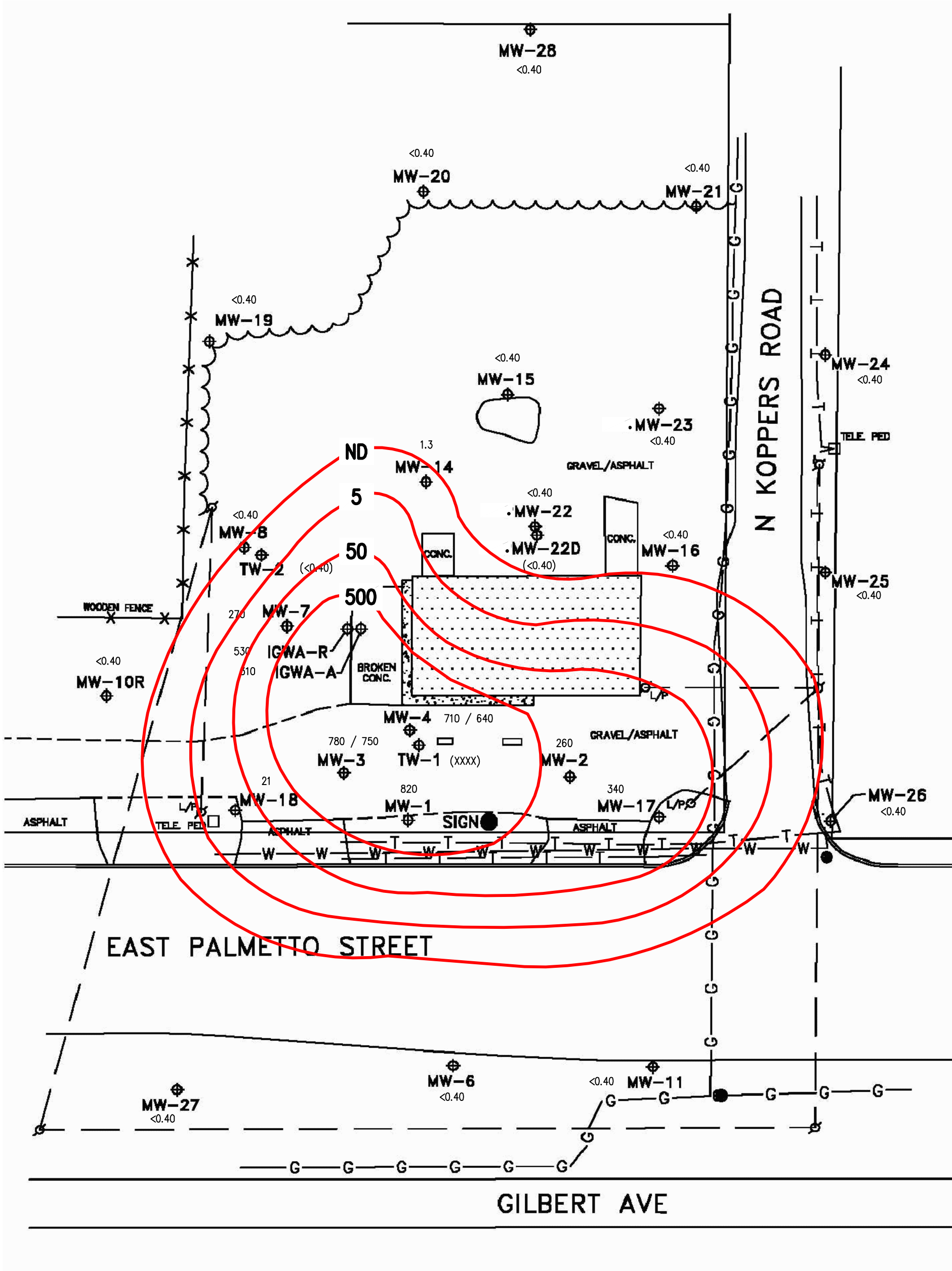


REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014

- Groundwater Monitoring Well
- 2.5J MTBE Concentration in Micrograms Per Liter
- (2.5J) MTBE Concentration In Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- MTBE Isoconcentration Line

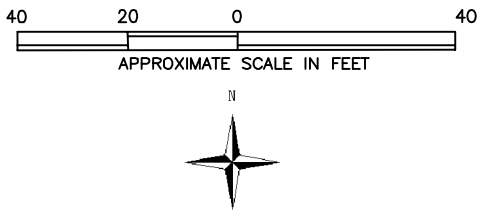


Title	MTBE Isoconcentration Map – December 2014		
Project	Coastal 76 Truck stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/16/2014		Figure No. 7e
Job No.	J14-070-A		

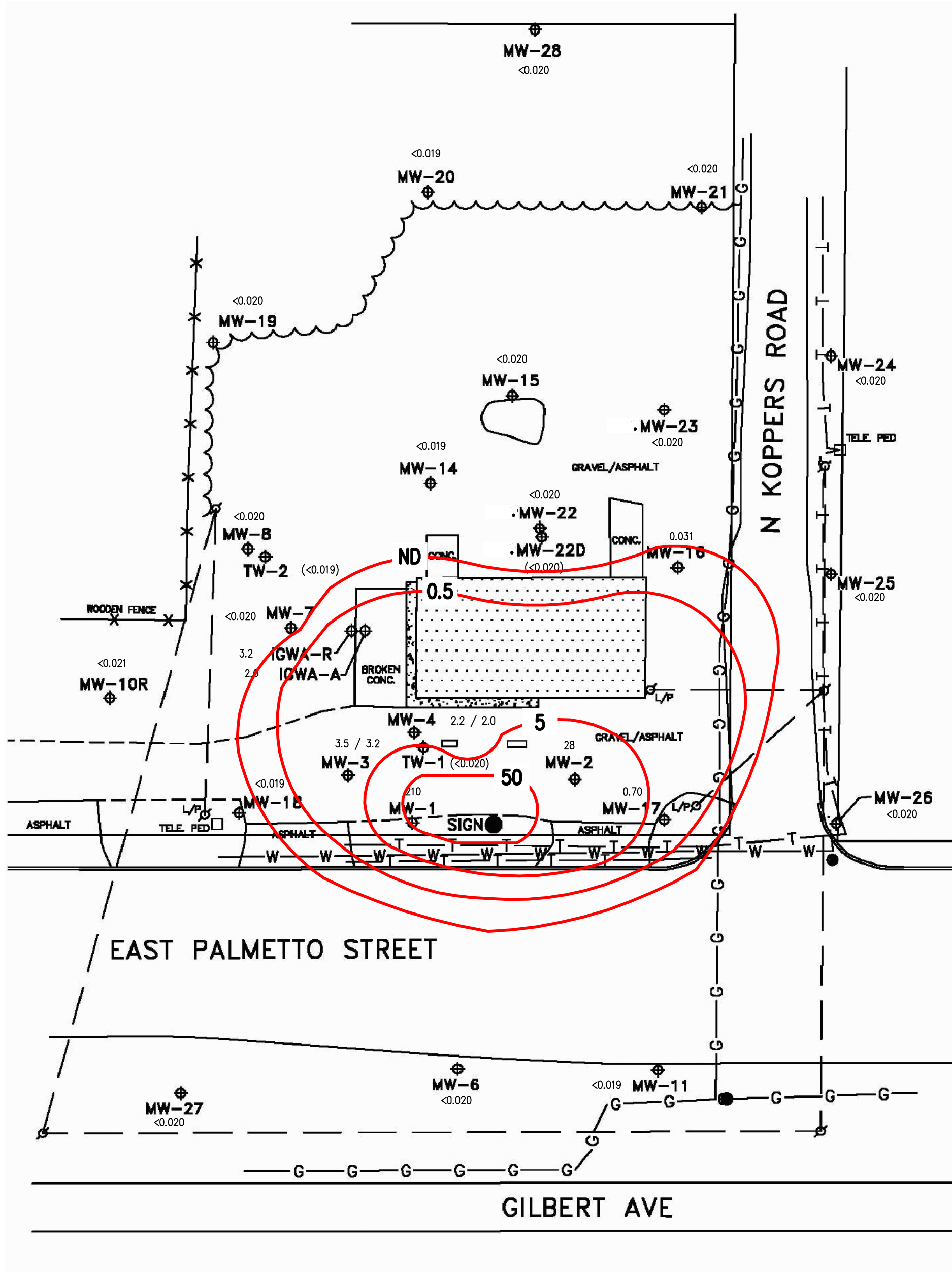


REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014

- Groundwater Monitoring Well
- 2.5J Naphthalene Concentration in Micrograms Per Liter
- (2.5J) Naphthalene Concentration In Micrograms Per Liter Not Used For Contouring Purposes Due To The Depth Of The Screened Interval
- Naphthalene Isoconcentration Line



Title	Naphthalene Isoconcentration Map – December 2014		
Project	Coastal 76 Truck stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/16/2014	petra-tech ENVIRONMENTAL, LLC ENGINEERS & CONSULTANTS	Figure No. 7f
Job No.	J14-070-A		



REFERENCE: Site Survey by Souther Land Surveying dated 5 December 2014

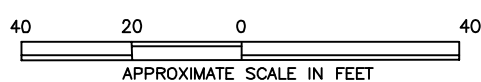


Groundwater Monitoring Well

2.5J EDB Concentration in Micrograms Per Liter

(2.5J) EDB Concentration In Micrograms Per Liter Not Used For
Contouring Purposes Due To The Depth Of The Screened Interval

— EDB Isoconcentration Line

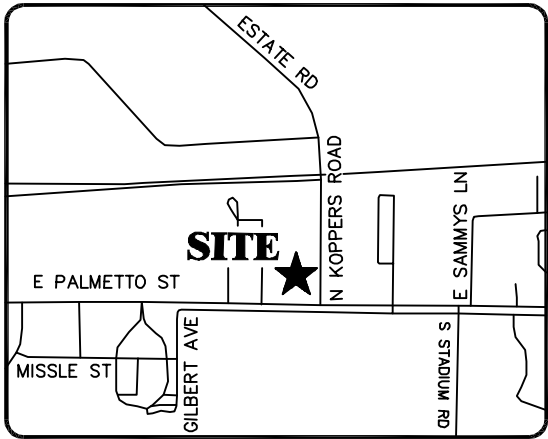


Title	EDB Isoconcentration Map – December 2014		
Project	Coastal 76 Truck stop (UST Permit #03538) 2513 East Palmetto Street Florence, South Carolina Florence County		
Date	12/16/2014		Figure No. 7g
Job No.	J14-070-A		

**COASTAL 76 TRUCK STOP – UST PERMIT #03538
TIER II ASSESSMENT REPORT**

APPENDIX A

SITE SURVEY PLAT



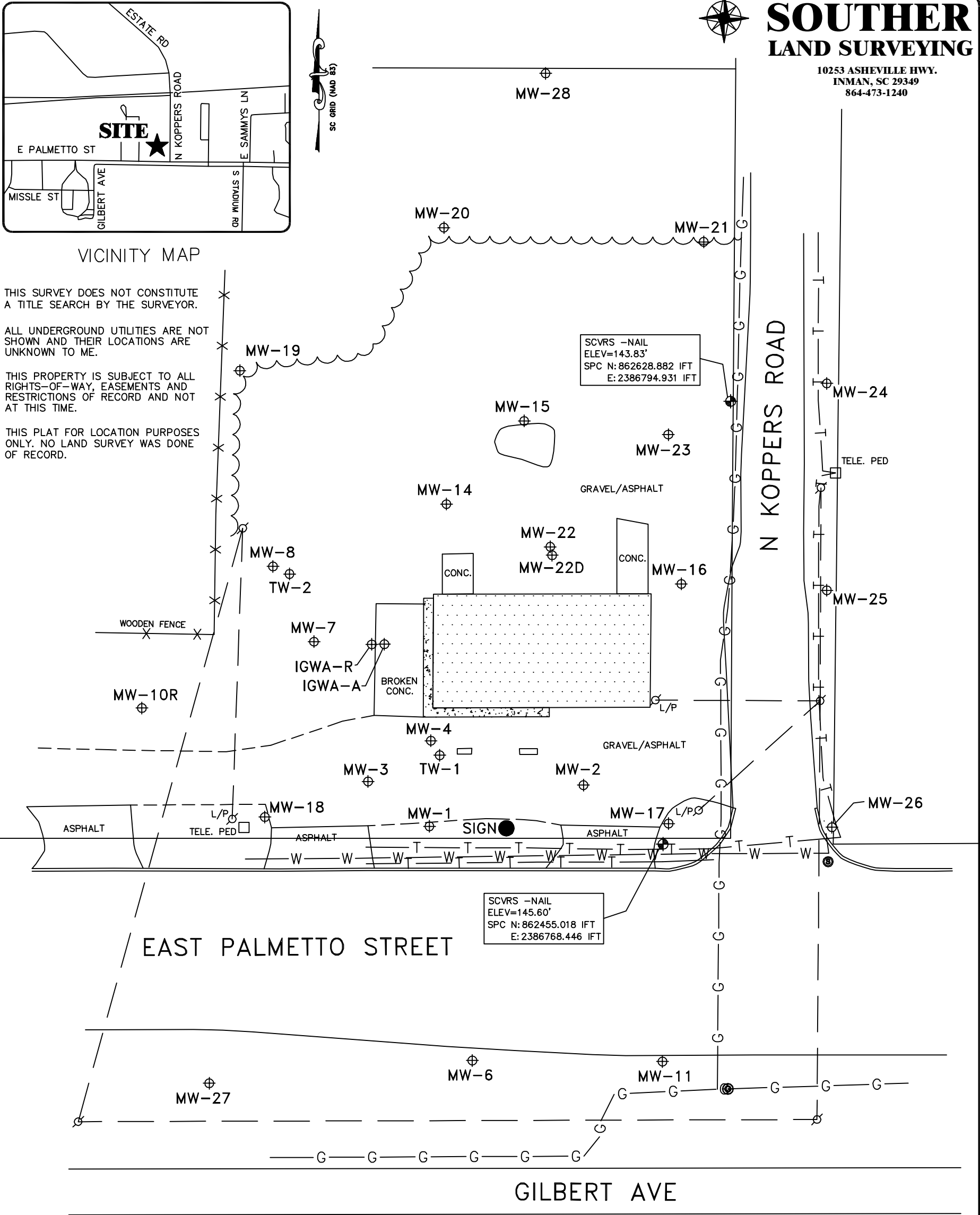
VICINITY MAP

THIS SURVEY DOES NOT CONSTITUTE A TITLE SEARCH BY THE SURVEYOR.

ALL UNDERGROUND UTILITIES ARE NOT SHOWN AND THEIR LOCATIONS ARE UNKNOWN TO ME.

THIS PROPERTY IS SUBJECT TO ALL RIGHTS-OF-WAY, EASEMENTS AND RESTRICTIONS OF RECORD AND NOT AT THIS TIME.

THIS PLAT FOR LOCATION PURPOSES ONLY. NO LAND SURVEY WAS DONE OF RECORD.



SITE SURVEY FOR:
PETRA-TECH ENVIRONMENTAL, LLC
FLORENCE COUNTY
COASTAL 76 TRUCK STOP
UST PERMIT #03538
2513 EAST PALMETTO STREET
FLORENCE, SOUTH CAROLINA
05 DECEMBER 2014

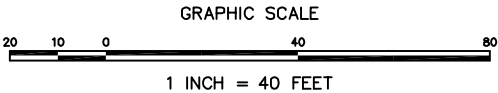
SHEET 1 OF 2

LEGEND

- ◇ SURFACE WATER
- ⊕ SITE WELL
- 1/2" REBAR FOUND
- 1/2" REBAR SET
- PK NAIL FOUND IN ROAD
- PK NAIL SET IN ROAD
- ⌋ POWER POLE
- ⌋ LIGHT POLE
- ⊙ SANITARY SEWER MH

NOTES:

ALL PINS ARE 1/2" REBAR OR PK NAILS IN ROAD, UNLESS OTHERWISE NOTED.



GEORGE B. SOUTHER P.L.S. 21232
JOB NO. 04836



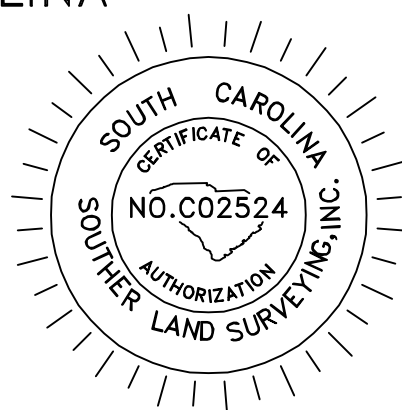
SOUTHER LAND SURVEYING

10253 ASHEVILLE HWY.
INMAN, SC 29349
864-473-1240

DESCRIPTION	NORTHING	EASTING	TOP OF CASING	GROUND ELEVATION
MW-1	862462.029	2386676.673	145.87	146.22
MW-2	862478.220	2386737.179	145.19	145.71
MW-3	862479.650	2386652.596	145.51	146.04
MW-4	862495.646	2386677.246	145.56	146.05
MW-6	862370.077	2386693.526	146.04	146.44
MW-7	862534.547	2386631.340	144.61	145.02
MW-8	862564.104	2386615.244	143.78	144.30
MW-10r	862508.518	2386563.758	143.81	144.23
MW-11	862369.679	2386768.177	145.68	146.20
MW-14	862588.552	2386683.346	144.36	144.66
MW-15	862621.211	2386713.870	143.54	144.04
MW-16	862557.213	2386775.595	144.33	144.56
MW-17	862463.101	2386770.562	145.08	145.47
MW-18	862465.709	2386612.031	145.79	146.20
IGWA-A	862533.564	2386658.984	145.19	145.60
IGWA-R	862533.483	2386654.027	145.14	145.56
TW-1	862489.953	2386680.706	145.77	145.93
TW-2	862561.117	2386621.737	143.98	144.24
MW-19	862643.974	2386599.774	143.67	143.97
MW-20	862700.102	2386682.369	143.93	144.21
MW-21	862691.531	2386784.365	143.25	143.88
MW-22	862571.793	2386724.121	145.03	145.28
MW-22D	862568.499	2386724.833	144.89	145.30
MW-23	862615.867	2386770.481	143.63	143.87
MW-24	862635.982	2386832.681	143.78	143.99
MW-25	862554.716	2386832.691	144.04	144.45
MW-26	862461.702	2386834.720	144.96	145.22
MW-27	862361.177	2386590.226	144.77	145.10
MW-28	862757.710	2386710.326	142.71	142.88

SITE SURVEY FOR:
PETRA-TECH
ENVIRONMENTAL, LLC
FLORENCE COUNTY
COASTAL 76 TRUCK STOP
UST PERMIT #03538
2513 EAST PALMETTO STREET
FLORENCE, SOUTH CAROLINA
05 DECEMBER 2014

SHEET 2 OF 2



GEORGE B. SOUTHER

P.L.S. 21232
JOB NO. 04836

**COASTAL 76 TRUCK STOP – UST PERMIT #03538
TIER II ASSESSMENT REPORT**

APPENDIX B

**WELL PURGING AND SAMPLING LOGS, CHAIN-OF-CUSTODY FORMS,
LABORATORY ANALYTICAL DATA**

GROUNDWATER SAMPLING LOG

SITE NAME: <u>Coastal 76</u>	SITE LOCATION: <u>Florence, SC</u>
WELL NO: <u>1GWA</u>	SAMPLE ID: <u>1GWA</u> DATE: <u>12-3-14</u>

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	Total Well Depth (feet): <u>NA</u>	WELL SCREEN INTERVAL DEPTH: <u>feet to</u> <u>feet</u>	STATIC DEPTH TO WATER (feet): <u>11.98</u>	PURGE PUMP TYPE OR BAILER: <u>RFP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (<u>NA</u> feet - <u>NA</u> feet) X <u>NA</u> gallons/foot = <u>NA</u> gallons				

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	A	pH (su)	A	COND. (µS)	A	DO (mg/L)	A	TURB IDITY (NTU)	A	COLOR	ODOR
1521	—	—	21.9	—	6.9	—	126	—	0.6	—	892	—	clay	Strong
1532	1.5	1.5	21.7	0.2	6.6	0.3	115	11			411	481	clay	
1543	1.0	2.5	21.5	0.2	6.4	0.2	103	12			621	210	clay	
1551	0.5	3.0	21.6	0.1	6.3	0.1	109	6			104	917	clay	
1606	1.5	4.5	21.6	0	6.3	0	106	9			29	75	clay	
1613	0.5	5.0	21.6	0	6.3	0	112	6			12	17	clay	
1620	0.5	5.5	21.5	0.1	6.4	0.1	110	2			8.4	3.6	clay	

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

SAMPLED BY (PRINT): <u>Daniel Burch</u>				SAMPLER(S) SIGNATURE(S): <u>DB</u>			SAMPLING DATE: <u>12/3/14</u>		SAMPLING TIME: <u>1620</u>		
PUMP OR TUBING DEPTH IN WELL (feet): <u>13</u>				TUBING MATERIAL CODE: <u>PE</u>			FIELD-FILTERED: <u>Y</u> ☒ <u>N</u> ☐		FILTER SIZE: <u> </u>		
DUPLICATE COLLECTED: <u>Y</u> ☐ <u>N</u> ☒											

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
	3	CG	40 ml	HCL	/	/	8260B	RFP	/
	3	CG	40 ml	HCL	/	/	8011	↓	/
	1	PE	250 ml	HNO3	/	/	6010	↓	/

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ±0.2 units Temperature: ±0.2 °C Specific Conductance: ±5% Dissolved Oxygen: ±0.2 mg/L or ±10% Turbidity: ≤10 NTU or ±10%

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal Fp		SITE LOCATION: Florence, SC	
WELL NO: 16WA-R	SAMPLE ID: 016WA-R-1 016WA-R-2	DATE: 12-3-14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) Daniel Burch				SAMPLER(S) SIGNATURE(S): DB			SAMPLING DATE: 12/3/14		SAMPLING TIME: 1630	
PUMP OR TUBING DEPTH IN WELL (feet): 15				TUBING MATERIAL CODE: PE			FIELD-FILTERED: Y ☒ N ☐ Filtration Equipment Type:		FILTER SIZE:	
DUPLICATE COLLECTED: Y ☐ N ☒										
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH				
	3	CG	40 ml	HCL	/	/	8260B	RFPP		
	3	CG	40 ml	HCL	/	/	8011	↓		
	1	PE	250 ml	HNO3	/	/	6010			
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

STABILIZATION CRITERIA

pH: +0.2 units **Temperature:** +0.2 °C **Specific Conductance:** +5% **Dissolved Oxygen:** +0.2 mg/L or +10% **Turbidity:** ≤ 10 NTU or +10%

scr 11-21 ord 9-21 hnt 7-9 grt 0-7

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 7b		SITE LOCATION: Florence, SC	
WELL NO: MW-1	SAMPLE ID: 03538-MW01	DATE: 12/2/14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT): Daniel Burch				SAMPLER(S) SIGNATURE(S): DB			SAMPLING DATE: 12/2/14		SAMPLING TIME: 1200		
PUMP OR TUBING DEPTH IN WELL (feet): 14				TUBING MATERIAL CODE: PE			FIELD-FILTERED: Y ☒ N ☐		FILTER SIZE: Filtration Equipment Type:		
DUPLICATE COLLECTED: Y ☐ N ☒											

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
	3	CG	40ml	HCL	/	/	82603	RFPP	/
	3	CG	40ml	HCL	/	/	8011	↓	/
	1	PE	250ml	HNO3	/	/	6010	↓	/

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** ± 0.2 mg/L or $\pm 10\%$ **Turbidity:** ≤ 10 NTU or $\pm 10\%$

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck Stop	SITE LOCATION: Florence, SC
WELL NO: MWO2	SAMPLE ID: 03538-MWO2
	DATE: 12/2/14

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) Daniel Burd				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING DATE: 12/2/14		SAMPLING TIME: 1230		
PUMP OR TUBING DEPTH IN WELL (feet): 15				TUBING MATERIAL CODE: DPE			FIELD-FILTERED: Y ☒ N		FILTER SIZE:		
DUPLICATE COLLECTED: Y ☒ N											
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH					
	3	CG	40ml	HCL	-	-	826013	RFPP	-		
	3	CG	40ml	HCL	-	-	8011	↓	-		
	1	PE	250ml	HNO3	-	-	6010	↓	-		
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

STABILIZATION CRITERIA

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** ± 0.2 mg/L or $\pm 10\%$ **Turbidity:** ≤ 10 NTU or $\pm 10\%$

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck Stop		SITE LOCATION: Florence, SC	
WELL NO: MWO3	SAMPLE ID: 03538-MWO3	DATE: 12/2/14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) Daniel Burch	SAMPLER(S) SIGNATURE(S): 	SAMPLING DATE: 12/2/14	SAMPLING TIME: 1300						
PUMP OR TUBING DEPTH IN WELL (feet): +5	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y ☒ N Filtration Equipment Type:	FILTER SIZE:						
DUPLICATE COLLECTED: Y ☒ N ☐									
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	CG	40ml	HCL	-	-	826013	RFPF	-
	↓	↓	↓	HCL	-	-	8011	↓	-
	1	PE	250ml	HNO3	-	-	6010	↓	-
REMARKS:									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

STABILIZATION CRITERIA

pH: + 0.2 units **Temperature:** + 0.2 °C **Specific Conductance:** + 5% **Dissolved Oxygen:** + 0.2 mg/L or + 10% **Turbidity:** ≤ 10 NTU or + 10%

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76		SITE LOCATION: Florence, SC	
WELL NO: MW-4	SAMPLE ID: 03538-mw04	DATE: 12-3-14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) Daniel Burkh				SAMPLER(S) SIGNATURE(S): DB			SAMPLING DATE: 12/3/14		SAMPLING TIME: 1315	
PUMP OR TUBING DEPTH IN WELL (feet): 15'				TUBING MATERIAL CODE: PE			FIELD-FILTERED: Y ☒		FILTER SIZE:	
DUPLICATE COLLECTED: Y ☒ N				C1320						
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH				
	3	CG	40 ml	HCL	/	/	8260B	RFPP	/	
	3	CG	40 ml	HCL	/	/	8011	↓	/	
	1	PE	250 ml	HNO3	/	/	6010			
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify) SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

STABILIZATION CRITERIA

pH: +0.2 units **Temperature:** +0.2 °C **Specific Conductance:** +5% **Dissolved Oxygen:** +0.2 mg/L or +10% **Turbidity:** < 10 NTU or +10%

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck Stop		SITE LOCATION: Florence, SC	
WELL NO: MW05		SAMPLE ID:	
		DATE: 12/31/41	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT)				SAMPLER(S) SIGNATURE(S):				SAMPLING DATE:		SAMPLING TIME:	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:				FIELD-FILTERED: Y N FILTER SIZE: Filtration Equipment Type:			
DUPLICATE COLLECTED: Y N											
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION				INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
REMARKS: Not Located Under rolloff Dumpster.											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

STABILIZATION CRITERIA

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** ± 0.2 mg/L or $\pm 10\%$ **Turbidity:** ≤ 10 NTU or $\pm 10\%$

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Trade Stop	SITE LOCATION: Florence, SC
WELL NO: mwo6	SAMPLE ID: 03538-mwo6
	DATE: 12/3/14

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (m/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	CG	40ml	HCL	-	-	826013	RSP	-
	3	CG	40ml	HCL	-	-	8011	↓	-
	1	PE	250ml	HNO3	-	-	6010	↓	-

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** ± 0.2 mg/L or $\pm 10\%$ **Turbidity:** ≤ 10 NTU or $\pm 10\%$

GROUNDWATER SAMPLING LOG

SITE NAME: <u>Coastal 76</u>	SITE LOCATION: <u>Florence, SC</u>
WELL NO: <u>MW-7</u>	SAMPLE ID: <u>03538-MW07</u> DATE: <u>12-3-14</u>

PURGING DATA

WELL DIAMETER (inches): <u>2</u>	Total Well Depth (feet): <u>18.38</u>	WELL SCREEN INTERVAL DEPTH: <u>8</u> feet to <u>18</u> feet	STATIC DEPTH TO WATER (feet): <u>11.20</u>	PURGE PUMP TYPE OR BAILER: <u>RFPP</u>
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (<u>18.38</u> feet - <u>11.20</u> feet) X <u>0.16</u> gallons/foot = <u>1.15</u> gallons				

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	A	pH (su)	A	COND. (µS)	A	DO (mg/L)	A	TURBIDITY (NTU)	A	COLOR	ODOR
1521	—	—	21.9	—	6.4	—	109	—	2.1	—	11000	—	clay	slight
1530	1.0	1.0	21.6	0.3	6.4	0.5	72	37			319	—	clay	
1549	1.5	2.5	21.4	0.2	6.3	0.1	71	1			54	265	slight	
1606	0.5	3.0	21.4	0	6.3	0	68	3			79	25	↓	
1615	0.5	3.5	21.1	0.3	6.4	0.1	69	1			26	53	clr	↓
1623	0.5	4.0	21.4	0.3	6.4	0	69	0			14	12		none
1630	0.5	4.5	21.3	0.1	6.3	0.1	70	1			12	2		↓
1640	1.0	5.5	21.3	0	6.3	0	70	0			9.0	3	↓	↓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

SAMPLED BY (PRINT): <u>Daniel Burch</u>				SAMPLER(S) SIGNATURE(S): <u>DB</u>			SAMPLING DATE: <u>12/3/14</u>		SAMPLING TIME: <u>1640</u>		
PUMP OR TUBING DEPTH IN WELL (feet): <u>15</u>				TUBING MATERIAL CODE: <u>PE</u>			FIELD-FILTERED: <u>Y</u> ☒ <u>N</u> ☐		Filtration Equipment Type: <u>0</u>		
DUPLICATE COLLECTED: <u>Y</u> ☒ <u>N</u> ☐											

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
	3	CG	40 ml	HCL	/	/	8260B	RFPP	/
	3	CG	40 ml	HCL	/	/	8011	↓	/
	1	PE	250 ml	HNO3	/	/	8010	↓	/

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ±0.2 units Temperature: ±0.2 °C Specific Conductance: ±5% Dissolved Oxygen: ±0.2 mg/L or ±10% Turbidity: ≤ 10 NTU or ±10%

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal Fl		SITE LOCATION: Florence, SC	
WELL NO: M11-8	SAMPLE ID: 03538-MW08	DATE: 12-3-14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) Daniel Burch				SAMPLER(S) SIGNATURE(S) <i>DB</i>			SAMPLING DATE: 12/3/14		SAMPLING TIME: 1200	
PUMP OR TUBING DEPTH IN WELL (feet): 14				TUBING MATERIAL CODE: PE			FIELD-FILTERED: Y ☒ Filtration Equipment Type: ☒		FILTER SIZE:	
DUPLICATE COLLECTED: Y ☒										
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)	
SAMPLE ID CODE	# CONTAINER S	MATERIA L CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH				
	3	CG	40 ml	HCL	/	/	8260B	RFPP	/	
	3	CG	40 ml	HCL	/	/	8011	↓	/	
	1	PE	250 ml	HNO3	/	/	6010	↓	/	
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

STABILIZATION CRITERIA

pH: +0.2 units **Temperature:** +0.2 °C **Specific Conductance:** +5% **Dissolved Oxygen:** +0.2 mg/L or +10% **Turbidity:** ≤ 10 NTU or +10%

scr 3-13 5nd 2-13 bnt 1-2 5rt 0-1

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck Stop		SITE LOCATION: Florence SC	
WELL NO: Mm09		DATE:	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT)				SAMPLER(S) SIGNATURE(S):			SAMPLING DATE:		SAMPLING TIME:	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y N		FILTER SIZE:	
DUPLICATE COLLECTED: Y N										
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)	
SAMPLE ID CODE	# CONTAINER S	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH				
REMARKS:										
Not Located. Also not located during previous sampling events										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

STABILIZATION CRITERIA

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** ± 0.2 mg/L or $\pm 10\%$ **Turbidity:** ≤ 10 NTU or $\pm 10\%$

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck Stop		SITE LOCATION: Florence, SC	
WELL NO: MW-10	SAMPLE ID:	DATE: 12/3/14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT)				SAMPLER(S) SIGNATURE(S):			SAMPLING DATE:	SAMPLING TIME:	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y N FILTER SIZE: Filtration Equipment Type:		
DUPLICATE COLLECTED: Y N									
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
REMARKS: <i>Not Located. In area of high construction traffic.</i>									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

STABILIZATION CRITERIA

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** ± 0.2 mg/L or $\pm 10\%$ **Turbidity:** ≤ 10 NTU or $\pm 10\%$

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76	SITE LOCATION: Florence, SC
WELL NO: MV-10R	SAMPLE ID: 03538-mv10R DATE: 12-3-14

Two BTU's 11.39'

PURGING DATA

WELL DIAMETER (inches): 2	Total Well Depth (feet): 12	WELL SCREEN INTERVAL DEPTH: 2 feet to 12 feet	STATIC DEPTH TO WATER (feet): 10.5	PURGE PUMP TYPE OR BAILER: RFP
WELL VOLUME PURGE: 1 WELL VOLUME = (TOTAL WELL DEPTH - STATIC DEPTH TO WATER) X WELL CAPACITY = (11.39 feet - 10.50 feet) X 0.16 gallons/foot = 0.14 gallons				

TIME	VOLUME PURGED (gallons)	CUMUL. VOLUME PURGED (gallons)	TEMP. (°C)	A	pH (su)	A	COND. (µS)	A	DO (mg/L)	A	TURBIDITY (NTU)	A	COLOR	ODOR
1106	—	—	20.6	—	6.8	—	83	—	3.2	—	1000	—	cl	none
1120	1.0	1.0	20.3	0.3	6.6	0.2	62	21			843	—	cl	
1130	0.5	1.5	20.2	0.1	6.5	0.1	78	16			196	647	cl	
1143	1.0	2.5	20.2	0	6.5	0	74	4			21	175	cl	
1153	1.0	3.5	20.2	0	6.6	0.1	73	1			13	8	cl	
1209	1.0	4.5	20.3	0.1	6.5	0.1	75	2			12	1	cl	
1215	0.5	5.0	20.3	0	6.5	0	73	2			8.4	3.6	cl	✓

WELL CAPACITY (Gallons Per Foot): 0.75" = 0.02; 1" = 0.04; 1.25" = 0.06; 2" = 0.16; 3" = 0.37; 4" = 0.65; 5" = 1.02; 6" = 1.47; 12" = 5.88

SAMPLING DATA

SAMPLED BY (PRINT): Daniel Burch	SAMPLER(S) SIGNATURE(S): DB	SAMPLING DATE: 12/3/14	SAMPLING TIME: 1215
PUMP OR TUBING DEPTH IN WELL (feet): 11	TUBING MATERIAL CODE: PE	FIELD-FILTERED: Y	FILTER SIZE: 0
DUPLICATE COLLECTED: Y 0			

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH			
	3	CG	40 ml	HCL	/	/	8260B	RFP	/
	3	CG	40 ml	HCL	/	/	8011	↓	/
	1	PE	250 ml	HNO3	/	/	8010	↓	/

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ±0.2 units Temperature: ±0.2 °C Specific Conductance: ±5% Dissolved Oxygen: ±0.2 mg/L or ±10% Turbidity: ≤ 10 NTU or ±10%

15d 11.39

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck Stop		SITE LOCATION: Florence, SC	
WELL NO: Mw11	SAMPLE ID: 03538-Mw11	DATE: 12/3/14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (mL/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
	3	CG	40ml	HCL	/	/	82603	RFPP	/
	3	CG	↓	↓	/	/	8011	↓	/
	1	PE	250ml	HNO3	/	/	6010	↓	/

REMARKS:

MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)

SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)

STABILIZATION CRITERIA

pH: ± 0.2 units **Temperature:** ± 0.2 °C **Specific Conductance:** $\pm 5\%$ **Dissolved Oxygen:** ± 0.2 mg/L or $\pm 10\%$ **Turbidity:** ≤ 10 NTU or $\pm 10\%$

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck Stop		SITE LOCATION: Florence, SC	
WELL NO: MW14	SAMPLE ID: 03538-MW14	DATE: 12/12/14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) <i>Jimmy Slagh</i>				SAMPLER(S) SIGNATURE(S):			SAMPLING DATE: <i>12/12/14</i>		SAMPLING TIME: <i>1235</i>		
PUMP OR TUBING DEPTH IN WELL (feet): <i>15</i>				TUBING MATERIAL CODE: <i>PE</i>			FIELD-FILTERED: Y ☒ N ☐		FILTER SIZE:		
DUPLICATE COLLECTED: Y ☐ N ☒											
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
-	3	CG	40ml	HCL	-	-	826013	RFP	-		
-	3	CG	40ml	HCL	-	-	8011	↓	-		
-	1	PE	250ml	HNO3	-	-	6010	↓	-		
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPF = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

STABILIZATION CRITERIA

pH: + 0.2 units **Temperature:** + 0.2 °C **Specific Conductance:** + 5% **Dissolved Oxygen:** + 0.2 mg/L or + 10% **Turbidity:** ≤ 10 NTU or + 10%

GROUNDWATER SAMPLING LOG

SITE NAME: Coastal 76 Truck stop		SITE LOCATION: Florence, SC	
WELL NO: MW14	SAMPLE ID:	DATE: 12/3/14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT)				SAMPLER(S) SIGNATURE(S):			SAMPLING DATE:	SAMPLING TIME:	
PUMP OR TUBING DEPTH IN WELL (feet):				TUBING MATERIAL CODE:			FIELD-FILTERED: Y N Filtration Equipment Type:	FILTER SIZE:	
DUPLICATE COLLECTED: Y N									
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH			
REMARKS: Not Located									
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)									
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)									

STABILIZATION CRITERIA

pH: + 0.2 units **Temperature:** + 0.2 °C **Specific Conductance:** ± 5% **Dissolved Oxygen:** ± 0.2 mg/L or ± 10% **Turbidity:** ≤ 10 NTU or ± 10%

GROUNDWATER SAMPLING LOG

SITE NAME: <u>Coastal 76</u>		SITE LOCATION: <u>03538-MW15 Florence, SC</u>	
WELL NO: <u>MW-15</u>	SAMPLE ID: <u>03538-MW15</u>	DATE: <u>12-3-14</u>	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) Daniel Burch				SAMPLER(S) SIGNATURE(S): <i>[Signature]</i>			SAMPLING DATE: 12/3/14		SAMPLING TIME: 1230	
PUMP OR TUBING DEPTH IN WELL (feet): 16				TUBING MATERIAL CODE: PE			FIELD-FILTERED: Y N Filtration Equipment Type:		FILTER SIZE:	
DUPLICATE COLLECTED: Y N										
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)	
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (ml)	FINAL pH				
	3	CG	40 ml	HCL	/	/	8260B	RFP	/	
	3	CG	40 ml	HCL	/	/	8011	↓		
	1	PE	250 ml	HNO3	/	/	6010			
REMARKS:										
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)										
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailor; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)										

STABILIZATION CRITERIA

pH: +0.2 units **Temperature:** +0.2 °C **Specific Conductance:** +5% **Dissolved Oxygen:** +0.2 mg/L or +10% **Turbidity:** ≤ 10 NTU or +10%

Ser 10-20 5nd 8-20 bot 6-8 grt 0-6

GROUNDWATER SAMPLING LOG

SITE NAME: Morriss Oil Company Coastal 76		SITE LOCATION: Spartanburg SOUTH CAROLINA Florence, SC	
WELL NO: MW 16		SAMPLE ID: 03538-MW16	
		DATE: 12-3-14	

PURGING DATA

[illegible]

SAMPLING DATA

SAMPLED BY (PRINT) Daniel Burch				SAMPLER(S) SIGNATURE(S): DB			SAMPLING DATE: 12/3/14		SAMPLING TIME: 1430		
PUMP OR TUBING DEPTH IN WELL (feet): 15'				TUBING MATERIAL CODE: PE			FIELD-FILTERED: Y ☒ N ☐		FILTER SIZE: Filtration Equipment Type: 0		
DUPLICATE COLLECTED: Y ☐ N ☒											
SAMPLE CONTAINER SPECIFICATION				SAMPLE PRESERVATION			INTENDED ANALYSIS AND/OR METHOD	SAMPLING EQUIPMENT CODE	SAMPLE PUMP FLOW RATE (ml/min)		
SAMPLE ID CODE	# CONTAINERS	MATERIAL CODE	VOLUME	PRESERVATIVE USED	TOTAL VOL ADDED IN FIELD (mL)	FINAL pH					
	3	CG	40 ml	HCL	-	-	8260B	RFPP	-		
	3	CG	40 ml	HCL	-	-	8011	↓	-		
	1	PE	250ml	HNO3	-	-	6010	↓	-		
REMARKS:											
MATERIAL CODES: AG = Amber Glass; CG = Clear Glass; PE = Polyethylene; PP = Polypropylene; S = Silicone; T = Teflon; O = Other (Specify)											
SAMPLING EQUIPMENT CODES: APP = After Peristaltic Pump; B = Bailer; BP = Bladder Pump; ESP = Electric Submersible Pump; RFPP = Reverse Flow Peristaltic Pump; SM = Straw Method (Tubing Gravity Drain); O = Other (Specify)											

STABILIZATION CRITERIA

pH: + 0.2 units **Temperature:** + 0.2 °C **Specific Conductance:** + 5% **Dissolved Oxygen:** + 0.2 mg/L or + 10% **Turbidity:** < 10 NTU or + 10%

scr 11-21 5nd 9-21 bnt 7-9 grt 0-7